NORTH CAROLINA — ESIMAP 1

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
1	American coot			570	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			230	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			260	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			5	X	X	X	X							X	X	-	-	-	-
	Canada goose			45	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			580	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			210	X	X	X	X					X	X	X	X	-	-	-	-
	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least bittern			HIGH				X	X	X	X	X	X				APR-SEP	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			260	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			8	X	X	X	X	X					X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			74	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			19	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			88	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			47	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			1200	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			240	X	X	X	X						X	X	X	-	-	-	-
2	American coot			2300	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			920	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			1000	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			22	X	X	X	X							X	X	-	-	-	-
	Canada goose			180	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			2300	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			850	X	X	X	X					X	X	X	X	-	-	-	-
	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least bittern			HIGH				X	X	X	X	X	X				APR-SEP	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			1000	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			33	X	X	X	X	X					X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			290	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			78	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			350	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			190	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			5000	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			960	X	X	X	X						X	X	X	-	-	-	-
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
2	American coot			2300	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			920	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			1000	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			22	X	X	X	X							X	X	-	-	-	-
	Canada goose			180	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			2300	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			850	X	X	X	X					X	X	X	X	-	-	-	-
	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least bittern			HIGH				X	X	X	X	X	X				APR-SEP	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			1000	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			33	X	X	X	X	X					X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			290	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			78	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			350	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			190	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			5000	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			960	X	X	X	X						X	X	X	-	-	-	-
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
5	Cattle egret			536			X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Great egret			332		X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Green-backed heron			2			X	X	X	X	X	X	X	X			APR-AUG	APR-JUL	MAY-JUL	JUN-AUG
	Little blue heron			14		X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret			41		X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			775		X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
7	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
8	American coot			140		X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			150		X	X	X					X	X	X	X	-	-	-	-
	Black duck			200		X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			4		X	X	X	X						X	X	-	-	-	-
	Bufflehead			40		X	X	X							X	X	-	-	-	-
	Canada goose			170		X	X	X					X	X	X	X	-	-	-	-
	Canvasback			56		X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			93		X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron					X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret					X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			700		X	X	X					X	X	X	X	-	-	-	-
	Little blue heron					X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			240		X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1100		X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			120		X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			95		X	X	X						X	X	X	-	-	-	-
	Ruddy duck			32		X	X	X						X	X	X	-	-	-	-
	Scaup			83		X	X	X						X	X	X	-	-	-	-
	Snow goose			380		X	X	X					X	X	X	X	-	-	-	-
	Snowy egret					X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron					X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			260		X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 3 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
271	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 4

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
1	American coot			570	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			230	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			260	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			5	X	X	X	X							X	X	-	-	-	-
	Canada goose			45	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			580	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			210	X	X	X	X					X	X	X	X	-	-	-	-
	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least bittern			HIGH				X	X	X	X	X	X				APR-SEP	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			260	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			8	X	X	X	X	X					X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			74	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			19	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			88	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			47	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			1200	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			240	X	X	X	X						X	X	X	-	-	-	-
2	American coot			2300	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			920	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			1000	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			22	X	X	X	X							X	X	-	-	-	-
	Canada goose			180	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			2300	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			850	X	X	X	X					X	X	X	X	-	-	-	-
	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least bittern			HIGH				X	X	X	X	X	X				APR-SEP	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			1000	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			33	X	X	X	X	X					X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			290	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			78	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			350	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			190	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			5000	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			960	X	X	X	X						X	X	X	-	-	-	-
9	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
10	American coot			1100	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			74	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			35	X	X	X	X							X	X	-	-	-	-
	Canada goose			240	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			16	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			66	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			740	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			660	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			30	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			45	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			1400	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			150	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			3000	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			390	X	X	X	X						X	X	X	-	-	-	-
11	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 4 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
271	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 5

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
10	American coot			1100	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			74	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			35	X	X	X	X							X	X	-	-	-	-
	Canada goose			240	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			16	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			66	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			740	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			660	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			30	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			45	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			1400	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			150	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			3000	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			390	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2			2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 6

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
8	American coot			140	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			150	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			200	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			4	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			40	X	X	X	X							X	X	-	-	-	-
	Canada goose			170	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			56	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			93	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			700	X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			240	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1100	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			120	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			95	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			32	X	X	X	X						X	X	X	-	-	-	-
	Scaup			83	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			380	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			260	X	X	X	X						X	X	X	-	-	-	-
12	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
13	American coot			560	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			590	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			790	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			16	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			160	X	X	X	X							X	X	-	-	-	-
	Canada goose			660	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			230	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			2800	X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			940	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			500	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			380	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			130	X	X	X	X						X	X	X	-	-	-	-
	Scaup			330	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			1500	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			1000	X	X	X	X						X	X	X	-	-	-	-
14	American coot			190	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			200	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			260	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			5	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			53	X	X	X	X							X	X	-	-	-	-
	Canada goose			220	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			75	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			120	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			930	X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			310	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			170	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			130	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			43	X	X	X	X						X	X	X	-	-	-	-
	Scaup			110	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			500	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			350	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 6 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
273	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	3	3	3	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	5	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
273	American oyster (eastern)												2	2	2		SEP-NOV	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp												2	2	2		-	-	-	SEP-NOV	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	SEP-OCT	SEP-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp												3	3	3		-	-	-	SEP-NOV	-
	White shrimp									4	4	4	3	3	3		-	JUN-SEP	-	SEP-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 7

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
10	American coot			1100	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			74	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			35	X	X	X	X							X	X	-	-	-	-
	Canada goose			240	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			16	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			66	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			740	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			660	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			30	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			45	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			1400	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			150	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			3000	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			390	X	X	X	X						X	X	X	-	-	-	-
11	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
14	American coot			190	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			200	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			260	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			5	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			53	X	X	X	X							X	X	-	-	-	-
	Canada goose			220	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			75	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			120	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			930	X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			310	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			170	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			130	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			43	X	X	X	X						X	X	X	-	-	-	-
	Scaup			110	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			500	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			350	X	X	X	X						X	X	X	-	-	-	-
15	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			4	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			11	X	X	X	X							X	X	-	-	-	-
	Canada goose			4	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			2	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			106	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			11	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			6	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			5	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			1	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			27	X	X	X	X						X	X	X	-	-	-	-
	Scaup			4	X	X	X	X						X	X	X	-	-	-	-
	Scoter			3	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			37	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
16	American coot			3	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			11	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			6	X	X	X	X							X	X	-	-	-	-
	Canada goose			2	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			64	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			6	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			3	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			1	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			16	X	X	X	X						X	X	X	-	-	-	-
	Scaup			3	X	X	X	X						X	X	X	-	-	-	-
	Scoter			2	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			22	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
17	American coot			45	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			42	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			180	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			110	X	X	X	X							X	X	-	-	-	-
	Canada goose			38	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1100	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			110	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			64	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			52	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			8	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			270	X	X	X	X						X	X	X	-	-	-	-
	Scaup			43	X	X	X	X						X	X	X	-	-	-	-
	Scoter			33	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			10	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			370	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 7 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 8

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
18	Canada goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			LOW	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp								4	4	4	4					-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp								4	4	4	4					-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 9

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
18	Canada goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			LOW	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp								4	4	4	4					-	JUN-SEP	-	-	-
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 10

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
273	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	3	3	3	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC		JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	2	2	2	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	4	4	4	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	3	3	3	2	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	4	4	4	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
273	American oyster (eastern)												2	2	2		SEP-NOV	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp												2	2	2		-	-	-	SEP-NOV	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	SEP-OCT	SEP-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp												3	3	3		-	-	-	SEP-NOV	-
	White shrimp								4	4	4	3	3	3			-	JUN-SEP	-	SEP-NOV	-
275	American oyster (eastern)				2			2	2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	2	2	2	2	-	-	-	MAY-JAN	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	3	3	3	2	-	-	-	MAY-JAN	-
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 11

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
13	American coot			560	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			590	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			790	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			16	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			160	X	X	X	X							X	X	-	-	-	-
	Canada goose			660	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			230	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			2800	X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			940	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			500	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			380	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			130	X	X	X	X						X	X	X	-	-	-	-
	Scaup			330	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			1500	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			1000	X	X	X	X						X	X	X	-	-	-	-
14	American coot			190	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			200	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			260	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			5	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			53	X	X	X	X							X	X	-	-	-	-
	Canada goose			220	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			75	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			120	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			930	X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			310	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			170	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			130	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			43	X	X	X	X						X	X	X	-	-	-	-
	Scaup			110	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			500	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			350	X	X	X	X						X	X	X	-	-	-	-
63	American coot			47	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			50	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			66	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			13	X	X	X	X							X	X	-	-	-	-
	Canada goose			55	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			19	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Gadwall			31	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			230	X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			79	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			370	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			41	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			32	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			11	X	X	X	X						X	X	X	-	-	-	-
	Scaup			28	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			130	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			86	X	X	X	X						X	X	X	-	-	-	-
64	American coot			32	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			29	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			120	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			76	X	X	X	X							X	X	-	-	-	-
	Canada goose			26	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			12	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			740	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			76	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			44	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			36	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			5	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			190	X	X	X	X						X	X	X	-	-	-	-
	Scaup			30	X	X	X	X						X	X	X	-	-	-	-
	Scoter			23	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			7	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			260	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			4	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
65	Black rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 11 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
273	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	3	3	3	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	5	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X
62	Yellow fringeless orchid	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
273	American oyster (eastern)												2	2	2		SEP-NOV	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp												2	2	2		-	-	-	SEP-NOV	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	SEP-OCT	SEP-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp												3	3	3		-	-	-	SEP-NOV	-
	White shrimp									4	4	4	3	3	3		-	JUN-SEP	-	SEP-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 12

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
16	American coot			3	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			11	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			6	X	X	X	X							X	X	-	-	-	-
	Canada goose			2	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			64	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			6	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			3	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			1	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			16	X	X	X	X						X	X	X	-	-	-	-
	Scaup			3	X	X	X	X						X	X	X	-	-	-	-
	Scoter			2	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			22	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
17	American coot			45	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			42	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			180	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			110	X	X	X	X							X	X	-	-	-	-
	Canada goose			38	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1100	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			110	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			64	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			52	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			8	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			270	X	X	X	X						X	X	X	-	-	-	-
	Scaup			43	X	X	X	X						X	X	X	-	-	-	-
	Scoter			33	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			10	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			370	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
64	American coot			32	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			29	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			120	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			76	X	X	X	X							X	X	-	-	-	-
	Canada goose			26	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			12	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			740	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			76	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			44	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			36	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			5	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			190	X	X	X	X						X	X	X	-	-	-	-
	Scaup			30	X	X	X	X						X	X	X	-	-	-	-
	Scoter			23	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			7	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			260	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			4	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 12 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 13

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
18	Canada goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			LOW	X	X	X	X						X	X	X	-	-	-	-
125	American wigeon			4	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			44	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			78	X	X	X	X							X	X	-	-	-	-
	Canvasback			2	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			2	X	X	X								X	X	-	-	-	-
	Green-winged teal			12	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			134	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			5	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			30	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			832	X	X	X	X						X	X	X	-	-	-	-
	Scaup			1	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			20	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
126	American wigeon			20	X	X	X	X					X	X	X	X	-	-	-	-
	Bufflehead			2	X	X	X	X							X	X	-	-	-	-
	Canada goose			15	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			30	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			40	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy duck			4	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			340	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			2275	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			10	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 14

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
18	Canada goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			LOW	X	X	X	X						X	X	X	-	-	-	-
126	American wigeon			20	X	X	X	X					X	X	X	X	-	-	-	-
	Bufflehead			2	X	X	X	X							X	X	-	-	-	-
	Canada goose			15	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			30	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			40	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy duck			4	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			340	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			2275	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			10	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
135	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
136	American coot			50	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			10	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			17	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			128	X	X	X	X							X	X	-	-	-	-
	Canada goose			35	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			50	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			14	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			3	X	X	X	X	X					X	X	X	-	-	-	-
	Ruddy duck			765	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			2760	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			2818	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			8	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 15

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
136	American coot			50	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			10	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			17	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			128	X	X	X	X							X	X	-	-	-	-
	Canada goose			35	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			50	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			14	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			3	X	X	X	X	X					X	X	X	-	-	-	-
	Ruddy duck			765	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			2760	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			2818	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			8	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
137	American coot			840	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			417	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			25	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			287	X	X	X	X							X	X	-	-	-	-
	Canada goose			507	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			97	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			3	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			8	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			80	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			230	X	X	X	X						X	X	X	-	-	-	-
	Scaup			219	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			190	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			804	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 15 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 16

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
137	American coot			840	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			417	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			25	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			287	X	X	X	X							X	X	-	-	-	-
	Canada goose			507	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			97	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			3	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			8	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			80	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			230	X	X	X	X						X	X	X	-	-	-	-
	Scaup			219	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			190	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			804	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2			2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						2	2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
274	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	3	3	3		-	-	-	MAR-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 16 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
274	Atlantic menhaden					3	4	4	4	4	4	4					-	-	FEB-MAY	MAR-AUG	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	JAN-DEC
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	-
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	-
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spot				3	3	3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	-
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
274	Blue crab				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 17

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
273	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	3	3	3	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	-
	Spanish mackerel								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	5	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
275	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	2	2	2	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	2	2	2	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	4	4	4	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	4	4	4	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
273	American oyster (eastern)												2	2	2		SEP-NOV	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp												2	2	2		-	-	-	SEP-NOV	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	SEP-OCT	SEP-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp												3	3	3		-	-	-	SEP-NOV	-
	White shrimp								4	4	4	3	3	3			-	JUN-SEP	-	SEP-NOV	-
275	American oyster (eastern)				2			2	2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	2	2	2	2	-	-	-	MAY-JAN	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	3	3	3	2	-	-	-	MAY-JAN	-
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 18

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
64	American coot			32	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			29	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			120	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			76	X	X	X	X							X	X	-	-	-	-
	Canada goose			26	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			12	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			740	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			76	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			44	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			36	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			5	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			190	X	X	X	X						X	X	X	-	-	-	-
	Scaup			30	X	X	X	X						X	X	X	-	-	-	-
	Scoter			23	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			7	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			260	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			4	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
273	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	3	3	3	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	5	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
273	American oyster (eastern)												2	2	2		SEP-NOV	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp												2	2	2		-	-	-	SEP-NOV	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	SEP-OCT	SEP-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp												3	3	3		-	-	-	SEP-NOV	-
	White shrimp									4	4	4	3	3	3		-	JUN-SEP	-	SEP-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 19

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
136	American coot			50	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			10	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			17	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			128	X	X	X	X							X	X	-	-	-	-
	Canada goose			35	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			50	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			14	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			3	X	X	X	X	X					X	X	X	-	-	-	-
	Ruddy duck			765	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			2760	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			2818	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			8	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
137	American coot			840	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			417	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			25	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			287	X	X	X	X							X	X	-	-	-	-
	Canada goose			507	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			97	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			3	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			8	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			80	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			230	X	X	X	X						X	X	X	-	-	-	-
	Scaup			219	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			190	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			804	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 20

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
137	American coot			840	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			417	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			25	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			287	X	X	X	X							X	X	-	-	-	-
	Canada goose			507	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			97	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			3	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			8	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			80	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			230	X	X	X	X						X	X	X	-	-	-	-
	Scaup			219	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			190	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			804	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
138	American coot			1600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			31	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			32	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			11	X	X	X	X							X	X	-	-	-	-
	Canada goose			35	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			13	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			25	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			79	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			160	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			180	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			2	X	X	X	X						X	X	X	-	-	-	-
	Scaup			8000	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			100	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			6	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2			2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper									2	2	2	2				-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2				-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2			2	2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel							2	2	2	2	2	2	2			-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2			2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper									2	2	2	2				-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2				-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel							2	2	2	2	2	2	2			-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 21

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
137	American coot			840	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			417	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			25	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			287	X	X	X	X							X	X	-	-	-	-
	Canada goose			507	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			97	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			3	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			8	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			80	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			230	X	X	X	X						X	X	X	-	-	-	-
	Scaup			219	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			190	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			804	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
138	American coot			1600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			31	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			32	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			11	X	X	X	X							X	X	-	-	-	-
	Canada goose			35	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			13	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			25	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			79	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			160	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			180	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			2	X	X	X	X						X	X	X	-	-	-	-
	Scaup			8000	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			100	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			6	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
139	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2		2	2	2	2	2	2	2	2	2	2	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 22

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
140	American coot			820	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			16	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			16	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			5	X	X	X	X							X	X	-	-	-	-
	Canada goose			670	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			13	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			40	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			78	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			91	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			1	X	X	X	X						X	X	X	-	-	-	-
	Scaup			4000	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			50	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker					3	3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden				3	4	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
274	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker					3	3	3	3	3	3	3	3	3			-	-	-	MAR-NOV	-
	Atlantic menhaden				3	4	4	4	4	4	4	4					-	-	FEB-MAY	MAR-AUG	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	JAN-DEC
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	-
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	-
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spot				3	3	3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	-
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
274	Blue crab				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 23

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
135	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
141	American coot			390	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			29	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			10	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			18	X	X	X	X							X	X	-	-	-	-
	Canada goose			540	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			33	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			50	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			220	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			10	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			23	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			20	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			1	X	X	X	X						X	X	X	-	-	-	-
	Scaup			41	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
142	American coot			390	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			29	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			10	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			18	X	X	X	X							X	X	-	-	-	-
	Canada goose			540	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			33	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			50	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			220	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			10	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			23	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			20	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			1	X	X	X	X						X	X	X	-	-	-	-
	Scaup			41	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			1283	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	-
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
274	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	3	3	3		-	-	-	MAR-NOV	-
	Atlantic menhaden					3	4	4	4	4	4	4					-	-	FEB-MAY	MAR-AUG	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	4	4	3	3	-	-	-	JAN-DEC	JAN-DEC
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	-
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	-
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spot				3	3	3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	-
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
274	Blue crab				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HUMAN USE RESOURCES:

AQUACULTURE:

RAR#	Name	Owner	Contact	Phone
H162	EDENTON NATIONAL FISH HATCHERY	USFWS		

NORTH CAROLINA — ESIMAP 24

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
143	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black rail							X	X	X	X	X	X				APR-SEP	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Cattle egret			MED			X	X	X	X	X	X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common snipe			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis			MED				X	X	X	X	X					-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	King rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Lesser yellowlegs			MED	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Long-billed dowitcher			MED	X	X	X	X				X	X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern harrier			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Pectoral sandpiper			MED				X			X	X	X	X			-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sora rail				X	X	X	X	X				X	X	X	X	-	-	-	-
	Stilt sandpiper			MED				X	X		X	X	X	X			-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow rail				X	X	X	X					X	X	X	X	-	-	-	-
	Yellow-crowned night heron			MED				X	X	X	X	X	X				-	-	-	-
144	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
145	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			MAR-SEP	-	-	-
	Peregrine falcon	S/F	E/E										X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X				-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
146	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 24 (continued)

BIOLOGICAL RESOURCES (continued):

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
146	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
276	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					3	3	3	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead							2	2	2	2	2	2				-	SEP-SEP	-	APR-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	MAY-OCT
	Spotted seatrout				3	3	3	3	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	4	4	4	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
278	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	SEP-NOV
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-NOV	JAN-DEC	SEP-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	3	3	3	3	4	4	3		-	OCT-NOV	-	APR-NOV	JUN-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				3	3	3	3	3	3	3	3	4	4	4	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					3	3	3	3	3	3	3	3	3	3		-	-	SEP-NOV	FEB-NOV	SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	SEP-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead							2	2	2	2	2	3	3	3		-	SEP-OCT	-	APR-NOV	JUN-OCT
	Sheepshead minnow				2	2	2	2	2	2	2	2	4	4	4	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	2	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	MAY-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	4	4	4	4	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
276	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	APR-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp					2	2	2	2	3	3	3	3	3	3		-	JUN-SEP	-	FEB-NOV	-
278	American oyster (eastern)				2	2	2	2	2	2	2	2	3	3	3	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	SEP-SEP
	Grass shrimp				3	3	3	3	3	3	3	3	4	4	4	3	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	2	2	2	3	3	3	4	4	4	2	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)												4	4	4		SEP-OCT	SEP-NOV	-	SEP-NOV	SEP-NOV
	White shrimp					2	2	2	2	3	3	3	3	3	3		-	JUN-SEP	-	FEB-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 25

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
144	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
147	Bufflehead			LOW	X	X	X	X							X	X	-	-	-	-
	Canvasback			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			LOW	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
148	American wigeon			16	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			65	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			95	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			650	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			37	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			440	X	X	X	X					X	X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
273	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	3	3	3	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	5	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
275	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	2	2	2	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	2	2	2	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	4	4	4	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	4	4	4	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
276	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					3	3	3	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead							2	2	2	2	2	2				-	SEP-SEP	-	APR-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	MAY-OCT
	Spotted seatrout				3	3	3	3	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	4	4	4	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
277	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	3	3	3	3	-	-	JAN-MAY	JAN-DEC	SEP-NOV
	Atlantic menhaden				3	4	4	5	5	5	4	4	3	3	3	3	-	-	NOV-NOV	JAN-DEC	SEP-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	3	3	3	3	4	4	3		-	OCT-NOV	-	APR-NOV	JUN-NOV
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				3	3	3	3	3	3	3	3	4	4	4	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					3	3	3	3	3	3	3	3	3	3		-	-	SEP-NOV	FEB-NOV	SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	SEP-OCT	OCT-NOV	-	JAN-DEC	MAR-NOV
	Sheepshead							2	2	2	2	2	3	3	3		-	SEP-OCT	-	APR-NOV	JUN-OCT
	Sheepshead minnow				2	2	2	2	2	2	2	2	4	4	4	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 25 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
277	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	MAY-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	4	4	4	4	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
278	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	SEP-NOV
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-NOV	JAN-DEC	SEP-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	3	3	3	3	4	4	3		-	OCT-NOV	-	APR-NOV	JUN-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				3	3	3	3	3	3	3	3	4	4	4	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					3	3	3	3	3	3	3	3	3	3		-	-	SEP-NOV	FEB-NOV	SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	SEP-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead							2	2	2	2	2	3	3	3		-	SEP-OCT	-	APR-NOV	JUN-OCT
	Sheepshead minnow				2	2	2	2	2	2	2	2	4	4	4	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	2	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	MAY-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	4	4	4	4	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
273	American oyster (eastern)												2	2	2		SEP-NOV	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp												2	2	2		-	-	-	SEP-NOV	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	SEP-OCT	SEP-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp												3	3	3		-	-	-	SEP-NOV	-
	White shrimp									4	4	4	3	3	3		-	JUN-SEP	-	SEP-NOV	-
275	American oyster (eastern)				2				2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	2	2	2	2	-	-	-	MAY-JAN	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	3	3	3	2	-	-	-	MAY-JAN	-
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	-
276	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	APR-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	2	2	2	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp					2	2	2	2	3	3	3	3	3	3		-	JUN-SEP	-	FEB-NOV	-
277	American oyster (eastern)				2	2	2	2	2	2	2	2	3	3	3	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Grass shrimp				3	3	3	3	3	3	3	3	4	4	4	3	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	2	2	2	3	3	3	4	4	4	2	-	-	-	JAN-DEC	-
	Quahog spp. (hard clam)												4	4	4		-	-	-	-	SEP-NOV
	White shrimp					2	2	2	2	3	3	3	3	3	3		-	JUN-SEP	-	FEB-NOV	-
278	American oyster (eastern)				2	2	2	2	2	2	2	2	3	3	3	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	SEP-SEP
	Grass shrimp				3	3	3	3	3	3	3	3	4	4	4	3	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	2	2	2	3	3	3	4	4	4	2	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)												4	4	4		SEP-OCT	SEP-NOV	-	SEP-NOV	SEP-NOV
	White shrimp					2	2	2	2	3	3	3	3	3	3		-	JUN-SEP	-	FEB-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 26

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
148	American wigeon			16	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			65	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			95	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			650	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			37	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			440	X	X	X	X					X	X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-
150	American wigeon			4	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			17	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			24	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			160	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			9	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			110	X	X	X	X					X	X	X	X	-	-	-	-
151	American wigeon			31	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			190	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1300	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			74	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			870	X	X	X	X					X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
273	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	3	3	3	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	5	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
275	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	2	2	2	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	2	2	2	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 26 (continued)

BIOLOGICAL RESOURCES (continued):

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
275	Striped bass				3	4	4	4	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	4	4	4	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
149	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
273	American oyster (eastern)												2	2	2		SEP-NOV	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp												2	2	2		-	-	-	SEP-NOV	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	SEP-OCT	SEP-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp												3	3	3		-	-	-	SEP-NOV	-
	White shrimp									4	4	4	3	3	3		-	JUN-SEP	-	SEP-NOV	-
275	American oyster (eastern)				2				2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	2	2	2	2	-	-	-	MAY-JAN	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	3	3	3	2	-	-	-	MAY-JAN	-
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 27

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
151	American wigeon			31	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			190	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1300	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			74	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			870	X	X	X	X					X	X	X	X	-	-	-	-
152	American coot			1500	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			480	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			74	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			66	X	X	X	X							X	X	-	-	-	-
	Canada goose			350	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			360	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1900	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			45	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			12000	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			1400	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			230	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			870	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			8700	X	X	X	X						X	X	X	-	-	-	-
	Scaup			140	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			3000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			2	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
50	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
149	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 28

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
152	American coot			1500	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			480	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			74	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			66	X	X	X	X							X	X	-	-	-	-
	Canada goose			350	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			360	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1900	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			45	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			12000	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			1400	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			230	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			870	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			8700	X	X	X	X						X	X	X	-	-	-	-
	Scaup			140	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			3000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			2	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
155	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
156	Whistling swan (tundra swan)			LOW	X	X	X	X						X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
149	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
156	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 29

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
157	American coot			820	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			16	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			16	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			5	X	X	X	X							X	X	-	-	-	-
	Canada goose			150	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			13	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			40	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			78	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			91	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			1	X	X	X	X						X	X	X	-	-	-	-
	Scaup			4000	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			50	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel							2	2	2	2	2	2	2			-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
157	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 30

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
157	American coot			820	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			16	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			16	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			5	X	X	X	X							X	X	-	-	-	-
	Canada goose			150	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			13	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			40	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			78	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			91	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			1	X	X	X	X						X	X	X	-	-	-	-
	Scaup			4000	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			50	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
157	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 31

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2		2	2	2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
158	American coot			390	X	X	X	X					X	X	X	X	-	-	-	-
	American wigeon			29	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			10	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			18	X	X	X	X							X	X	-	-	-	-
	Canada goose			540	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			33	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			50	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			220	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			10	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey			HIGH			X	X	X	X	X	X	X	X			MAR-SEP	-	-	-
	Redhead			23	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			20	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			1	X	X	X	X						X	X	X	-	-	-	-
	Scaup			41	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
270	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-APR	SEP-OCT	FEB-APR	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	JUN-JUL	APR-APR	JAN-DEC	FEB-JUN
	Atlantic croaker				3		3	3	5	5	5	5	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	MAR-JAN	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-APR	AUG-SEP	APR-APR	JAN-DEC	APR-AUG
	Bay anchovy				4	3	3	3	5	5	5	5	5	5	5	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	APR-APR	JAN-DEC	FEB-SEP
	Bluefish								2	2	2	2	2	2			-	OCT-OCT	-	MAY-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2		2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAR-JAN	MAY-OCT
	Red drum								2	2	2	2	2	2	2		-	-	-	MAY-NOV	-
	Seatrout (weakfish)				2				2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2				2	2	2	2	2	2	2	2	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	3	3	3	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAY-JAN
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2				2	2	2	2	2	2	2	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
270	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	APR-OCT	JAN-DEC	MAY-JAN
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 33

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
139	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
158	American coot			390	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			29	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			10	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			18	X	X	X	X							X	X	-	-	-	-
	Canada goose			540	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			33	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			50	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			220	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			10	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey			HIGH			X	X	X	X	X	X	X	X			MAR-SEP	-	-	-
	Redhead			23	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			20	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			1	X	X	X	X						X	X	X	-	-	-	-
	Scaup			41	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel							2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 34

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
271	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	FEB-MAY	SEP-OCT	FEB-MAY	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	JUN-JUL	APR-JUN	JAN-DEC	FEB-JUN
	Atlantic croaker						3	3	3	3	3	3	4	3	3		-	-	-	MAR-NOV	SEP-NOV
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	4		-	-	FEB-MAY	MAR-NOV	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	APR-JUN	AUG-SEP	APR-JUL	JAN-DEC	APR-AUG
	Bay anchovy				3	3	3	3	4	4	4	4	5	5	5	3	-	-	SEP-OCT	JAN-DEC	JAN-DEC
	Black drum												2	2	2		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-MAY	SEP-OCT	APR-JUN	JAN-DEC	FEB-SEP
	Bluefish												2	2			-	OCT-OCT	-	SEP-OCT	SEP-OCT
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish												2	2			-	-	-	SEP-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	MAR-NOV	SEP-OCT
	Red drum												2	2	2		-	-	-	SEP-NOV	-
	Seatrout (weakfish)									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	-
	Sheepshead												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Sheepshead minnow												2	2	2		SEP-OCT	-	SEP-OCT	SEP-NOV	SEP-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel												2	2	2		-	OCT-NOV	-	SEP-NOV	-
	Spot				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	SEP-NOV
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
271	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	APR-OCT	SEP-APR	MAY-NOV
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp												4				-	SEP-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 35

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
144	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black rail							X	X	X	X	X	X				APR-SEP	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Cattle egret			MED			X	X	X	X	X	X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common snipe			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis			MED				X	X	X	X	X					-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	King rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Lesser yellowlegs			MED	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Long-billed dowitcher			MED	X	X	X	X				X	X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern harrier			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Pectoral sandpiper			MED				X			X	X	X	X			-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sora rail				X	X	X	X	X				X	X	X	X	-	-	-	-
	Stilt sandpiper			MED				X	X		X	X	X	X			-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow rail				X	X	X	X					X	X	X	X	-	-	-	-
	Yellow-crowned night heron			MED				X	X	X	X	X	X				-	-	-	-
145	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
146	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			MAR-SEP	-	-	-
	Peregrine falcon	S/F	E/E										X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
162	American avocet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black rail							X	X	X	X	X	X				APR-SEP	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-necked stilt			HIGH				X	X	X	X	X	X				-	-	-	-
	Bonaparte's gull				X	X	X	X	X						X	X	-	-	-	-
	Canada goose				X	X	X	X					X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common snipe			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Gadwall			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 35 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
162	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X										X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	King rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Lesser yellowlegs			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Long-billed dowitcher			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Mallard			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Pectoral sandpiper			HIGH				X			X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E	2	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snow goose				X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X										X	-	-	-	-
	Sora rail				X	X	X	X	X				X	X	X	X	-	-	-	-
	Stilt sandpiper			HIGH				X	X		X	X	X	X			-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
163	American oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Double-crested cormorant				X	X							X	X	X	X	-	-	-	-
	Dunlin				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper				X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit				X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
165	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Piping plover	S/F	T/T				X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Whimbrel							X	X		X	X	X	X			-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
167	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
168	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
169	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
170	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG

NORTH CAROLINA — ESIMAP 35 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
170	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
171	Caspian tern				X	X		X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
172	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-
358	American oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Double-crested cormorant				X	X							X	X	X	X	-	-	-	-
	Dunlin				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper				X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit				X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot				X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone				X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper							X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper				X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
287	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	4	4	4	4	4	4	3		-	OCT-NOV	-	APR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	MAY-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3			2	3	3	3	3	3	3	3	3	-	SEP-OCT	-	APR-JAN	JUN-OCT
	Sheepshead minnow				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	JAN-JAN
																					MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
288	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish					3	3	4	4	4	4	4	4	4	3		-	OCT-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	-	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	-	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-OCT	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 35 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-JAN
																					MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
356	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	SEP-NOV
																			NOV-NOV		
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	3	3	3	3	4	4	3		-	OCT-NOV	-	APR-NOV	JUN-NOV
	Cobia												3	1	1		-	-	SEP-SEP	SEP-SEP	SEP-SEP
	Gray snapper											2	2	3	3	3	-	-	-	JUL-NOV	-
	Gulf flounder													3	3	3	-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				3	3	3	3	3	3	3	3	4	4	4	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					3	3	3	3	3	3	3	3	3	3		-	-	SEP-NOV	FEB-NOV	SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	SEP-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead							2	2	2	2	2	3	3	3		-	SEP-OCT	-	APR-NOV	JUN-OCT
	Sheepshead minnow				2	2	2	2	2	2	2	2	4	4	4	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	2	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	4	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	4	4	4	4	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
164	Saltmarsh spikerush	S/F	T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
165	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
173	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
287	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
																	AUG-NOV	AUG-DEC			
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN	-	JAN-DEC	JUL-SEP
																		MAY-MAY			
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN
																					SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
288	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
																	AUG-NOV	AUG-DEC			
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 35 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
288	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
291	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
356	American oyster (eastern)				2	2	2	2	2	2	2	2	3	3	3	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	SEP-SEP
	Grass shrimp				3	3	3	3	3	3	3	3	4	4	4	3	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	2	2	2	3	3	3	4	4	4	2	-	-	-	JAN-DEC	SEP-NOV
	White shrimp					2	2	2	2	3	3	3	3	3	3		-	JUN-SEP	-	FEB-NOV	SEP-NOV
	SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T				

NORTH CAROLINA — ESIMAP 36

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
145	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
149	American wigeon			16	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			65	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			95	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			650	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			37	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			440	X	X	X	X					X	X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
285	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	2	2	2	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	2	2	2	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	4	4	4	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	2	2	2	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
286	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY NOV-NOV	JAN-DEC	SEP-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	4	4	3		-	OCT-NOV	-	APR-NOV	JUN-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				3	2	2	2	3	3	3	3	4	4	4	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	3	3	3	3	3	3	3		-	-	SEP-NOV	FEB-NOV	SEP-OCT
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	4	3	3	2	SEP-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAY-NOV
	Sheepshead								2	2	2	2	3	3	3		-	SEP-OCT	-	MAY-NOV	JUN-OCT
	Sheepshead minnow				2	2	2	2	2	2	2	2	4	4	4	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	2	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	SEP-OCT
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-NOV
	Spotted seatrout				3	2	2	2	3	4	4	4	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	4	4	4	4	4	4	4	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	4	4	4	3	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	2	2	2	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
287	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	4	4	4	4	4	4	3		-	OCT-NOV	-	APR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	MAY-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3			2	3	3	3	3	3	3	3	3	-	SEP-OCT	-	APR-JAN	JUN-OCT
	Sheepshead minnow				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 36 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
287	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	JAN-JAN MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
288	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	OCT-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	-	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	-	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-OCT	-	JAN-DEC	JUN-OCT
	Shortnose sturgeon	S/F	E/E		4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Silversides				2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Spanish mackerel							3	3	3	3	3	3	3	3		-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	JAN-NOV
	Striped bass				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped mullet				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-APR	JAN-DEC	JAN-DEC
291	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	American eel				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American shad				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	Atlantic croaker				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic sturgeon				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Bay anchovy				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Black drum				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Bluefish				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Cobia						3	3	3	3	3	4	4	3			-	OCT-NOV	-	APR-NOV	JUN-NOV
	Gray snapper				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gulf flounder										2	2	3	3	3		-	-	-	JUL-NOV	-
	Ladyfish				3				3	3	3	3	3	3	3		-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Mummichog				3		2	2	3	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Red drum				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Seatrout (weakfish)				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	MAY-OCT
	Sheepshead				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Shortnose sturgeon	S/F	E/E		3		2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	APR-JAN	JUN-OCT
	Silversides				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Southern flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Southern kingfish (whiting)				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Spanish mackerel				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Spot							3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spotted seatrout							3	3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Striped bass				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-JAN MAY-NOV
	Striped mullet				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	4	4	4	4	4	3	3	3	-	DEC-JAN	APR-APR	JAN-DEC	JAN-DEC
	White perch				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	American eel				2	2	2	2	3	3	3	3	3	3	3	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	American shad				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	Atlantic croaker				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic menhaden				3	4	4	4	5	5	5	5	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic sturgeon				3	4	4	5	5	5	4	4	4	4	4	3	-	-	JAN-MAY NOV-NOV	JAN-DEC	SEP-NOV
	Bay anchovy				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Black drum				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Bluefish				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Cobia						3	3	3	3	3	4	4	3			-	OCT-NOV	-	APR-NOV	JUN-NOV
	Gray snapper											3	1	1			-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gulf flounder										2	2	3	3	3		-	-	-	JUL-NOV	-
	Ladyfish											3	3	3			-	-	-	SEP-NOV	SEP-NOV
	Mummichog						3	3	3	3	3	3	3	3			-	-	SEP-NOV	APR-SEP	SEP-SEP
	Pinfish				3	3	3	3	3	3	3	3	4	4	4	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Seatrout (weakfish)					3	3	3	3	3	3	3	3	3	3		-	-	SEP-NOV	FEB-NOV	SEP-OCT
	Sheepshead				2	2	3	3	3	3	3	3	4	3	3	2	SEP-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Shortnose sturgeon	S/F	E/E				2	2	2	2	2	2	3	3	3		-	SEP-OCT	-	APR-NOV	JUN-OCT
	Silversides				2	2	2	2	2	2	2	2	4	4	4	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Southern flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Southern kingfish (whiting)				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Spanish mackerel				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Spot							2	2	2	2	3	3	3	3	2	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spotted seatrout							2	2	3	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	SEP-OCT
	Striped bass				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	MAY-NOV
	Striped mullet				3	3	3	3	3	3	4	4	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	4	4	4	4	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	White perch				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Alewife				3	3	3	3	3	3	3	3	4	4	4	3	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-DEC
	American eel				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 36 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
357	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	3	3	3	3	-	-	JAN-MAY NOV-NOV	JAN-DEC	SEP-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	3	3	3	3	4	4	3		-	OCT-NOV	-	APR-NOV	JUN-NOV
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				3	3	3	3	3	3	3	3	4	4	4	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	3	3	3	3	3	3	4	4	4	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					3	3	3	3	3	3	3	3	3	3		-	-	SEP-NOV	FEB-NOV	SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	SEP-OCT	OCT-NOV	-	JAN-DEC	MAR-NOV
	Sheepshead							2	2	2	2	2	3	3	3		-	SEP-OCT	-	APR-NOV	JUN-OCT
	Sheepshead minnow				2	2	2	2	2	2	2	2	4	4	4	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	MAY-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	4	4	4	4	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
285	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	2	2	2	2	-	-	-	MAY-JAN	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	3	3	3	2	-	-	-	MAY-JAN	-
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	-
286	American oyster (eastern)				2	2	2	2	2	2	2	2	3	3	3	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	3	3	3	2	-	-	-	MAY-JAN	SEP-SEP
	Grass shrimp				3	3	3	3	3	3	3	3	4	4	4	3	MAY-AUG	MAY-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	4	4	4	2	-	-	-	MAY-JAN	SEP-NOV
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	SEP-NOV
287	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
288	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
291	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
356	American oyster (eastern)				2	2	2	2	2	2	2	2	3	3	3	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	SEP-SEP
	Grass shrimp				3	3	3	3	3	3	3	3	4	4	4	3	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	2	2	2	3	3	3	4	4	4	2	-	-	-	JAN-DEC	SEP-NOV
	White shrimp					2	2	2	2	3	3	3	3	3	3		-	JUN-SEP	-	FEB-NOV	SEP-NOV
357	American oyster (eastern)				2	2	2	2	2	2	2	2	3	3	3	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	Grass shrimp				3	3	3	3	3	3	3	3	4	4	4	3	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	2	2	2	3	3	3	4	4	4	2	-	-	-	JAN-DEC	-
	White shrimp					2	2	2	2	3	3	3	3	3	3		-	JUN-SEP	-	FEB-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 37

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
149	American wigeon			16	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			65	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			95	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			650	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			37	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			440	X	X	X	X					X	X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-
174	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
284	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2				-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
285	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	2	2	2	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	2	2	2	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	4	4	4	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	4	4	4	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
150	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
284	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
285	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	2	2	2	2	-	-	-	MAY-JAN	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	3	3	3	2	-	-	-	MAY-JAN	-
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	-
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
284	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2				-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
52	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
150	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
284	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
159	Whistling swan (tundra swan)			LOW	X	X	X	X						X	X	X	-	-	-	-
175	Canada goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl			LOW	X	X	X								X	X	-	-	-	-
	Whistling swan (tundra swan)			3000	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
284	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2			-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
159	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
175	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
284	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
176	American coot			65	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			8	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			33	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			150	X	X	X	X							X	X	-	-	-	-
	Canada goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			775	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			47	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			12	X	X	X								X	X	-	-	-	-
	Green-winged teal			330	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4303	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			220	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			1995	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			309	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			346	X	X	X	X						X	X	X	-	-	-	-
	Scaup			2235	X	X	X	X						X	X	X	-	-	-	-
	Scoter			648	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			80	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
287	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	4	4	4	4	4	4	3		-	OCT-NOV	-	APR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	MAY-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3			2	3	3	3	3	3	3	3	3	-	SEP-OCT	-	APR-JAN	JUN-OCT
	Sheepshead minnow				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	JAN-JAN
																					MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
288	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish					3	3	4	4	4	4	4	4	4	3		-	OCT-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	-	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	-	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-OCT	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish					3	3	4	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 40 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
291	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	4	4	4	4	4	4	3		-	NOV-NOV	-	APR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3			2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	APR-JAN	JUN-OCT
	Sheepshead minnow				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-JAN MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
287	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
288	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 40 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
291	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 41

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
176	American coot			65	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			8	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			33	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			150	X	X	X	X							X	X	-	-	-	-
	Canada goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			775	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			47	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			12	X	X	X								X	X	-	-	-	-
	Green-winged teal			330	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4303	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			220	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			1995	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			309	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			346	X	X	X	X						X	X	X	-	-	-	-
	Scaup			2235	X	X	X	X						X	X	X	-	-	-	-
	Scoter			648	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			80	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3		-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN
																					APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
293	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	APR-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
																	AUG-NOV	AUG-DEC			
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN
																					SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
293	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
																	AUG-NOV	AUG-DEC			
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 42

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
66	Black rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
176	American coot			65	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			8	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			33	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			150	X	X	X	X							X	X	-	-	-	-
	Canada goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			775	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			47	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			12	X	X	X								X	X	-	-	-	-
	Green-winged teal			330	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4303	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			220	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			1995	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			309	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			346	X	X	X	X						X	X	X	-	-	-	-
	Scaup			2235	X	X	X	X						X	X	X	-	-	-	-
	Scoter			648	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			80	X	X	X	X						X	X	X	-	-	-	-
177	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			120	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			340	X	X	X	X							X	X	-	-	-	-
	Canada goose			10	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			30	X	X	X								X	X	-	-	-	-
	Green-winged teal			130	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			86	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			340	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			850	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			147	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			2	X	X	X	X						X	X	X	-	-	-	-
	Scaup			65	X	X	X	X						X	X	X	-	-	-	-
	Scoter			65	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			10	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
284	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
293	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										3	3	3	3			-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	APR-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
52	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
150	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
284	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
293	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
284	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2				-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
52	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
150	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
284	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
136	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
178	American wigeon			27	X	X	X	X				X	X	X	X		-	-	-	-
	Black duck			4	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			20	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			100	X	X	X	X				X	X	X	X		-	-	-	-
	Mallard			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			78	X	X	X	X				X	X	X	X		-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
284	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
52	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
178	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
284	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
176	American coot			65	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			8	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			33	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			150	X	X	X	X							X	X	-	-	-	-
	Canada goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			775	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			47	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			12	X	X	X								X	X	-	-	-	-
	Green-winged teal			330	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4303	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			220	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			1995	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			309	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			346	X	X	X	X						X	X	X	-	-	-	-
	Scaup			2235	X	X	X	X						X	X	X	-	-	-	-
	Scoter			648	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			80	X	X	X	X						X	X	X	-	-	-	-
177	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			120	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			340	X	X	X	X							X	X	-	-	-	-
	Canada goose			10	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			30	X	X	X								X	X	-	-	-	-
	Green-winged teal			130	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			86	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			340	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			850	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			147	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			2	X	X	X	X						X	X	X	-	-	-	-
	Scaup			65	X	X	X	X						X	X	X	-	-	-	-
	Scoter			65	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			10	X	X	X	X						X	X	X	-	-	-	-
179	American coot			10	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			12	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			50	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead				X	X	X	X							X	X	-	-	-	-
	Canada goose			2	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback				X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			71	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Green-winged teal			490	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser				X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			330	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead				X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck				X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck				X	X	X	X						X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			120	X	X	X	X						X	X	X	-	-	-	-
180	American coot			7	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			8	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			33	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead				X	X	X	X							X	X	-	-	-	-
	Canada goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback				X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			47	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Green-winged teal			330	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser				X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			220	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead				X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck				X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck				X	X	X	X						X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			80	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 45 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3			-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
293	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	APR-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
293	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 46

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
176	American coot			65	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			8	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			33	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			150	X	X	X	X							X	X	-	-	-	-
	Canada goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			775	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			47	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			12	X	X	X								X	X	-	-	-	-
	Green-winged teal			330	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4303	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			220	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			1995	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			309	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			346	X	X	X	X						X	X	X	-	-	-	-
	Scaup			2235	X	X	X	X						X	X	X	-	-	-	-
	Scoter			648	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			80	X	X	X	X						X	X	X	-	-	-	-
177	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			120	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			340	X	X	X	X							X	X	-	-	-	-
	Canada goose			10	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			30	X	X	X								X	X	-	-	-	-
	Green-winged teal			130	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			86	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			340	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			850	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			147	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			2	X	X	X	X						X	X	X	-	-	-	-
	Scaup			65	X	X	X	X						X	X	X	-	-	-	-
	Scoter			65	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			10	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 46 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
293	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	APR-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
293	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 47

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
140	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
181	Bufflehead			500	X	X	X	X							X	X	-	-	-	-
	Canvasback			27200	X	X	X	X					X	X	X	X	-	-	-	-
	Goldeneye			650	X	X	X								X	X	-	-	-	-
	Hooded merganser			500	X	X	X	X							X	X	-	-	-	-
	Mallard			5700	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red-breasted merganser			300	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Ring-necked duck			16800	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			13300	X	X	X	X						X	X	X	-	-	-	-
	Scaup			19900	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
182	Peregrine falcon	S/F	E/E	HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl			HIGH	X	X	X								X	X	-	-	-	-
183	Peregrine falcon	S/F	E/E	HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl			HIGH	X	X	X								X	X	-	-	-	-
184	American bittern				X	X	X	X					X	X	X	X	-	-	-	-
185	American wigeon			28900	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T	7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			14800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			6000	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			18600	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			4100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			6000	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			36800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			28700	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			2600	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey			75			X	X	X	X	X	X	X	X			APR-JUL	-	-	-
	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			6200	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1500	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
182	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 48

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
178	American wigeon			27	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			4	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			20	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			100	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			78	X	X	X	X					X	X	X	X	-	-	-	-
	Wood duck			1	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
181	Bufflehead			500	X	X	X	X							X	X	-	-	-	-
	Canvasback			27200	X	X	X	X					X	X	X	X	-	-	-	-
	Goldeneye			650	X	X	X								X	X	-	-	-	-
	Hooded merganser			500	X	X	X	X							X	X	-	-	-	-
	Mallard			5700	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red-breasted merganser			300	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Ring-necked duck			16800	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			13300	X	X	X	X						X	X	X	-	-	-	-
	Scaup			19900	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
185	American wigeon			28900	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T	7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			14800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			6000	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			18600	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			4100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			6000	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			36800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			28700	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			2600	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey			75			X	X	X	X	X	X	X	X			APR-JUL	-	-	-
	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			6200	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1500	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
284	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
285	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	2	2	2	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	2	2	2	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	4	4	4	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	4	4	4	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
186	Virginia joint-vetch	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
52	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
178	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
284	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
285	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	2	2	2	2	-	-	-	MAY-JAN	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	3	3	3	2	-	-	-	MAY-JAN	-
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 49

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
181	Bufflehead			500	X	X	X	X							X	X	-	-	-	-
	Canvasback			27200	X	X	X	X					X	X	X	X	-	-	-	-
	Goldeneye			650	X	X	X								X	X	-	-	-	-
	Hooded merganser			500	X	X	X	X							X	X	-	-	-	-
	Mallard			5700	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red-breasted merganser			300	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Ring-necked duck			16800	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			13300	X	X	X	X						X	X	X	-	-	-	-
	Scaup			19900	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
185	American wigeon			28900	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T	7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			14800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			6000	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			18600	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			4100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			6000	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			36800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			28700	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			2600	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey			75			X	X	X	X	X	X	X	X			APR-JUL	-	-	-
	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			6200	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1500	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
285	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	2	2			-	-	-	APR-OCT	-
	Mummichog				3	2	2	2	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	3	3	3	3	3	3	3		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel								2	2	3	3	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	2	2	2	3	4	4	4	3	3	3	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				3	4	4	4	4	4	4	4	4	4	4	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-JAN	JAN-DEC	MAR-DEC
	White perch				2	4	4	4	2	2	2	2	4	4	4	2	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
52	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
285	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2				3	3	3	3	2	2	2	2	-	-	-	MAY-JAN	-
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-OCT	-	JAN-DEC	JAN-DEC
	Pink shrimp				2				2	3	3	3	3	3	3	2	-	-	-	MAY-JAN	-
	White shrimp								2	3	3	3	3	3	3		-	JUN-SEP	-	MAY-NOV	-
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 50

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
187	American coot			210	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			57	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			27	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			110	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			78	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			68	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			110	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			81	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			30	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-
189	Black rail							X	X	X	X	X	X				APR-SEP	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 51

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
187	American coot			210	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			57	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			27	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			110	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			78	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			68	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			110	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			81	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			30	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-
190	American coot			140	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			38	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			73	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			52	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			45	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			73	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			54	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			20	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			30	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 52

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-
190	American coot			140	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			38	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			73	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			52	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			45	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			73	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			54	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			20	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			30	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 53

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
177	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			120	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			340	X	X	X	X							X	X	-	-	-	-
	Canada goose			10	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			30	X	X	X								X	X	-	-	-	-
	Green-winged teal			130	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			86	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			340	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			850	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			147	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			2	X	X	X	X						X	X	X	-	-	-	-
	Scaup			65	X	X	X	X						X	X	X	-	-	-	-
	Scoter			65	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			10	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	JAN-DEC	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 54

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
181	Bufflehead			500	X	X	X	X							X	X	-	-	-	-
	Canvasback			27200	X	X	X	X					X	X	X	X	-	-	-	-
	Goldeneye			650	X	X	X								X	X	-	-	-	-
	Hooded merganser			500	X	X	X	X							X	X	-	-	-	-
	Mallard			5700	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red-breasted merganser			300	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Ring-necked duck			16800	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			13300	X	X	X	X						X	X	X	-	-	-	-
	Scaup			19900	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
183	Peregrine falcon	S/F	E/E	HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Waterfowl			HIGH	X	X	X								X	X	-	-	-	-
185	American wigeon			28900	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T	7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			14800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			6000	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			18600	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			4100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			6000	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			36800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			28700	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			2600	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey			75			X	X	X	X	X	X	X	X			APR-JUL	-	-	-
	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			6200	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1500	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
189	Black rail							X	X	X	X	X	X				APR-SEP	-	-	-
191	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
192	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			120	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			11	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			130	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			86	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			11	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			10	X	X	X	X						X	X	X	-	-	-	-
193	American coot			30	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			680	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			550	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			61	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			150	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			690	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			480	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			58	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			53	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 54 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
292	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	JAN-DEC
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 55

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
136	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
181	Bufflehead			500	X	X	X	X							X	X	-	-	-	-
	Canvasback			27200	X	X	X	X					X	X	X	X	-	-	-	-
	Goldeneye			650	X	X	X								X	X	-	-	-	-
	Hooded merganser			500	X	X	X	X							X	X	-	-	-	-
	Mallard			5700	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red-breasted merganser			300	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Ring-necked duck			16800	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			13300	X	X	X	X						X	X	X	-	-	-	-
	Scaup			19900	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
185	American wigeon			28900	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T	7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			14800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			6000	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			18600	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			4100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			6000	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			36800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			28700	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			2600	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey			75			X	X	X	X	X	X	X	X			APR-JUL	-	-	-
	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			6200	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1500	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
194	Black scoter (common)			200	X	X	X	X	X					X	X	X	-	-	-	-
	Bufflehead			3450	X	X	X	X							X	X	-	-	-	-
	Canvasback			17700	X	X	X	X					X	X	X	X	-	-	-	-
	Common merganser			30	X	X										X	-	-	-	-
	Hooded merganser			50	X	X	X	X							X	X	-	-	-	-
	Oldsquaw			HIGH	X	X	X								X	X	-	-	-	-
	Red-breasted merganser			50	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			1200	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			450	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			35	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10950	X	X	X	X						X	X	X	-	-	-	-
	Surf scoter			250	X	X	X	X	X					X	X	X	-	-	-	-
195	American coot			600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			860	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			806	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			60	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			40	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			282	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			114	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			100	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			10	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			480	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			250	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
196	Osprey						X	X	X	X	X	X	X	X			APR-JUL	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
293	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	APR-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
52	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
293	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 56

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
140	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
181	Bufflehead			500	X	X	X	X							X	X	-	-	-	-
	Canvasback			27200	X	X	X	X					X	X	X	X	-	-	-	-
	Goldeneye			650	X	X	X								X	X	-	-	-	-
	Hooded merganser			500	X	X	X	X							X	X	-	-	-	-
	Mallard			5700	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red-breasted merganser			300	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Ring-necked duck			16800	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			13300	X	X	X	X						X	X	X	-	-	-	-
	Scaup			19900	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
185	American wigeon			28900	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T	7	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			14800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			6000	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			18600	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			4100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			6000	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			36800	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			28700	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			2600	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey			75			X	X	X	X	X	X	X	X			APR-JUL	-	-	-
	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			6200	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			1500	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
194	Black scoter (common)			200	X	X	X	X	X					X	X	X	-	-	-	-
	Bufflehead			3450	X	X	X	X							X	X	-	-	-	-
	Canvasback			17700	X	X	X	X					X	X	X	X	-	-	-	-
	Common merganser			30	X	X										X	-	-	-	-
	Hooded merganser			50	X	X	X	X							X	X	-	-	-	-
	Oldsquaw			HIGH	X	X	X								X	X	-	-	-	-
	Red-breasted merganser			50	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			1200	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			450	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			35	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10950	X	X	X	X						X	X	X	-	-	-	-
	Surf scoter			250	X	X	X	X	X					X	X	X	-	-	-	-
195	American coot			600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			860	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			806	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			60	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			40	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			282	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			114	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			100	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			10	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			480	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			250	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
196	Osprey						X	X	X	X	X	X	X	X			APR-JUL	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
293	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	APR-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 56 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
306	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3			-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
52	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
293	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 57

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
187	American coot			210	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			57	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			27	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			110	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			78	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			68	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			110	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			81	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			30	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			45	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			5	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-
194	Black scoter (common)			200	X	X	X	X	X					X	X	X	-	-	-	-
	Bufflehead			3450	X	X	X	X							X	X	-	-	-	-
	Canvasback			17700	X	X	X	X					X	X	X	X	-	-	-	-
	Common merganser			30	X	X										X	-	-	-	-
	Hooded merganser			50	X	X	X	X							X	X	-	-	-	-
	Oldsquaw			HIGH	X	X	X								X	X	-	-	-	-
	Red-breasted merganser			50	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			1200	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			450	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			35	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10950	X	X	X	X						X	X	X	-	-	-	-
	Surf scoter			250	X	X	X	X	X					X	X	X	-	-	-	-
195	American coot			600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			860	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			806	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			60	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			40	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			282	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			114	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			100	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			10	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			480	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			250	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
196	Osprey						X	X	X	X	X	X	X	X			APR-JUL	-	-	-
197	American coot				X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X					X	X	X	X	-	-	-	-
	Black duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose				X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Mallard				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail				X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler				X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
	Wood duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
303	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	MAR-APR	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 57 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
303	Gray snapper											2	3	3	3		-	-	-	AUG-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	2	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4	4		-	OCT-NOV	-	FEB-NOV	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-NOV	MAR-DEC	APR-APR SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	4	4	4	3	3	3	3	4	4	4	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	4	4	4	3	3	3	3	4	4	4	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	FEB-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	JAN-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	3	3	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	FEB-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
307	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
303	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	4	3	3	3	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	MAR-APR JUN-JAN	-	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 57 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
303	Brown shrimp				2	2	2	3	3	4	4	4	3	3	3	2	-	APR-APR	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2			3	3	3	3	3	4	4	4	2	-	-	-	APR-JAN	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-SEP	-	JAN-DEC	SEP-NOV
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
307	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 58

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-
197	American coot				X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X					X	X	X	X	-	-	-	-
	Black duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose				X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Mallard				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail				X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler				X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
	Wood duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
303	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	MAR-APR	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper											2	3	3	3		-	-	-	AUG-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	2	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4	4		-	OCT-NOV	-	FEB-NOV	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-NOV	MAR-DEC	APR-APR SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	4	4	4	3	3	3	3	4	4	4	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	4	4	4	3	3	3	3	4	4	4	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	FEB-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	JAN-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	3	3	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	FEB-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
303	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	4	3	3	3	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	MAR-APR JUN-JAN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	3	3	3	2	-	APR-APR	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2		3	3	3	3	3	3	4	4	4	2	-	-	-	APR-JAN	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-SEP	-	JAN-DEC	SEP-NOV

SALINITY TIME PERIOD T L L L T T T T H H H T

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NORTH CAROLINA — ESIMAP 59

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
303	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	MAR-APR	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper											2	3	3	3		-	-	-	AUG-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	2	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4	4		-	OCT-NOV	-	FEB-NOV	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-NOV	MAR-DEC	APR-APR SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	4	4	4	3	3	3	3	4	4	4	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	4	4	4	3	3	3	3	4	4	4	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	FEB-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	JAN-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	3	3	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	FEB-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
303	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	4	3	3	3	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	MAR-APR JUN-JAN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	3	3	3	2	-	APR-APR	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2			3	3	3	3	3	4	4	4	2	-	-	-	APR-JAN	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-SEP	-	JAN-DEC	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 60

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
304	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish								2	3	3	3	3				-	-	-	MAY-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAY-OCT	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	4	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
304	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	MAY-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAY-AUG	MAY-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 61

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
304	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish								2	3	3	3	3				-	-	-	MAY-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAY-OCT	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-JAN	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	4	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
305	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-AUG	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	4	4	4	4	4	4	4	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish								2	3	3	3	3				-	-	-	MAY-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	SEP-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	SEP-OCT	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												3	3	3		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel												3	3	3		-	SEP-OCT	-	SEP-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	4	4	4	4	4	3	3	3	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	SEP-NOV	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
304	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	MAY-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAY-AUG	MAY-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
305	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	SEP-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	3	3	3	3	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 62

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
192	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			120	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			11	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			130	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			86	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			11	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			10	X	X	X	X						X	X	X	-	-	-	-
194	Black scoter (common)			200	X	X	X	X	X					X	X	X	-	-	-	-
	Bufflehead			3450	X	X	X	X							X	X	-	-	-	-
	Canvasback			17700	X	X	X	X					X	X	X	X	-	-	-	-
	Common merganser			30	X	X										X	-	-	-	-
	Hooded merganser			50	X	X	X	X							X	X	-	-	-	-
	Oldsquaw			HIGH	X	X	X								X	X	-	-	-	-
	Red-breasted merganser			50	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			1200	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			450	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			35	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10950	X	X	X	X						X	X	X	-	-	-	-
	Surf scoter			250	X	X	X	X	X					X	X	X	-	-	-	-
195	American coot			600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			860	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			806	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			60	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			40	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			282	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			114	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			100	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			10	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			480	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			250	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
196	Osprey						X	X	X	X	X	X	X	X			APR-JUL	-	-	-
198	American coot			8	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			180	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			150	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			17	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			42	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			190	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			16	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			14	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 62 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
292	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 63

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
194	Black scoter (common)			200	X	X	X	X	X					X	X	X	-	-	-	-
	Bufflehead			3450	X	X	X	X							X	X	-	-	-	-
	Canvasback			17700	X	X	X	X					X	X	X	X	-	-	-	-
	Common merganser			30	X	X										X	-	-	-	-
	Hooded merganser			50	X	X	X	X							X	X	-	-	-	-
	Oldsquaw			HIGH	X	X	X								X	X	-	-	-	-
	Red-breasted merganser			50	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			1200	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			450	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			35	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10950	X	X	X	X						X	X	X	-	-	-	-
	Surf scoter			250	X	X	X	X	X					X	X	X	-	-	-	-
195	American coot			600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			860	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			806	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			60	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			40	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			282	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			114	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			100	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			10	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			480	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			250	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
199	Common tern			10				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern			134	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	4	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
293	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 63 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
293	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	APR-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
293	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 64

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-
194	Black scoter (common)			200	X	X	X	X	X					X	X	X	-	-	-	-
	Bufflehead			3450	X	X	X	X							X	X	-	-	-	-
	Canvasback			17700	X	X	X	X					X	X	X	X	-	-	-	-
	Common merganser			30	X	X										X	-	-	-	-
	Hooded merganser			50	X	X	X	X							X	X	-	-	-	-
	Oldsquaw			HIGH	X	X	X								X	X	-	-	-	-
	Red-breasted merganser			50	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			1200	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			450	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			35	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10950	X	X	X	X						X	X	X	-	-	-	-
	Surf scoter			250	X	X	X	X	X					X	X	X	-	-	-	-
195	American coot			600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			860	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			806	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			60	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			40	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			282	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			114	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			100	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			10	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			480	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			250	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
197	American coot				X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X					X	X	X	X	-	-	-	-
	Black duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose				X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Mallard				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail				X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler				X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)				X	X	X	X						X	X	X	-	-	-	-
	Wood duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
201	American coot			9037	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2598	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			314	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			40	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			1880	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1052	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			98	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			3792	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			351	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			234	X	X	X	X						X	X	X	-	-	-	-
202	Common tern			88				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern			88	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
303	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	MAR-APR	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 64 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
303	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper											2	3	3	3		-	-	-	AUG-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	2	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4	4		-	OCT-NOV	-	FEB-NOV	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-NOV	MAR-DEC	APR-APR SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	4	4	4	3	3	3	3	4	4	4	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	4	4	4	3	3	3	3	4	4	4	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	FEB-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	JAN-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	3	3	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	FEB-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
307	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
200	Diamondback terrapin				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 64 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
303	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	4	3	3	3	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	MAR-APR JUN-JAN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	3	3	3	2	-	APR-APR	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2		3	3	3	3	3	4	4	4	4	2	-	-	-	APR-JAN	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-SEP	-	JAN-DEC	SEP-NOV
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
307	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 65

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
184	American bittern				X	X	X	X					X	X	X	X	-	-	-	-
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-
201	American coot			9037	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2598	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			314	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			40	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			1880	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1052	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			98	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			3792	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			351	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			234	X	X	X	X						X	X	X	-	-	-	-
203	Black-necked stilt							X	X	X	X	X	X				-	-	-	-
	Least bittern							X	X	X	X	X	X				APR-SEP	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
303	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	MAR-APR	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper											2	3	3	3		-	-	-	AUG-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	2	3	3	3	3	3			-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4	4		-	OCT-NOV	-	FEB-NOV	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-NOV	MAR-DEC	APR-APR SEP-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	4	4	4	3	3	3	3	4	4	4	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	4	4	4	3	3	3	3	4	4	4	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	FEB-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	JAN-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	3	3	4	3	3	3	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	FEB-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 65 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
306	Ladyfish				3		2	2	3	3	3	3	3	3	3		-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4		APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4		-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3		-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
307	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3		2	2	3	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
308	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	DEC-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	4	4	4	4	4	4	4	4	4		3	-	OCT-OCT	DEC-JAN	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	4	3	2	MAR-OCT	OCT-NOV	MAY-OCT	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	JUL-OCT
	Spanish mackerel									2	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	JUN-AUG
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
303	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	4	3	3	3	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	MAR-APR JUN-JAN	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	3	3	3	2	-	APR-APR	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2			3	3	3	3	3	4	4	4	2	-	-	-	APR-JAN	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-SEP	-	JAN-DEC	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 65 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
307	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
308	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	SEP-NOV
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 66

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-
201	American coot			9037	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2598	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			314	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			40	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			1880	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1052	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			98	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			3792	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			351	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			234	X	X	X	X						X	X	X	-	-	-	-
204	Black-necked stilt							X	X	X	X	X	X				-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 67

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
140	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
188	Bufflehead			1102	X	X	X	X							X	X	-	-	-	-
	Canvasback			9660	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			450	X	X	X	X							X	X	-	-	-	-
	Goldeneye			10	X	X	X								X	X	-	-	-	-
	Merganser			2898	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			400	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			288	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			6272	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10658	X	X	X	X						X	X	X	-	-	-	-
	Scoter			585	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
294	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish					4	4	4	4	4	4	4	4	4			-	OCT-OCT	-	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3	3	-	OCT-NOV	-	MAY-DEC	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	4	4	5	5	5	5	5	5	4	3	3	-	OCT-NOV	JAN-APR	JAN-DEC	APR-OCT
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
294	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
201	American coot			9037	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2598	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			314	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			40	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			1880	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1052	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			98	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			3792	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			351	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			234	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	3			-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 69

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
189	Black rail							X	X	X	X	X	X				APR-SEP	-	-	-
201	American coot			9037	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2598	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			314	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			40	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			1880	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1052	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			98	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			3792	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			351	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			234	X	X	X	X						X	X	X	-	-	-	-
205	Bufflehead			520	X	X	X	X							X	X	-	-	-	-
	Canvasback			400	X	X	X	X					X	X	X	X	-	-	-	-
	Eiders			41	X	X	X	X							X	X	-	-	-	-
	Goldeneye			31	X	X	X								X	X	-	-	-	-
	Merganser			240	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			630	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			1100	X	X	X	X						X	X	X	-	-	-	-
	Scaup			300	X	X	X	X						X	X	X	-	-	-	-
	Scoter			450	X	X	X	X						X	X	X	-	-	-	-
206	Bufflehead			220	X	X	X	X							X	X	-	-	-	-
	Canvasback			1300	X	X	X	X					X	X	X	X	-	-	-	-
	Goldeneye			8	X	X	X								X	X	-	-	-	-
	Merganser			350	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			16	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			580	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			140	X	X	X	X						X	X	X	-	-	-	-
	Scaup			1700	X	X	X	X						X	X	X	-	-	-	-
	Scoter			24	X	X	X	X						X	X	X	-	-	-	-
207	American coot			4100	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2600	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			340	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			300	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			170	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			3200	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			430	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			180	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			610	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			300	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			7	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 69 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
306	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
308	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	DEC-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	4	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-OCT	MAY-NOV
	Gray snapper											2	2	2			-	-	-	AUG-OCT	-
	Ladyfish							2	2	3	3	3	3				-	-	-	APR-SEP	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	4	4	4	4	4	4	4	4	4		3	-	OCT-OCT	DEC-JAN	FEB-OCT	APR-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-SEP	MAR-DEC	-
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	4	3	2	MAR-OCT	OCT-NOV	MAY-OCT	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	3	3	3	3	3	3	3	3	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	2	2			-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	MAY-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-JAN
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
309	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 69 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
308	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	3	3	3	4	4	4	4	-	APR-SEP	MAR-SEP	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY SEP-NOV	JUN-SEP DEC-APR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	4	4	4	2	2	2	2	-	-	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				2	2	3	3	3	3	3	3	3	3	3	2	-	-	-	JAN-DEC	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	SEP-NOV
309	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
314	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 70

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
206	Bufflehead			220	X	X	X	X							X	X	-	-	-	-
	Canvasback			1300	X	X	X	X					X	X	X	X	-	-	-	-
	Goldeneye			8	X	X	X								X	X	-	-	-	-
	Merganser			350	X	X	X	X	X					X	X	X	-	-	-	-
	Redhead			16	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			580	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			140	X	X	X	X						X	X	X	-	-	-	-
	Scaup			1700	X	X	X	X						X	X	X	-	-	-	-
	Scoter			24	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
313	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	SEP-OCT	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	4	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	NOV-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	DEC-JAN	DEC-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				2	2	3	3	3	3	3	3	4	3	3	2	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
313	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	4		-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 71

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
208	American avocet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-necked stilt							X	X	X	X	X	X				-	-	-	-
	Blue-winged teal			LOW						X							-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Common snipe			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Goldeneye			LOW	X	X	X								X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Hooded merganser			HIGH	X	X	X	X							X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Lesser yellowlegs			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Long-billed dowitcher			HIGH	X	X	X	X				X	X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			APR-JUL	-	-	-
	Pectoral sandpiper			HIGH				X			X	X	X	X			-	-	-	-
	Pied-billed grebe			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red-breasted merganser			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			MED	X	X	X	X						X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Ring-necked duck			MED	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			MED	X	X	X	X						X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snow goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Stilt sandpiper			HIGH				X	X		X	X	X	X			-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White-rumped sandpiper								X	X		X	X	X			-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
209	American avocet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-necked stilt			LOW				X	X	X	X	X	X				-	-	-	-
	Blue-winged teal			LOW						X							-	-	-	-

NORTH CAROLINA — ESIMAP 71 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
209	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Common snipe			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Goldeneye			LOW	X	X	X								X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Hooded merganser			HIGH	X	X	X	X							X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Lesser yellowlegs			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Long-billed dowitcher			HIGH	X	X	X	X				X	X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Pectoral sandpiper			HIGH				X			X	X	X	X			-	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Red-breasted merganser			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			MED	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			MED	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			MED	X	X	X	X						X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snow goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Stilt sandpiper			HIGH				X	X		X	X	X	X			-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
210	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			HIGH			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Terns			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 71 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
291	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	4	4	4	4	4	4	3		-	NOV-NOV	-	APR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	MAY-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3			2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	APR-JAN	JUN-OCT
	Sheepshead minnow				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-JAN MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
210	Green sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
291	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

HUMAN USE RESOURCES:

WATER_INTAKE:

RAR#	Name	Owner	Contact	Phone
H704	PEA ISLAND NWR IMPOUNDMENTS	USFWS		(919)987-2394

NORTH CAROLINA — ESIMAP 72

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 72 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3			-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
291	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	4	4	4	4	4	4	3		-	NOV-NOV	-	APR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	MAY-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	MAY-NOV	JAN-DEC	JAN-DEC	MAR-JAN
	Sheepshead				3			2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	APR-JAN	JUN-OCT
	Sheepshead minnow				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-JAN MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
291	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 73

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X		X	X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X		X	X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
211	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 73 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
212	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 74

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
213	Osprey			HIGH			X	X	X	X	X	X	X	X			MAR-SEP	-	-	-
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 74 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
212	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 75

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			LOW	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red knot				X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Roseate tern	S/F	E/E							X	X						-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone				X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper							X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sooty tern							X	X	X	X	X	X				-	-	-	-
	Western sandpiper				X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel							X	X		X	X	X	X			-	-	-	-
	Willet				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
215	Bonaparte's gull			VERY HIGH	X	X							X	X	X	X	-	-	-	-
	Great black-backed gull			VERY HIGH	X	X							X	X	X	X	-	-	-	-
	Herring gull			VERY HIGH	X	X							X	X	X	X	-	-	-	-
	Laughing gull			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ring-billed gull			VERY HIGH	X	X							X	X	X	X	-	-	-	-
216	Bonaparte's gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Great black-backed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Herring gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Laughing gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-breasted merganser			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Ring-billed gull			HIGH	X	X							X	X	X	X	-	-	-	-
217	American oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Piping plover	S/F	T/T				X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
218	Black duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common snipe			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Lesser yellowlegs			MED	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Pectoral sandpiper			MED				X			X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snow goose			150	X	X	X	X					X	X	X	X	-	-	-	-
	Stilt sandpiper			MED				X	X		X	X	X	X			-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Yellow rail				X	X	X	X					X	X	X	X	-	-	-	-
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 75 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
273	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
214	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
212	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 76

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
219	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			VERY HIGH	X	X	X	X	X						X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
220	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
221	American oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				-	-	-	-
	Herring gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Laughing gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			HIGH			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
222	Brown pelican			300	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Double-crested cormorant			300	X	X							X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG

NORTH CAROLINA — ESIMAP 76 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
222	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
223	Brant			500	X	X	X	X	X						X	X	-	-	-	-
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
221	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
212	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 77

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
221	American oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				-	-	-	-
	Herring gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Laughing gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			HIGH			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
223	Brant			500	X	X	X	X	X						X	X	-	-	-	-
224	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Brown pelican			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Double-crested cormorant			VERY HIGH	X	X							X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Glossy ibis							X	X	X	X	X	X				-	-	-	-

NORTH CAROLINA — ESIMAP 77 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
224	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
225	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
226	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
227	American oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			MAR-SEP	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-
274	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Oldsquaw			LOW	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 77 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
221	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
227	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
212	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 78

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X				-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X				-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
226	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X			-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
228	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Canada goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern pintail			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X				-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
274	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Oldsquaw			LOW	X	X	X								X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 78 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
312	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-OCT
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	4	3	3	-	-	SEP-APR	JAN-DEC	DEC-OCT
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	SEP-SEP	-	JUL-DEC	JAN-DEC	APR-NOV
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	4	4	3	-	NOV-DEC	SEP-NOV	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	DEC-OCT
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	OCT-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	3	3	3	2	-	-	APR-JUL	DEC-AUG	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW				X	X								-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
166	Green sea turtle	S/F	T/T	LOW				X	X	X	X	X	X	X			MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW				X	X	X	X	X	X	X			MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
229	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	SEP-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
312	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	SEP-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	3	3	4	-	APR-NOV	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-AUG	MAR-JUN AUG-AUG DEC-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	4	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 79

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X		X	X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X		X	X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
169	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
230	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
274	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Oldsquaw			LOW	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 79 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
312	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-OCT
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	4	3	3	-	-	SEP-APR	JAN-DEC	DEC-OCT
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	SEP-SEP	-	JUL-DEC	JAN-DEC	APR-NOV
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	4	4	3	-	NOV-DEC	SEP-NOV	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	DEC-OCT
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	OCT-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	3	3	3	2	-	-	APR-JUL	DEC-AUG	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
229	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	SEP-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
312	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	SEP-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	3	3	4	-	APR-NOV	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-AUG	MAR-JUN AUG-AUG DEC-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	4	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 80

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
23	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
231	Piping plover	S/F	T/T				X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
232	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
233	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Redhead			VERY HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
234	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
235	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
236	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 80 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
236	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
237	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
238	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Curlew sandpiper											X	X				-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Long-billed curlew				X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Marbled godwit			VERY HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	HIGH			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			HIGH			X	X	X	X	X	X	X				-	-	-	-
239	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
272	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			MED	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Goldeneye			LOW	X	X	X								X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			LOW	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			VERY HIGH	X	X	X	X						X	X	X	-	-	-	-
274	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Oldsquaw			LOW	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
312	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-OCT
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	4	3	3	-	-	SEP-APR	JAN-DEC	DEC-OCT
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 80 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
312	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	SEP-SEP	-	JUL-DEC	JAN-DEC	APR-NOV
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	4	4	3	-	NOV-DEC	SEP-NOV	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	DEC-OCT
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	OCT-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	3	3	3	2	-	-	APR-JUL	DEC-AUG	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
236	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
237	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
240	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
312	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	SEP-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	3	3	4	-	APR-NOV	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-AUG	MAR-JUN AUG-AUG DEC-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	4	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 81

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
23	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
239	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
241	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Gull-billed tern							X	X	X	X	X	X				-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
242	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Sandwich tern							X	X	X	X	X	X	X	X		APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
243	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
244	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
245	American coot			HIGH	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			VERY HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			MED	X	X	X	X						X	X	X	-	-	-	-
246	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer												X	X	X		-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern												X	X	X		-	-	-	-
	Common tern												X	X	X		-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern												X	X	X		-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern												X	X	X		-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern												X	X	X		-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-

NORTH CAROLINA — ESIMAP 81 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
246	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover						X	X	X	X	X	X	X				-	-	-	-
272	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			MED	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Goldeneye			LOW	X	X	X								X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			LOW	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			VERY HIGH	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUN-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	Alewife				2	2	2	2	3	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-MAY SEP-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAY	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	5	5	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2				2	2	2	2	-	SEP-SEP	-	SEP-MAY	APR-MAY
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-MAY SEP-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-MAY JUL-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	2	2	2	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	5	5	5	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	4	4	4	3	3	3	3	JUN-JUL	NOV-DEC	JUN-JUL	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	4	4	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUN-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	APR-MAY	SEP-MAY	SEP-MAY
323	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	JAN-NOV	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAR	JAN-MAY
	Atlantic croaker				3	5	5	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	JAN-NOV
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2										-	-	-	JAN-MAR	-
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-MAY	JAN-DEC	APR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	JAN-NOV	FEB-MAY
	Bluefish						3	3	3	4	4	4	3	3	3	3	-	NOV-DEC	-	MAR-DEC	JUL-NOV
	Cobia				1	1	1		3	3	3	3	3				-	SEP-SEP	JAN-MAR JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-APR DEC-DEC	JAN-DEC	MAY-DEC
	Ladyfish				3	3	3	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	APR-AUG	-
	Mummichog				4	4	4	5	5	5	5	5	5	5	5	5	APR-AUG	-	APR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	APR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	APR-DEC
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	4	4	3	MAR-AUG	OCT-NOV	MAR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	APR-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	APR-DEC	APR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-MAR
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2										-	-	-	JAN-MAR	JAN-MAR
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

NORTH CAROLINA — ESIMAP 81 (continued)

BIOLOGICAL RESOURCES:

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
236	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
240	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
247	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	American oyster (eastern)				3	3	3	3	3	4	4	4	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-AUG	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				4	4	4	4	4	2	2	2	4	4	4	4	MAR-MAY SEP-NOV	MAR-MAY SEP-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	5	5	5	3	3	3	2	-	JAN-JUN	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	JUN-AUG	-	JAN-DEC	SEP-MAY
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
323	American oyster (eastern)				3	3	3	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	4	4	4	4	4	3	3	3	3	-	APR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				4	4	4	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	JAN-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-NOV	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	JAN-MAR
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3		3	3	3	3	3	3	3		-	MAY-SEP	-	JAN-MAR JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 82

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
246	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer												X	X	X		-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern												X	X	X		-	-	-	-
	Common tern												X	X	X		-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern												X	X	X		-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern												X	X	X		-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern												X	X	X		-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover						X	X	X	X	X	X	X				-	-	-	-
247	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer												X	X	X		-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern												X	X	X		-	-	-	-
	Common tern												X	X	X		-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern												X	X	X		-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern												X	X	X		-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern												X	X	X		-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
248	American wigeon			1244	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			752	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			35	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Bufflehead			602	X	X	X	X							X	X	-	-	-	-
	Canada goose			27	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			1650	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			450	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			140	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			58	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			954	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			470	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			4300	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			1000	X	X	X	X						X	X	X	-	-	-	-
	Scaup			703	X	X	X	X						X	X	X	-	-	-	-
249	American bittern			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern harrier			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Seaside sparrow			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
250	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish					3	3	4	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1			3	3	3	3	3	1	1	1		-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3			-	-	-	JUL-NOV	-
	Gulf flounder				3			3	3	3	3	3	3	3	3		-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 82 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
292	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN
																					APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	Alewife				2	2	2	2	3	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-MAY
																					SEP-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAY	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	5	5	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2				2	2	2	2	-	SEP-SEP	-	SEP-MAY	APR-MAY
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-MAY
																					SEP-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-MAY
																					JUL-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	2	2	2	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	5	5	5	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	4	4	4	3	3	3	3	JUN-JUL	NOV-DEC	JUN-JUL	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	4	4	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUN-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	APR-MAY	SEP-MAY	SEP-MAY
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
																	AUG-NOV	AUG-DEC			
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
																	AUG-NOV	AUG-DEC			
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN
																					SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	American oyster (eastern)				3	3	3	3	3	4	4	4	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-AUG	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				4	4	4	4	4	2	2	2	4	4	4	4	MAR-MAY	MAR-MAY	-	JAN-DEC	JAN-DEC
																	SEP-NOV	SEP-DEC			
	Brown shrimp				2	2	3	3	4	5	5	5	3	3	3	2	-	JAN-JUN	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	JUN-AUG	-	JAN-DEC	SEP-MAY
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 83

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
174	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
204	Black-necked stilt							X	X	X	X	X	X				-	-	-	-
248	American wigeon			1244	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			752	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			35	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Bufflehead			602	X	X	X	X							X	X	-	-	-	-
	Canada goose			27	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			1650	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			450	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			140	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			58	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			954	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			470	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			4300	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			1000	X	X	X	X						X	X	X	-	-	-	-
	Scaup			703	X	X	X	X						X	X	X	-	-	-	-
251	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	-
	Glossy ibis			141				X	X	X	X	X					APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great egret			3	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull			11	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull			9	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Little blue heron			21	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Snowy egret			140	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			282	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
252	Black rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
253	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Forster's tern			65	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
254	Black skimmer			88			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Common tern			53				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern			106	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Gull-billed tern			10				X	X	X	X	X	X				MAY-JUL	-	-	-
255	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
314	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 83 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
314	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
316	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	-	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	-	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	4	3	3	2 MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
314	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
316	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 84

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
207	American coot			4100	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			2600	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			340	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			300	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			170	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			3200	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			430	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			180	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			610	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			300	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			7	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
314	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 84 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
314	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
316	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	-	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JUN-NOV
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-OCT
	Sheepshead				2	2	2	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel									3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				2	2	3	3	3	3	3	3	4	3	3	2	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
320	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	JAN-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	3	3			-	-	-	APR-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	JAN-JAN MAY-MAY	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	JUN-SEP	MAY-NOV	JUL-OCT
	Spanish mackerel									2	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	JUN-AUG
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	MAY-MAY NOV-JAN	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 84 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4			4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
314	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4			4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
316	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
317	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	4		-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
320	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	MAY-JUN SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 85

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
256	American coot			120	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			170	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			59	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			530	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			430	X	X	X	X							X	X	-	-	-	-
	Canada goose			26	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			550	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			2	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			27	X	X	X								X	X	-	-	-	-
	Green-winged teal			63	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			41	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1900	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			130	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			120	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			220	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			3700	X	X	X	X						X	X	X	-	-	-	-
	Scaup			780	X	X	X	X						X	X	X	-	-	-	-
	Scoter			180	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			61	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
313	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	SEP-OCT	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	4	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	NOV-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	DEC-JAN	DEC-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				2	2	3	3	3	3	3	3	4	3	3	2	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
314	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
317	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	4	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 85 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
317	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				2	2	3	3	3	3	3	3	4	3	3	2	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
313	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp						3	3	3	3	4	4	4	4			-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
314	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3		3	4	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
317	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp						3	3	3	3	4	4	4	4			-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 86

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
317	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	4	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				2	2	3	3	3	3	3	3	4	3	3	2	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
319	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAY-OCT	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-JAN	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	4	4	4	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-JAN	MAY-JAN	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
317	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	4		-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
319	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	MAY-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAY-AUG	MAY-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 87

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
256	American coot			120	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			170	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			59	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			530	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			430	X	X	X	X							X	X	-	-	-	-
	Canada goose			26	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			550	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			2	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			27	X	X	X								X	X	-	-	-	-
	Green-winged teal			63	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			41	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1900	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			130	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			120	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			220	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			3700	X	X	X	X						X	X	X	-	-	-	-
	Scaup			780	X	X	X	X						X	X	X	-	-	-	-
	Scoter			180	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			61	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
315	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-JUL	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	4	4	4	4	5	5	5	5	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-NOV	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	SEP-OCT	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												3	3	3		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel												3	3	3		-	SEP-OCT	-	SEP-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	-	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				4	4	4	4	4	4	4	4	3	3	3	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	SEP-NOV	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
319	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAY-OCT	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-JAN	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	4	4	4	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-JAN	MAY-JAN	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
315	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	3	3	3	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
319	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	MAY-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAY-AUG	MAY-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 88

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
310	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-JUL	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	4	4	4	4	4	4	4	5	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	-	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	-	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
315	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-JUL	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	4	4	4	4	5	5	5	5	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-NOV	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	SEP-OCT	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												3	3	3		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel												3	3	3		-	SEP-OCT	-	SEP-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	-	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				4	4	4	4	4	4	4	4	3	3	3	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	SEP-NOV	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
257	Godfrey's sandwort	S	E		X	X	X	X	X	X	X	X	X	X	X	X
258	Godfrey's sandwort	S	E		X	X	X	X	X	X	X	X	X	X	X	X
	Spring flowering goldenrod	S	E		X	X	X	X	X	X	X	X	X	X	X	X
259	Carolina spleenwort	S	E		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
310	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	3	3	3	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
315	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	3	3	3	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 89

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
310	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-JUL	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	4	4	4	4	4	4	4	5	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	-	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	-	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
311	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	MAR-APR	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	FEB-APR	MAY-JUN	FEB-APR	JAN-DEC	JAN-MAY
	Atlantic croaker				3		3	5	5	5	5	4	4	3	3	3	-	-	-	MAR-JAN	MAY-JAN
	Atlantic menhaden				3	3	4	4	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	MAR-JAN	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-JUL	JAN-DEC	MAY-AUG
	Bay anchovy				4	3	3	3	4	4	4	4	4	4	4	5	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Black drum								3	3	3	3	3	3	3		-	NOV-NOV	-	MAY-NOV	JUN-NOV
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	MAR-APR	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish								3	3	3	3	3	2	2		-	NOV-NOV	-	MAY-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2			3	4	4	4	4	4	4	2	2	-	OCT-NOV	-	APR-JAN	MAY-OCT
	Red drum								3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-DEC	MAY-OCT
	Seatrout (weakfish)				2				3	3	3	3	3	3	3	2	-	OCT-NOV	-	MAY-JAN	-
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	3	3	3	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	2	2	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	MAR-JAN
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	-	JAN-DEC	MAY-SEP
	Spotted seatrout				2				3	3	3	3	3	3	3	2	-	DEC-JAN	-	MAY-JAN	MAY-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	MAR-APR	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	MAY-NOV
	Summer flounder								3	3	3	3	3	3	3		-	NOV-NOV	-	-	MAY-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
315	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-JUL	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	4	4	4	4	5	5	5	5	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-NOV	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	SEP-OCT	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												3	3	3		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel												3	3	3		-	SEP-OCT	-	SEP-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	-	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				4	4	4	4	4	4	4	4	3	3	3	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	SEP-NOV	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
310	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	3	3	3	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
311	Blue crab				4	3	3	3	5	5	5	4	4	4	4	4	-	-	MAY-OCT	MAY-JAN	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	3	3	3	2	2	2	2	-	MAY-JUL	-	JAN-DEC	-
	Grass shrimp				4				4	4	4	4	4	4	4	4	-	-	-	MAY-JAN	MAY-JAN
	Pink shrimp								3	3	3	4	4	4	3		-	-	-	MAY-NOV	-
	White shrimp				3				3	3	3	3	3	3	3	3	-	JUN-SEP	-	MAY-JAN	-
315	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	3	3	3	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 90

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
23	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
236	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
245	American coot			HIGH	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			VERY HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			MED	X	X	X	X						X	X	X	-	-	-	-
248	American wigeon			1244	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			752	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			35	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Bufflehead			602	X	X	X	X							X	X	-	-	-	-
	Canada goose			27	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			1650	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			450	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			140	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			58	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			954	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			470	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			4300	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			1000	X	X	X	X						X	X	X	-	-	-	-
	Scaup			703	X	X	X	X						X	X	X	-	-	-	-
249	American bittern			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern harrier			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Seaside sparrow			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
260	Piping plover	S/F	T/T	MED			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Wilson's plover			MED			X	X	X	X	X	X	X				-	-	-	-

NORTH CAROLINA — ESIMAP 90 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					
318	Alewife				2	2	2	2	3	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-MAY SEP-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAY	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	5	5	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2				2	2	2	2	-	SEP-SEP	-	SEP-MAY	APR-MAY
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-MAY SEP-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-MAY JUL-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	2	2	2	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	5	5	5	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	4	4	4	3	3	3	3	JUN-JUL	NOV-DEC	JUN-JUL	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	4	4	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUN-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	APR-MAY	SEP-MAY	SEP-MAY
323	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	JAN-NOV	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAR	JAN-MAY
	Atlantic croaker				3	5	5	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	JAN-NOV
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2										-	-	-	JAN-MAR	-
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-MAY	JAN-DEC	APR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	JAN-NOV	FEB-MAY
	Bluefish						3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	MAR-DEC	JUL-NOV
	Cobia				1	1	1		3	3	3	3	3				-	SEP-SEP	JAN-MAR JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-APR DEC-DEC	JAN-DEC	MAY-DEC
	Ladyfish				3	3	3	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	APR-AUG	-
	Mummichog				4	4	4	5	5	5	5	5	5	5	5	5	APR-AUG	-	APR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	APR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	APR-DEC
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	4	4	3	MAR-AUG	OCT-NOV	MAR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	APR-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	APR-DEC	APR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-MAR
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2										-	-	-	JAN-MAR	JAN-MAR
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 90 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
325	Alewife					3	3	2	2	2	2	2	2	2	2		-	OCT-NOV	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2			2	2	2	2		-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	OCT-NOV	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	MAR-DEC
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
236	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
26	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					
318	American oyster (eastern)				3	3	3	3	3	4	4	4	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-AUG	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				4	4	4	4	4	2	2	2	4	4	4	4	MAR-MAY SEP-NOV	MAR-MAY SEP-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	5	5	5	3	3	3	2	-	JAN-JUN	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	JUN-AUG	-	JAN-DEC	SEP-MAY
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
323	American oyster (eastern)				3	3	3	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	4	4	4	4	4	3	3	3	3	-	APR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				4	4	4	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	JAN-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-NOV	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	JAN-MAR
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3		3	3	3	3	3	3	3		-	MAY-SEP	-	JAN-MAR JUN-NOV	-
325	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 91

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
248	American wigeon			1244	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			752	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			35	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Bufflehead			602	X	X	X	X							X	X	-	-	-	-
	Canada goose			27	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			1650	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			450	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			140	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			58	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			954	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			470	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			4300	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			1000	X	X	X	X						X	X	X	-	-	-	-
	Scaup			703	X	X	X	X						X	X	X	-	-	-	-
249	American bittern			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern harrier			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Seaside sparrow			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
252	Black rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
261	Common tern			13				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Glossy ibis			114				X	X	X	X	X					APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great egret			1	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull			2	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull			2748	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Snowy egret			3	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			76	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN
																					APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
314	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 91 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
314	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
56	Carolina goldenrod	S	E		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
314	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 92

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
30	Black rail							X	X	X	X	X	X				APR-SEP	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
314	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							3	3	3	3	3	3	3	3		-	OCT-NOV	JUN-SEP	MAY-JAN	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
317	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	4	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	JUN-SEP	MAY-NOV	JUL-OCT
	Spanish mackerel									2	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	JUN-AUG
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	MAY-MAY NOV-JAN	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
322	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 92 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
322	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	3	3			-	-	-	APR-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	NOV-NOV	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

M_MAMMAL:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
38	Bottlenose dolphin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	-	-	-

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
314	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
317	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	4		-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
320	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	MAY-JUN SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
322	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 93

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
256	American coot			120	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			170	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			59	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			530	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			430	X	X	X	X							X	X	-	-	-	-
	Canada goose			26	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			550	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			2	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			27	X	X	X								X	X	-	-	-	-
	Green-winged teal			63	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			41	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1900	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			130	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			120	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			220	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			3700	X	X	X	X						X	X	X	-	-	-	-
	Scaup			780	X	X	X	X						X	X	X	-	-	-	-
	Scoter			180	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			61	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
317	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish						2	3	3	3	3	3	3	3			-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	4	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				2	2	3	3	3	3	3	3	4	3	3	2	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
321	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish						2	3	3	3	3	3	3				-	-	-	APR-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

M_MAMMAL:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
38	Bottlenose dolphin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	-	-	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
317	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	4		-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
321	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 94

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
256	American coot			120	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			170	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			59	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			530	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			430	X	X	X	X							X	X	-	-	-	-
	Canada goose			26	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			550	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			2	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			27	X	X	X								X	X	-	-	-	-
	Green-winged teal			63	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			41	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1900	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			130	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			120	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			220	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			3700	X	X	X	X						X	X	X	-	-	-	-
	Scaup			780	X	X	X	X						X	X	X	-	-	-	-
	Scoter			180	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			61	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
317	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	4	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	MAR-NOV
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				2	2	3	3	3	3	3	3	4	3	3	2	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	4	4	4	3	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
319	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAY-OCT	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-JAN	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	4	4	4	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-JAN	MAY-JAN	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
321	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	3	3			-	-	-	APR-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 94 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
321	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
317	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	4		-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
319	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	MAY-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAY-AUG	MAY-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
321	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 95

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
140	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
315	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-JUL	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	4	4	4	4	5	5	5	5	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-NOV	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	SEP-OCT	OCT-NOV	-	JAN-DEC	SEP-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)												3	3	3		-	OCT-NOV	-	SEP-NOV	-
	Spanish mackerel												3	3	3		-	SEP-OCT	-	SEP-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	-	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				4	4	4	4	4	4	4	4	3	3	3	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	SEP-NOV	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
319	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAY-OCT	OCT-NOV	-	JAN-DEC	MAY-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-JAN	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	4	4	4	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-JAN	MAY-JAN	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-APR	-	APR-JUL	JAN-DEC	JAN-DEC
326	Alewife				2	2	2	2	2	2	2	2	3	3	3	2	MAR-MAY	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	FEB-MAY	MAY-JUN	FEB-JUN	JAN-DEC	JAN-MAY
	Atlantic croaker						3	5	5	4	4	3	3	3			-	-	-	MAR-OCT	-
	Atlantic menhaden					3	4	4	4	4	4	4					-	-	FEB-MAY	MAR-AUG	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAY-JUN	AUG-SEP	MAY-JUL	JAN-DEC	MAY-AUG
	Bay anchovy				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Blueback herring				2	2	2	2	2	2	2	2	3	3	3	2	MAR-APR	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Ladyfish								3	3	3	3	3	3			-	-	-	MAY-OCT	-
	Mummichog				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish						3	3	3	3	3	3	3				-	OCT-OCT	-	APR-OCT	-
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	2	2	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Spot					3	4	5	5	5	4	4	4	3			-	OCT-OCT	-	FEB-OCT	-
	Spotted seatrout									2	2	2					-	-	-	JUN-AUG	-
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
315	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	-	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	3	3	3	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
319	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	MAY-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAY-AUG	MAY-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
326	Blue crab				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUN-OCT	-	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	3	3	3	2	2	2	2	2	-	-	-	JAN-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 96

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
21	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			LOW			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
23	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X						X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
236	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
245	American coot			HIGH	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			VERY HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			MED	X	X	X	X						X	X	X	-	-	-	-
262	Black-crowned night heron			30	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	-
	Cormorant			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			34	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Laughing gull			33	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			42	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
263	American coot			1702	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			1482	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			182	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			1015	X	X	X	X							X	X	-	-	-	-
	Canada goose			104	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X			-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Cormorant			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Forster's tern			41	X	X							X	X	X	X	-	-	-	-
	Gadwall			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis						X	X	X	X	X						-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			619	X	X	X	X					X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 96 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
263	Laughing gull			340	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1648	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			383	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			5840	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			21	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			5	X	X	X	X						X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
265	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			54				X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			96				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Cormorant			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			23	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gull-billed tern			1				X	X	X	X	X	X				MAY-JUL	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	HIGH				X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			MED				X	X	X	X	X	X	X			-	-	-	-
266	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			10				X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			2				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Cormorant			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				MAY-JUL	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			3				X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	HIGH				X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			MED				X	X	X	X	X	X	X			-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
318	Alewife				2	2	2	2	3	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-MAY SEP-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAY	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	5	5	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2				2	2	2	2	-	SEP-SEP	-	SEP-MAY	APR-MAY
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-MAY SEP-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-MAY JUL-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	2	2	2	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	5	5	5	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	4	4	4	3	3	3	3	JUN-JUL	NOV-DEC	JUN-JUL	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	4	4	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUN-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	APR-MAY	SEP-MAY	SEP-MAY
323	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	JAN-NOV	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAR	JAN-MAY
	Atlantic croaker				3	5	5	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	JAN-NOV
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2										-	-	-	JAN-MAR	-
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-MAY	JAN-DEC	APR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	JAN-NOV	FEB-MAY
	Bluefish						3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	MAR-DEC	JUL-NOV
	Cobia				1	1	1		3	3	3	3	3				-	SEP-SEP	JAN-MAR JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-APR DEC-DEC	JAN-DEC	MAY-DEC
	Ladyfish				3	3	3	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	APR-AUG	-
	Mummichog				4	4	4	5	5	5	5	5	5	5	5	5	APR-AUG	-	APR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	APR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	APR-DEC
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	4	4	3	MAR-AUG	OCT-NOV	MAR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	APR-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	APR-DEC	APR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-MAR
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2										-	-	-	JAN-MAR	JAN-MAR
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 96 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
325	Alewife					3	3	2	2	2	2	2	2	2	2		-	OCT-NOV	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	OCT-NOV	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	MAR-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
21	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
236	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
265	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
266	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
25	Calico scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
26	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
318	American oyster (eastern)				3	3	3	3	3	4	4	4	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-AUG	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				4	4	4	4	4	2	2	2	4	4	4	4	MAR-MAY SEP-NOV	MAR-MAY SEP-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	5	5	5	3	3	3	2	-	JAN-JUN	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	JUN-AUG	-	JAN-DEC	SEP-MAY
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
323	American oyster (eastern)				3	3	3	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	4	4	4	4	4	3	3	3	3	-	APR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				4	4	4	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	JAN-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-NOV	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	JAN-MAR
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3		3	3	3	3	3	3	3		-	MAY-SEP	-	JAN-MAR JUN-NOV	-
325	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 97

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
21	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			LOW			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
23	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
263	American coot			1702	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			1482	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			182	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			1015	X	X	X	X							X	X	-	-	-	-
	Canada goose			104	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Cormorant			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Forster's tern			41	X	X							X	X	X	X	-	-	-	-
	Gadwall			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			619	X	X	X	X					X	X	X	X	-	-	-	-
	Laughing gull			340	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1648	X	X	X	X	X				X	X	X		-	-	-	-
	Northern pintail			383	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			5840	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			21	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			5	X	X	X	X						X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
268	Black skimmer			68			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Least tern			225			X	X	X	X	X	X	X				APR-AUG	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 97 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	Alewife				2	2	2	2	3	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-MAY SEP-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2			2	2	2	2		-	MAY-MAY	-	SEP-MAY	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	5	5	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2			2	2	2	2		-	SEP-SEP	-	SEP-MAY	APR-MAY
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-MAY SEP-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-MAY JUL-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	2	2	2	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	5	5	5	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	4	4	4	3	3	3	3	JUN-JUL	NOV-DEC	JUN-JUL	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	4	4	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUN-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2			2	2	2	2		-	-	APR-MAY	SEP-MAY	SEP-MAY
323	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	JAN-NOV	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2			2	2	2	2		-	MAY-MAY	-	SEP-MAR	JAN-MAY
	Atlantic croaker				3	5	5	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	JAN-NOV
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2										-	-	-	JAN-MAR	-
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-MAY	JAN-DEC	APR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	JAN-NOV	FEB-MAY
	Bluefish						3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	MAR-DEC	JUL-NOV
	Cobia				1	1	1		3	3	3	3	3				-	SEP-SEP	JAN-MAR JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-APR DEC-DEC	JAN-DEC	MAY-DEC
	Ladyfish				3	3	3	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	APR-AUG	-
	Mummichog				4	4	4	5	5	5	5	5	5	5	5	5	APR-AUG	-	APR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	APR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	APR-DEC
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	4	4	3	MAR-AUG	OCT-NOV	MAR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	APR-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	APR-DEC	APR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-MAR
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2										-	-	-	JAN-MAR	JAN-MAR
325	Alewife					3	3	2	2	2	2	2	2	2	2		-	OCT-NOV	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2			2	2	2	2		-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 97 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
325	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	OCT-NOV	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	MAR-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
21	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
26	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
269	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	American oyster (eastern)				3	3	3	3	3	4	4	4	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-AUG	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				4	4	4	4	4	2	2	2	4	4	4	4	MAR-MAY SEP-NOV	MAR-MAY SEP-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	5	5	5	3	3	3	2	-	JAN-JUN	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	JUN-AUG	-	JAN-DEC	SEP-MAY
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
323	American oyster (eastern)				3	3	3	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	4	4	4	4	4	3	3	3	3	-	APR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				4	4	4	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	JAN-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-NOV	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	JAN-MAR
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3		3	3	3	3	3	3	3		-	MAY-SEP	-	JAN-MAR JUN-NOV	-
325	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 98

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
270	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-necked stilt							X	X	X	X	X	X				-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow rail				X	X	X	X					X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
314	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3				3	3	3	3	3	3	3	3	-	OCT-NOV	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					
318	Alewife				2	2	2	2	3	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-MAY SEP-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAY	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	5	5	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2				2	2	2	2	-	SEP-SEP	-	SEP-MAY	APR-MAY
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-MAY SEP-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-MAY JUL-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	2	2	2	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	5	5	5	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	4	4	4	3	3	3	3	JUN-JUL	NOV-DEC	JUN-JUL	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						2	3	4	4	4	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUN-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	APR-MAY	SEP-MAY	SEP-MAY
323	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	JAN-NOV	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAR	JAN-MAY
	Atlantic croaker				3	5	5	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	JAN-NOV
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2										-	-	-	JAN-MAR	-
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-MAY	JAN-DEC	APR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	JAN-NOV	FEB-MAY
	Bluefish						3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	MAR-DEC	JUL-NOV
	Cobia				1	1	1		3	3	3	3	3				-	SEP-SEP	JAN-MAR JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-APR DEC-DEC	JAN-DEC	MAY-DEC
	Ladyfish				3	3	3	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	APR-AUG	-
	Mummichog				4	4	4	5	5	5	5	5	5	5	5	5	APR-AUG	-	APR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	APR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	APR-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	MAR-AUG	OCT-NOV	MAR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	APR-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	4	4	4	3	3	3	3	3	3	-	OCT-NOV	MAY-SEP	APR-DEC	APR-DEC
	Spanish mackerel							4	3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-MAR
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2										-	-	-	JAN-MAR	JAN-MAR
325	Alewife					3	3	2	2	2	2	2	2	2	2		-	OCT-NOV	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	OCT-NOV	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 98 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
325	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	MAR-DEC
329	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	JAN-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	-	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
330	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2		-	MAY-MAY	-	MAY-MAY SEP-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	3	3	3		-	NOV-NOV	-	JAN-NOV	JUL-AUG
	Cobia								2	3	3	3	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	3	3	3	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	JUN-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	JUN-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	JUN-JUN	-	JUN-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	JUN-AUG	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	MAR-MAY	SEP-MAY	SEP-MAY
332	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	JAN-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	5	5	5	4	4	4	4	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	JAN-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	3	3	3	3	3	3	3	3	3	-	DEC-JAN	APR-APR DEC-DEC	JAN-DEC	MAY-MAR
	Ladyfish						2	2	2	2	2	2		2	2	2	-	-	APR-MAY OCT-DEC	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	APR-JUN	-	APR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-MAR
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2										-	-	MAR-MAR	JAN-MAR	JAN-MAR
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
26	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
314	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3			3	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	American oyster (eastern)				3	3	3	3	3	4	4	4	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-AUG	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				4	4	4	4	4	2	2	2	4	4	4	4	MAR-MAY SEP-NOV	MAR-MAY SEP-DEC	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 98 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
318	Brown shrimp				2	2	3	3	4	5	5	5	3	3	3	2	-	JAN-JUN	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	JUN-AUG	-	JAN-DEC	SEP-MAY
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
323	American oyster (eastern)				3	3	3	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	4	4	4	4	4	3	3	3	3	-	APR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				4	4	4	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	JAN-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-NOV	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	JAN-MAR
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3		3	3	3	3	3	3	3		-	MAY-SEP	-	JAN-MAR JUN-NOV	-
325	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
329	American oyster (eastern)				4	4	4	4	4	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
330	American oyster (eastern)				4	4	4	4	4	4	4	4	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				3	3	3	3	3	2	2	2	3	3	3	3	MAR-MAY SEP-OCT	MAR-MAY SEP-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
332	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				3	3	3	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 99

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
270	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-necked stilt							X	X	X	X	X	X				-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow rail				X	X	X	X					X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
317	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	3	3	3	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	NOV-DEC	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia												3	1	1		-	-	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										2	2	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Ladyfish							2	3	3	3	3	3	3	3		-	-	SEP-NOV	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	4	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Sheepshead									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	SEP-SEP	MAY-NOV	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	SEP-OCT
	Spot				3	3	4	5	5	5	5	5	5	4	4	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-NOV
	Spotted seatrout				2	2	3	3	3	3	3	3	4	3	3	2	SEP-SEP	DEC-JAN	SEP-NOV	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	2	2	2	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
321	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	3	3			-	-	-	APR-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
329	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	JAN-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	-	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
330	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2		-	MAY-MAY	-	MAY-MAY SEP-NOV	FEB-MAY
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 99 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
330	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	3	3	3		-	NOV-NOV	-	JAN-NOV	JUL-AUG
	Cobia								2	3	3	3	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	3	3	3	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	JUN-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	JUN-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	JUN-JUN	-	JUN-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	JUN-AUG	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	MAR-MAY	SEP-MAY	SEP-MAY
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

M_MAMMAL:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
38	Bottlenose dolphin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	-	-	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
26	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
317	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	3	3	3	2	-	APR-JUL	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	4		-	-	-	APR-NOV	SEP-NOV
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	SEP-NOV
321	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					
329	American oyster (eastern)				4	4	4	4	4	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
330	American oyster (eastern)				4	4	4	4	4	4	4	4	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				3	3	3	3	3	2	2	2	3	3	3	3	MAR-MAY SEP-OCT	MAR-MAY SEP-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 100

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
19	Anhinga							X	X	X	X	X	X				-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
321	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	JAN-SEP
	American eel				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	5	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	3	3	3	3	3	2	2		-	NOV-NOV	-	MAR-SEP	MAY-NOV
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	3	3	3	3	3	3			-	-	-	APR-OCT	-
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	4	4	4	4	4	4	4	4	4	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum						3	3	3	3	3	3	3	3	3	3	-	OCT-NOV	JUL-DEC	MAR-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	3	3	3	3	3	3	3	2	MAR-OCT	OCT-NOV	-	JAN-DEC	MAR-OCT
	Sheepshead									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								2	2	2	2	3	3	3		-	OCT-NOV	-	MAY-NOV	-
	Spanish mackerel										3	3	3	3	3		-	SEP-OCT	-	JUL-NOV	-
	Spot				3	3	4	5	5	5	5	5	4	4	3	3	-	OCT-NOV	DEC-FEB	JAN-DEC	MAR-SEP
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	White perch				3	3	3	3	3	3	3	3	3	3	3	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					
330	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2		-	MAY-MAY	-	MAY-MAY SEP-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	3	3	3		-	NOV-NOV	-	JAN-NOV	JUL-AUG
	Cobia								2	3	3	3	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	3	3	3	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	JUN-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	JUN-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	JUN-JUN	-	JUN-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	JUN-AUG	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	MAR-MAY	SEP-MAY	SEP-MAY
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
19	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
321	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	5	5	5	5	4	4	4	4	4	-	APR-AUG	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	2	2	2	2	2	-	APR-JUL	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp							3	3	3	3	4	4	4	3		-	-	-	APR-NOV	-
	White shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	JUN-SEP	-	JAN-DEC	-
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					
330	American oyster (eastern)				4	4	4	4	4	4	4	4	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				3	3	3	3	3	2	2	2	3	3	3	3	MAR-MAY SEP-OCT	MAR-MAY SEP-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
	SALINITY TIME PERIOD				L	L	L	T	T	H	H	H	T	T	T	T					

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NORTH CAROLINA — ESIMAP 101

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
20	Forster's tern			41	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Laughing gull			340	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
21	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			LOW			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
23	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
24	Forster's tern			9	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Laughing gull			81	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
263	American coot			1702	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			1482	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			182	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			1015	X	X	X	X							X	X	-	-	-	-
	Canada goose			104	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Cormorant			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Forster's tern			41	X	X							X	X	X	X	-	-	-	-
	Gadwall			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			619	X	X	X	X					X	X	X	X	-	-	-	-
	Laughing gull			340	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1648	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			383	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			5840	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			21	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			5	X	X	X	X						X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
325	Alewife					3	3	2	2	2	2	2	2	2	2		-	OCT-NOV	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 101 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
325	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	OCT-NOV	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	MAR-DEC
334	Alewife					3	3	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	-	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
21	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
25	Calico scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
26	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
325	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
334	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 102

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
21	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			LOW			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
29	Black skimmer			18			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern												X	X	X		-	-	-	-
	Common tern			78				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Cormorant			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Forster's tern												X	X	X		-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least tern			242			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern												X	X	X		-	-	-	-
	Sandwich tern												X	X	X		-	-	-	-
30	Black rail							X	X	X	X	X	X				APR-SEP	-	-	-
31	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Cormorant			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				MAY-JUL	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least tern			61			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Piping plover	S/F	T/T	MED			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
32	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Gull-billed tern							X	X	X	X	X	X				MAY-JUL	-	-	-
	Least tern			61			X	X	X	X	X	X	X				APR-AUG	-	-	-
34	Common loon				X	X										X	-	-	-	-
	Shearwaters				X	X										X	-	-	-	-

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
21	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
33	Green sea turtle	S/F	T/T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
35	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC

NORTH CAROLINA — ESIMAP 103

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
21	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			LOW			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
34	Common loon				X	X										X	-	-	-	-
	Shearwaters				X	X										X	-	-	-	-
36	American oystercatcher			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			HIGH									X	X	X		-	-	-	-
	Black-bellied plover			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			HIGH			X	X	X	X	X	X	X	X	X		-	-	-	-
	Common tern			HIGH									X	X	X		-	-	-	-
	Dunlin			VERY HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			HIGH									X	X	X		-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				-	-	-	-
	Least sandpiper			VERY HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			VERY HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			VERY HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			HIGH									X	X	X		-	-	-	-
	Ruddy turnstone			VERY HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			HIGH									X	X	X		-	-	-	-
	Semipalmated plover			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			VERY HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			VERY HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			VERY HIGH				X	X		X	X	X	X			-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover						X	X	X	X	X	X	X				-	-	-	-
37	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			34	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Laughing gull			278	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	MED	X	X	X	X				X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
39	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
40	Forster's tern			6	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 103 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
40	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
41	Black-crowned night heron			53	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Cattle egret			31			X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Common tern			4				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern			74	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Glossy ibis			34				X	X	X	X	X					APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			204	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Little blue heron			26	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret			60	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			125	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
42	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Common tern			14				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Gull-billed tern			19				X	X	X	X	X	X				MAY-JUL	-	-	-
43	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Brown pelican				X	X							X	X	X	X	-	-	-	-
	Cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Great black-backed gull			1	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Gull-billed tern							X	X	X	X	X	X				MAY-JUL	-	-	-
	Herring gull			45	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull			2001	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern			2468	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Sandwich tern			1135				X	X	X	X	X	X	X	X		APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
44	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-crowned night heron			18	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	-
	Cattle egret			462			X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Common tern			1				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern			10	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Glossy ibis			9				X	X	X	X	X	X				APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great egret			138	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Green-backed heron			1			X	X	X	X	X	X	X				APR-AUG	APR-JUL	MAY-JUL	JUN-AUG
	Gull-billed tern							X	X	X	X	X	X				MAY-JUL	-	-	-
	Herring gull			1	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull			3909	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Little blue heron			121	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret			23	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Sooty tern			1				X	X	X	X	X	X				-	-	-	-
	Tricolored heron			132	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
45	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
46	Piping plover	S/F	T/T					X	X	X	X	X	X	X			MAR-OCT	-	-	-
263	American coot			1702	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			1482	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			182	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			1015	X	X	X	X							X	X	-	-	-	-
	Canada goose			104	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Cormorant			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Forster's tern			41	X	X							X	X	X	X	-	-	-	-
	Gadwall			370	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			619	X	X	X	X					X	X	X	X	-	-	-	-
	Laughing gull			340	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			68	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1648	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			383	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			5840	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			21	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			5	X	X	X	X						X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
323	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	OCT-NOV	-	JAN-NOV	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAR	JAN-MAY
	Atlantic croaker				3	5	5	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	JAN-NOV
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2										-	-	-	JAN-MAR	-
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-MAY	JAN-DEC	APR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	JAN-NOV	FEB-MAY
	Bluefish						3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	MAR-DEC	JUL-NOV
	Cobia				1	1	1		3	3	3	3	3				-	SEP-SEP	JAN-MAR JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	APR-APR DEC-DEC	JAN-DEC	MAY-DEC
	Ladyfish				3	3	3	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	APR-AUG	-
	Mummichog				4	4	4	5	5	5	5	5	5	5	5	5	APR-AUG	-	APR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	APR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	APR-DEC
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	4	4	3	MAR-AUG	OCT-NOV	MAR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	APR-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	APR-DEC	APR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-MAR
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2										-	-	-	JAN-MAR	JAN-MAR
325	Alewife					3	3	2	2	2	2	2	2	2	2		-	OCT-NOV	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	-	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	-	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	OCT-OCT	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	OCT-NOV	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	OCT-NOV	APR-SEP	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 103 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
325	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	NOV-DEC	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	OCT-NOV	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	JAN-APR	JAN-DEC	MAR-DEC
332	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	JAN-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	5	5	5	4	4	4	4	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	JAN-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	3	3	3	3	3	3	3	3	3	-	DEC-JAN	APR-APR DEC-DEC	JAN-DEC	MAY-MAR
	Ladyfish						2	2	2	2	2	2		2	2	2	-	-	APR-MAY OCT-DEC	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

M_MAMMAL:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
38	Bottlenose dolphin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	-	-	-

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
21	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
33	Green sea turtle	S/F	T/T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
26	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
35	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
323	American oyster (eastern)				3	3	3	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	4	4	4	4	4	3	3	3	3	-	APR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				4	4	4	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	JAN-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-NOV	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	JAN-MAR
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3		3	3	3	3	3	3	3		-	MAY-SEP	-	JAN-MAR JUN-NOV	-
325	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 103 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
325	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
332	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				3	3	3	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
334	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 104

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
21	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			LOW			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
34	Common loon				X	X										X	-	-	-	-
	Shearwaters				X	X										X	-	-	-	-
36	American oystercatcher			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			HIGH									X	X	X		-	-	-	-
	Black-bellied plover			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			HIGH			X	X	X	X	X	X	X	X	X		-	-	-	-
	Common tern			HIGH									X	X	X		-	-	-	-
	Dunlin			VERY HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			HIGH									X	X	X		-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				-	-	-	-
	Least sandpiper			VERY HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			VERY HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	HIGH	X	X	X	X				X	X	X	X	X	-	-	-	-
	Red knot			VERY HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			HIGH									X	X	X		-	-	-	-
	Ruddy turnstone			VERY HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			HIGH									X	X	X		-	-	-	-
	Semipalmated plover			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			VERY HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			VERY HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			VERY HIGH				X	X		X	X	X	X			-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			VERY HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover						X	X	X	X	X	X	X				-	-	-	-
47	Black-crowned night heron			1	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Cattle egret			3			X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Great egret			47	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
48	Black skimmer			157			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Common tern			391				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Gull-billed tern			37				X	X	X	X	X	X				MAY-JUL	-	-	-
	Least tern			7			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Piping plover	S/F	T/T	MED	X	X	X	X				X	X	X	X	X	-	-	-	-
	Wilson's plover						X	X	X	X	X	X	X				-	-	-	-
49	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Gull-billed tern							X	X	X	X	X	X				MAY-JUL	-	-	-
50	Yellow rail				X	X	X	X					X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
330	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2		-	MAY-MAY	-	MAY-MAY SEP-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	3	3	3		-	NOV-NOV	-	JAN-NOV	JUL-AUG
	Cobia								2	3	3	3	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	3	3	3	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	JUN-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	JUN-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	JUN-JUN	-	JUN-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	JUN-AUG	MAR-DEC	MAR-NOV
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 104 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
330	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	MAR-MAY	SEP-MAY	SEP-MAY
332	Alewife				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	JAN-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	5	5	5	4	4	4	4	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	JAN-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	3	3	3	3	3	3	3	3	3	-	DEC-JAN	APR-APR DEC-DEC	JAN-DEC	MAY-MAR
	Ladyfish						2	2	2	2	2	2		2	2	2	-	-	APR-MAY OCT-DEC	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	APR-JUN	-	APR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-MAR
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2										-	-	MAR-MAR	JAN-MAR	JAN-MAR
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

M_MAMMAL:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
38	Bottlenose dolphin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	-	-	-

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
21	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
26	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
35	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
52	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
330	American oyster (eastern)				4	4	4	4	4	4	4	4	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				3	3	3	3	3	2	2	2	3	3	3	3	MAR-MAY SEP-OCT	MAR-MAY SEP-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
332	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel							2	2	2						2	-	DEC-DEC	-	APR-JUN	-
	Brackishwater clam				3	3	3	2	2	2	2	2	2	2	2	2	MAR-MAR	MAR-MAR	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 105

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
330	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2		-	MAY-MAY	-	MAY-MAY	FEB-MAY
																				SEP-NOV	
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	3	3	3		-	NOV-NOV	-	JAN-NOV	JUL-AUG
	Cobia								2	3	3	3	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	3	3	3	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish					2	2	2	2	2	2						-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	JUN-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	JUN-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	JUN-JUN	-	JUN-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	JUN-AUG	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	MAR-MAY	SEP-MAY	SEP-MAY
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

M_MAMMAL:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
38	Bottlenose dolphin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	-	-	-

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
52	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
330	American oyster (eastern)				4	4	4	4	4	4	4	4	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				3	3	3	3	3	2	2	2	3	3	3	3	MAR-MAY	MAR-MAY	-	JAN-DEC	JAN-DEC
																	SEP-OCT	SEP-OCT			
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

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NORTH CAROLINA — ESIMAP 106

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
54	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X			-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
57	Black-crowned night heron			9	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Cattle egret			410			X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Great egret			268	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Green-backed heron			2			X	X	X	X	X	X	X	X			APR-AUG	APR-JUL	MAY-JUL	JUN-AUG
	Little blue heron			176	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret			98	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			466	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	White ibis			41	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUN	JUN-AUG
58	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-crowned night heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Cattle egret			LOW			X	X	X	X	X	X	X	X			APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis			LOW				X	X	X	X	X					APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Green-backed heron			LOW			X	X	X	X	X	X	X	X			APR-AUG	APR-JUL	MAY-JUL	JUN-AUG
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUN	JUN-AUG
	Yellow-crowned night heron			LOW			X	X	X	X	X	X	X				MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
330	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2		-	MAY-MAY	-	MAY-MAY	FEB-MAY
																				SEP-NOV	
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	3	3	3		-	NOV-NOV	-	JAN-NOV	JUL-AUG
	Cobia								2	3	3	3	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	3	3	3	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	JUN-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	JUN-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	JUN-JUN	-	JUN-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	JUN-AUG	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	MAR-MAY	SEP-MAY	SEP-MAY
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X
56	Carolina goldenrod	S	E		X	X	X	X	X	X	X	X	X	X	X	X

M_MAMMAL:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Mating	Calving	Pupping	Molting
38	Bottlenose dolphin			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	-	-	-

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
55	American alligator	S	T														-	-	-
	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
52	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
330	American oyster (eastern)				4	4	4	4	4	4	4	4	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				3	3	3	3	3	2	2	2	3	3	3	3	MAR-MAY	MAR-MAY	-	JAN-DEC	JAN-DEC
																	SEP-OCT	SEP-OCT			
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

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NORTH CAROLINA — ESIMAP 107

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
54	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
58	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-crowned night heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Cattle egret			LOW			X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis			LOW				X	X	X	X	X					APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Green-backed heron			LOW			X	X	X	X	X	X	X	X			APR-AUG	APR-JUL	MAY-JUL	JUN-AUG
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUN	JUN-AUG
	Yellow-crowned night heron			LOW			X	X	X	X	X	X	X				MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
60	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED									X	X	X		-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED									X	X	X		-	-	-	-
	Common tern			MED									X	X	X		-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED									X	X	X		-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW	X	X	X	X				X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED									X	X	X		-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED									X	X	X		-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			MED			X	X	X	X	X	X	X				-	-	-	-
61	American coot				X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X					X	X	X	X	-	-	-	-
	Bufflehead				X	X	X	X							X	X	-	-	-	-
	Gadwall				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Merganser				X	X	X	X	X					X	X	X	-	-	-	-
	Ruddy duck				X	X	X	X						X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
327	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	APR-MAY SEP-DEC	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	MAR-MAR	JAN-DEC	JAN-MAY
	Bluefish							3	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder							2	2	2	2	2	3	3	3		-	-	-	APR-AUG	APR-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	APR-APR NOV-DEC	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	-	MAR-DEC	APR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	APR-APR NOV-DEC	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
329	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	JAN-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 107 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
329	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	-	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-NOV
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
330	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2		-	MAY-MAY	-	MAY-MAY SEP-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	3	3	3		-	NOV-NOV	-	JAN-NOV	JUL-AUG
	Cobia								2	3	3	3	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	3	3	3	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	JUN-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	JUN-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	JUN-JUN	-	JUN-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	JUN-AUG	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	MAR-MAY	SEP-MAY	SEP-MAY
333	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	5	4	4	4	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	3	3	3	2	2	2	2	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	MAR-MAY	JAN-DEC	JAN-MAY
	Bluefish								3	3	3	3	3	3	3		-	NOV-NOV	-	MAY-NOV	-
	Cobia									2	2	2					-	-	-	JUN-AUG	JUN-AUG
	Gray snapper									3	3	3					-	-	-	JUN-AUG	-
	Gulf flounder									2	2	2					-	-	-	JUN-AUG	JUN-AUG
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	JUN-AUG	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	JUN-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	4	4	4	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	-	MAR-DEC	JUN-AUG
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-AUG
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-MAY	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
334	Alewife					3	3	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	-	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 107 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
334	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
55	American alligator	S	T														-	-	-
	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
27	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
52	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
327	American oyster (eastern)				2	2	2	4	4	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop							4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	APR-DEC	APR-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
329	American oyster (eastern)				4	4	4	4	4	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
330	American oyster (eastern)				4	4	4	4	4	4	4	4	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				3	3	3	3	3	2	2	2	3	3	3	3	MAR-MAY SEP-OCT	MAR-MAY SEP-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
333	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop									4	4	4					AUG-AUG	AUG-AUG	-	JUN-AUG	JUN-AUG
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-AUG	JUN-AUG	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
334	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 108

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
62	American coot			190	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			41	X	X	X	X					X	X	X	X	-	-	-	-
	Bufflehead			65	X	X	X	X							X	X	-	-	-	-
	Gadwall			11	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			26	X	X	X	X					X	X	X	X	-	-	-	-
	Merganser			200	X	X	X	X	X					X	X	X	-	-	-	-
	Ruddy duck			8	X	X	X	X						X	X	X	-	-	-	-
	Scaup			81	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
328	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	5	4	4	4	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	MAR-MAY	JAN-DEC	JAN-MAY
	Bluefish								3	3	3	3	3	3	3		-	NOV-NOV	-	MAY-NOV	-
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)					3	3	4	4	4	3	3	3	3	3		-	DEC-DEC	-	MAR-DEC	-
	Spanish mackerel								3	3	3	3	3	3			-	OCT-NOV	-	JUN-NOV	-
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
333	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	5	4	4	4	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	3	3	3	2	2	2	2	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	MAR-MAY	JAN-DEC	JAN-MAY
	Bluefish								3	3	3	3	3	3	3		-	NOV-NOV	-	MAY-NOV	-
	Cobia									2	2	2					-	-	-	JUN-AUG	JUN-AUG
	Gray snapper									3	3	3					-	-	-	JUN-AUG	-
	Gulf flounder									2	2	2					-	-	-	JUN-AUG	JUN-AUG
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	JUN-AUG	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	JUN-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	4	4	4	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)					3	3	4	4	4	3	3	3	3	3		-	DEC-DEC	-	MAR-DEC	JUN-AUG
	Spanish mackerel								3	3	3	3	3	3			-	OCT-NOV	-	JUN-NOV	JUN-AUG
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-MAY	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
328	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
333	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop									4	4	4					AUG-AUG	AUG-AUG	-	JUN-AUG	JUN-AUG
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-AUG	JUN-AUG	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

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NORTH CAROLINA — ESIMAP 109

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
54	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
62	American coot			190	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			41	X	X	X	X					X	X	X	X	-	-	-	-
	Bufflehead			65	X	X	X	X							X	X	-	-	-	-
	Gadwall			11	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			26	X	X	X	X					X	X	X	X	-	-	-	-
	Merganser			200	X	X	X	X	X					X	X	X	-	-	-	-
	Ruddy duck			8	X	X	X	X						X	X	X	-	-	-	-
	Scaup			81	X	X	X	X						X	X	X	-	-	-	-
63	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			25			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
327	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	APR-MAY SEP-DEC	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	MAR-MAR	JAN-DEC	JAN-MAY
	Bluefish							3	3	3	3	3	3	3	3		-	NOV-NOV	-	APR-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder							2	2	2	2	2	3	3	3		-	-	-	APR-AUG	APR-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	APR-APR NOV-DEC	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)					3	3	4	4	4	3	3	3	3	3	3	-	DEC-DEC	-	MAR-DEC	APR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	APR-APR NOV-DEC	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
329	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	JAN-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	-	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)					3	3	4	4	4	3	3	3	3	3	3	-	DEC-DEC	-	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 109 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
330	Alewife				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2		-	MAY-MAY	-	MAY-MAY SEP-NOV	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	MAR-MAY	JAN-DEC	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	3	3	3		-	NOV-NOV	-	JAN-NOV	JUL-AUG
	Cobia								2	3	3	3	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	3	3	3	3	3	3		-	JAN-JAN	-	JAN-AUG	JAN-NOV
	Ladyfish						2	2	2	2	2	2					-	-	-	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	5	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	JUN-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	JUN-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)					3	3	4	4	4	3	3	3	3	3	3	-	DEC-DEC	-	MAR-DEC	JUN-AUG
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-AUG
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-MAY	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	MAR-JUL	JAN-DEC	JAN-DEC
334	Alewife					3	3	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	-	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					3	3	4	4	4	3	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
55	American alligator	S	T														-	-	-
	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

NORTH CAROLINA — ESIMAP 109 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
327	American oyster (eastern)				2	2	2	4	4	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop							4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	APR-DEC	APR-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
329	American oyster (eastern)				4	4	4	4	4	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
330	American oyster (eastern)				4	4	4	4	4	4	4	4	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				3	3	3	3	3	2	2	2	3	3	3	3	MAR-MAY SEP-OCT	MAR-MAY SEP-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
333	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop									4	4	4					AUG-AUG	AUG-AUG	-	JUN-AUG	JUN-AUG
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	JUN-AUG	JUN-AUG	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
334	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

NORTH CAROLINA — ESIMAP 110

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
335	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	APR-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	4	4	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				4	4	4	4	4	4	4	4	4	4	4	4	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	MAY-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2			-	JUN-JUL	-	MAR-OCT	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	5	5	5	5	5	5	5	4	-	-	-	JAN-DEC	JAN-DEC
	Red drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAY-JAN
	Sheepshead				3	3	3	4	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-JAN	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	-
	Spanish mackerel									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	-
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	MAY-MAY DEC-JAN	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	MAY-SEP	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Summer flounder				4			3	4	4	4	4	4	4	4	4	-	DEC-JAN	MAY-MAY	MAY-JAN	APR-NOV
336	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	APR-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2			-	JUN-JUL	-	MAR-OCT	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	5	5	5	5	5	5	5	4	-	-	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	SEP-NOV
	Spanish mackerel									2	2	2	2	2	2		-	OCT-NOV	-	JUN-NOV	SEP-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-NOV	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
338	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	APR-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	MAY-MAY SEP-JAN	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	MAR-APR	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gulf flounder				2											2	-	-	DEC-JAN	-	-
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	2	2	2	5	5	5	5	5	5	5	4	-	-	DEC-JAN	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	2	2	2	4	4	4	4	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	3	3	3	3	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				4	3	3	3	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					2	2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	MAY-NOV
	Spanish mackerel								3	3	3	3	2	2	2		-	OCT-NOV	-	JUN-NOV	MAY-OCT
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 110 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
338	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-JAN	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
55	American alligator	S	T														-	-	-
	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
335	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
336	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
337	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												3	3	3		SEP-NOV	SEP-NOV	-	-	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel												2	2	2		-	-	-	SEP-NOV	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				2	2	2	2	2	2	2	2	2	2	2	2	SEP-NOV	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
338	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3				3	3	3	3	3	3	3	3	AUG-DEC	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2				2	2	2	2	2	2	2	2	-	-	-	MAY-JAN	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	2	2	2	5	5	5	5	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 111

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
68	Blue-winged teal			2	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Bufflehead			4	X	X	X	X							X	X	-	-	-	-
	Canvasback			3	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			63	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			6	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			170	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			160	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			320	X	X	X	X						X	X	X	-	-	-	-
	Scaup			3100	X	X	X	X						X	X	X	-	-	-	-
69	Blue-winged teal			3	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Bufflehead			8	X	X	X	X							X	X	-	-	-	-
	Canvasback			5	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			12	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			340	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			330	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			640	X	X	X	X						X	X	X	-	-	-	-
	Scaup			6000	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
336	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	APR-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	4	4	4	3	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2			-	JUN-JUL	-	MAR-OCT	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	5	5	5	5	5	5	5	4	-	-	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					2	2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	-
	Spanish mackerel								2	2	2	2	2	2			-	OCT-NOV	-	JUN-NOV	-
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
337	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	APR-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-NOV	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				4	4	4	4	4	4	4	4	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	3	3	3	2	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2					-	JUN-JUL	-	MAR-AUG	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	5	5	5	5	5	5	5	4	-	-	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	4	4	4	3	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					2	2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	SEP-NOV
	Spanish mackerel								2	2	2	2	2	2			-	OCT-NOV	-	JUN-NOV	SEP-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-NOV	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
338	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	APR-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	MAY-MAY SEP-JAN	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	MAR-APR	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gulf flounder				2											2	-	-	DEC-JAN	-	-
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	2	2	2	5	5	5	5	5	5	5	4	-	-	DEC-JAN	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	2	2	2	4	4	4	4	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	3	3	3	3	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				4	3	3	3	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					2	2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	MAY-NOV
	Spanish mackerel								3	3	3	3	2	2	2		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 111 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
338	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-JAN	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
339	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	MAY-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gulf flounder				2	2	2	2								2	-	-	DEC-APR	-	-
	Ladyfish					2	2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	3	3	3	3	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					2	2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	2	2	2		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
55	American alligator	S	T														-	-	-
	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
336	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
337	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												3	3	3		SEP-NOV	SEP-NOV	-	-	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel												2	2	2		-	-	-	SEP-NOV	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				2	2	2	2	2	2	2	2	2	2	2	2	SEP-NOV	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
338	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3				3	3	3	3	3	3	3	3	AUG-DEC	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2				2	2	2	2	2	2	2	2	-	-	-	MAY-JAN	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	2	2	2	5	5	5	5	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
339	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	-	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 112

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
54	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron						X	X	X	X	X	X	X	X			-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
63	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			25			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
70	Piping plover	S/F	T/T				X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
71	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
334	Alewife					3	3	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	FEB-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-DEC	FEB-MAY
	Atlantic croaker				3	3	4	4	5	5	5	5	4	4	4	4	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	3	5	5	5	5	4	4	4	4	3	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	JAN-MAY
	Bluefish				3	3	3	3	3	4	4	4	4	3	3	3	-	NOV-DEC	-	JAN-DEC	JUL-NOV
	Cobia								3	3	3	3	3				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-JAN	DEC-APR	JAN-DEC	MAY-DEC
	Ladyfish				2	2	2	2	2	2	2	2		2	2	2	-	-	OCT-MAY	MAR-AUG	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Red drum				3	3	3	3	3	3	3	3	4	4	4	3	JUL-SEP	-	JUL-OCT	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	DEC-JAN	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	4	4	4	4	4	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					3	3	4	4	4	3	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel							4	3	3	3	3	3	3			-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	4	4	4	4	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Striped mullet				3	3	3	3	4	4	3	3	3	3	3	3	-	DEC-JAN	NOV-APR	JAN-DEC	MAR-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	MAR-DEC
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					
341	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2					2	2	2	-	MAY-MAY	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish					3	3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia							2	2	2	2	2					-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)					3	3	4	4	4	3	3	3	3	3	3	-	DEC-DEC	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel					3	3	4	3	3	3	3	3	3			-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 112 (continued)

BIOLOGICAL RESOURCES:

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
334	American oyster (eastern)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-DEC	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				3	3	4	4	4	4	4	4	3	3	3	3	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2						2	-	DEC-FEB	-	JAN-JUN	-
	Brackishwater clam				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Brown shrimp				4	2	2	4	5	5	5	5	5	4	4	3	-	NOV-JUN	-	FEB-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	3	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								3	3	3	3	3	3	3		-	MAY-SEP	-	JUN-NOV	-
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					
341	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 113

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
70	Piping plover	S/F	T/T				X	X	X	X	X	X	X				MAR-OCT	-	-	-
72	Black-crowned night heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret			LOW			X	X	X	X	X	X	X	X	X		-	-	-	-
	Glossy ibis			LOW				X	X	X	X	X					-	-	-	-
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron			LOW			X	X	X	X	X	X	X	X			APR-AUG	APR-JUL	MAY-JUL	JUN-AUG
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron			LOW				X	X	X	X	X	X				-	-	-	-
73	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Gull-billed tern							X	X	X	X	X	X				MAY-JUL	-	-	-
	Least tern			MED			X	X	X	X	X	X	X				APR-AUG	-	-	-
74	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T				X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover						X	X	X	X	X	X	X	X			-	-	-	-
75	Osprey						X	X	X	X	X	X	X	X			MAR-SEP	-	-	-
76	Brown pelican			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
338	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	APR-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	MAY-MAY SEP-JAN	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	MAR-APR	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gulf flounder				2											2	-	-	DEC-JAN	-	-
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	2	2	2	5	5	5	5	5	5	5	4	-	-	DEC-JAN	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	2	2	2	4	4	4	4	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	3	3	3	3	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				4	3	3	3	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	MAY-NOV
	Spanish mackerel								3	3	3	3	2	2	2		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-JAN	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
339	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	MAY-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gulf flounder				2	2	2	2								2	-	-	DEC-APR	-	-
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	3	3	3	3	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	2	2	2		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 113 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
339	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
340	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2					2	2	2	-	MAY-MAY	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish								3	3	3	3	3	3	3	3	-	-	-	MAY-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2			-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	MAY-JAN	MAY-JAN
	Ladyfish				2		2	2	2	2	2	2	2	2	2	2	-	-	MAY-MAY OCT-JAN	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	MAY-AUG	NOV-DEC	MAY-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	3	3	4	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	MAY-JAN	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						2	2	2	2	2	2	3	3	3	2	-	DEC-DEC	SEP-SEP	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	4	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	MAY-JAN	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Summer flounder	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	FEB-APR SEP-DEC
	Southern kingfish (whiting)						2	2	4	4	4	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2					-	-	-	MAY-AUG OCT-NOV	FEB-MAY
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
341	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2					2	2	2	-	MAY-MAY	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2			-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)						3	3	4	4	4	3	3	3	3	3	-	DEC-DEC	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
342	Alewife				2	2	2	2	2	2	2	2					-	-	-	MAY-AUG	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2		2	2		-	MAY-JUN	-	MAY-AUG OCT-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	4	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper												2	2	2		-	-	-	SEP-NOV	-
	Gulf flounder				2	2	2	2					2	2	2	2	-	-	DEC-APR	SEP-NOV	SEP-NOV
	Ladyfish						2	2	2	2	2	2	2	2	2		-	-	OCT-NOV	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-APR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	SEP-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	-	NOV-DEC	SEP-SEP	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	3	3	3	3	3	3	3	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)						2	2	2	2	2	2	3	3	3	2	-	DEC-DEC	SEP-SEP	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	DEC-AUG
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

NORTH CAROLINA — ESIMAP 113 (continued)

BIOLOGICAL RESOURCES:

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
55	American alligator	S	T														-	-	-
	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
338	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3				3	3	3	3	3	3	3	3	AUG-DEC	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2				2	2	2	2	2	2	2	2	-	-	-	MAY-JAN	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	2	2	2	5	5	5	5	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
339	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	-	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
340	American oyster (eastern)				5	2	2	2	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	MAY-JAN	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
341	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
342	American oyster (eastern)				2	2	2	2	2	2	2	2	5	5	5	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	SEP-NOV	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-AUG	MAR-MAY AUG-AUG	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 114

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
69	Blue-winged teal			3	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Bufflehead			8	X	X	X	X							X	X	-	-	-	-
	Canvasback			5	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			12	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			340	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			330	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			640	X	X	X	X						X	X	X	-	-	-	-
	Scaup			6000	X	X	X	X						X	X	X	-	-	-	-
76	Brown pelican			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
338	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	APR-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	MAY-MAY SEP-JAN	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	MAR-APR	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gulf flounder				2											2	-	-	DEC-JAN	-	-
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	2	2	2	5	5	5	5	5	5	5	4	-	-	DEC-JAN	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	2	2	2	4	4	4	4	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	3	3	3	3	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				4	3	3	3	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					2	2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	MAY-NOV
	Spanish mackerel								3	3	3	3	2	2	2		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
339	Alewife				2	2	2	2	2	2	2	2	2	2			-	-	-	MAY-OCT	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	2	2	2	2	2	2		-	MAY-JUN	-	MAY-NOV	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish									3	3	3	3	3	3	3	-	-	-	JUN-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gulf flounder				2	2	2	2								2	-	-	DEC-APR	-	-
	Ladyfish						2	2	2	2	2	2	2	2			-	-	-	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	4	3	3	3	3	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					2	2	2	2	2	2	2	2	2	2	2	-	DEC-DEC	-	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	2	2	2		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-JAN	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
340	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2					2	2	2	-	MAY-MAY	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish								3	3	3	3	3	3	3	3	-	-	-	MAY-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	MAY-JAN	MAY-JAN
	Ladyfish				2		2	2	2	2	2	2	2	2	2	2	-	-	MAY-MAY OCT-JAN	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	MAY-AUG	NOV-DEC	MAY-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	3	3	4	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	MAY-JAN	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	FEB-APR SEP-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 114 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
340	Southern kingfish (whiting)						2	2	4	4	4	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass					2	2	2									-	-	-	FEB-APR	FEB-APR
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
341	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2					2	2	2	-	MAY-MAY	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)					2	2	2	2	2	2	2	3	3	3	2	-	DEC-DEC	SEP-SEP	MAR-DEC	MAR-NOV
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2				2	-	-	-	DEC-AUG	DEC-AUG
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	FEB-MAY	JAN-DEC	APR-NOV
343	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	1				2	2	2	-	MAY-JUN	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2		1	1						-	JUN-JUL	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)				1		3	3	4	4	4	3	3	3	3	3	-	DEC-JAN	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

NORTH CAROLINA — ESIMAP 114 (continued)

BIOLOGICAL RESOURCES:

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
55	American alligator	S	T														-	-	-
	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
338	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3				3	3	3	3	3	3	3	3	AUG-DEC	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2				2	2	2	2	2	2	2	2	-	-	-	MAY-JAN	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	2	2	2	5	5	5	5	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
339	American oyster (eastern)				2	2	2	2	2	2	2	2	2	2	2	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	-	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-NOV	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	2	2	2	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
340	American oyster (eastern)				5	2	2	2	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	MAY-JAN	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
341	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
342	American oyster (eastern)				2	2	2	2	2	2	2	2	5	5	5	2	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	SEP-NOV	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2	2	2	3	3	3	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-AUG	MAR-MAY AUG-AUG	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	2	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
343	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 115

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
76	Brown pelican			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
77	Black-necked stilt							X	X	X	X	X	X				-	-	-	-
78	Bufflehead			137	X	X	X	X							X	X	-	-	-	-
	Canada goose			4	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			14	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			42	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			75	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			465	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			24	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			155	X	X	X	X						X	X	X	-	-	-	-
	Scaup			165	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
340	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2					2	2	2	-	MAY-MAY	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2									-	-	-	-	JAN-APR
	Bluefish								3	3	3	3	3	3	3	3	-	-	-	MAY-DEC	JUN-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	MAY-JAN	MAY-JAN
	Ladyfish				2		2	2	2	2	2	2	2	2	2	2	-	-	MAY-MAY OCT-JAN	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	MAY-AUG	NOV-DEC	MAY-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	3	3	4	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	MAY-JAN	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAY-JUN	-	MAY-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	FEB-APR SEP-DEC
	Southern kingfish (whiting)						2	2	4	4	4	3	3	3	3	3	-	DEC-DEC	MAY-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel								4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass					2	2	2									-	-	-	FEB-APR	FEB-APR
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
343	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	1			2	2	2		-	MAY-JUN	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2		1	1						-	JUN-JUL	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)				1		3	3	4	4	4	3	3	3	3	3	-	DEC-JAN	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
77	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
340	American oyster (eastern)				5	2	2	2	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	MAY-JAN	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	2	2	2	3	3	3	3	3	3	3	3	-	DEC-JAN	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
343	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 116

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
76	Brown pelican			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
78	Bufflehead			137	X	X	X	X							X	X	-	-	-	-
	Canada goose			4	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			14	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			42	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			75	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			465	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			24	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			155	X	X	X	X						X	X	X	-	-	-	-
	Scaup			165	X	X	X	X						X	X	X	-	-	-	-
79	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
343	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	1				2	2	2	-	MAY-JUN	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2		1	1						-	JUN-JUL	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)				1		3	3	4	4	4	3	3	3	3	3	-	DEC-JAN	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
55	American alligator	S	T														-	-	-
	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
343	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 117

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
79	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
343	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	1				2	2	2	-	MAY-JUN	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2		1	1						-	JUN-JUL	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)				1		3	3	4	4	4	3	3	3	3	3	-	DEC-JAN	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
343	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 118

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
76	Brown pelican			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
79	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
80	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
81	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED									X	X	X		-	-	-	-
	Common tern			MED				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED									X	X	X		-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	MED	X	X	X	X				X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED									X	X	X		-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED									X	X	X		-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
82	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED									X	X	X		-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED									X	X	X		-	-	-	-
	Common tern			MED									X	X	X		-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED									X	X	X		-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED									X	X	X		-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED									X	X	X		-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
83	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED									X	X	X		-	-	-	-
	Common tern			MED									X	X	X		-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED									X	X	X		-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 118 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
83	Piping plover	S/F	T/T	LOW	X	X	X	X				X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED									X	X	X		-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED									X	X	X		-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
343	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	1				2	2	2	-	MAY-JUN	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2		1	1						-	JUN-JUL	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)				1		3	3	4	4	4	3	3	3	3	3	-	DEC-JAN	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
80	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
81	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
82	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
83	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
343	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 119

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
76	Brown pelican			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
79	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
343	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	1				2	2	2	-	MAY-JUN	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2		1	1						-	JUN-JUL	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)				1		3	3	4	4	4	3	3	3	3	3	-	DEC-JAN	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
344	Alewife						2	2	2	2	2	2	2	2			MAR-MAY	OCT-OCT	MAR-MAY	APR-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad					3	3	3	3	3	3	3	3				FEB-MAY	MAY-JUN	FEB-JUN	APR-SEP	FEB-MAY
	Atlantic croaker						4	4	4	4	4	2	2				-	-	-	MAR-JUL	MAR-SEP
	Atlantic menhaden					3	4	4	4	4	4	4					-	-	FEB-MAY	MAR-AUG	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAR-JUN	AUG-SEP	MAR-AUG	JAN-DEC	MAR-MAY
	Bay anchovy				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JUN-DEC	JAN-DEC
	Blueback herring				4	4	3	2	2	2	2	2	2				JAN-JUN	JUN-JUL	FEB-JUN	APR-SEP	JAN-JUN
	Bluefish								2	2	2	2	2				-	-	-	MAY-SEP	-
	Ladyfish							2	2	2	2	2	2	3	3		-	OCT-NOV	SEP-NOV	APR-SEP	JUN-SEP
	Pinfish							2	2	2	2	2					-	-	-	APR-AUG	-
	Sheepshead minnow								2	2	2	2					-	-	-	MAY-AUG	MAY-AUG
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				2	3	4	4	4	4	3	2					-	-	-	JAN-AUG	-
	Spot						3	5	5	5	4	4	4	3	3		-	-	-	MAR-NOV	-
	Spotted seatrout								2	2	2						-	-	-	MAY-JUL	MAY-JUL
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet							3	3	3							-	-	-	APR-JUN	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
343	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
344	Blue crab				3	3	3	3	3	3	3	3	3	3	3	3	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	White shrimp											2	2				-	-	-	AUG-SEP	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 120

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
84	Bufflehead			50	X	X	X	X							X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Merganser			80	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			50	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			50	X	X	X	X						X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
85	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
86	Green-winged teal			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wood duck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
87	Scaup				X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
344	Alewife						2	2	2	2	2	2	2	2			MAR-MAY	OCT-OCT	MAR-MAY	APR-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad					3	3	3	3	3	3	3	3				FEB-MAY	MAY-JUN	FEB-JUN	APR-SEP	FEB-MAY
	Atlantic croaker						4	4	4	4	4	2	2				-	-	-	MAR-JUL	MAR-SEP
	Atlantic menhaden					3	4	4	4	4	4	4					-	-	FEB-MAY	MAR-AUG	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAR-JUN	AUG-SEP	MAR-AUG	JAN-DEC	MAR-MAY
	Bay anchovy				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JUN-DEC	JAN-DEC
	Blueback herring				4	4	3	2	2	2	2	2	2				JAN-JUN	JUN-JUL	FEB-JUN	APR-SEP	JAN-JUN
	Bluefish								2	2	2	2	2				-	-	-	MAY-SEP	-
	Ladyfish							2	2	2	2	2	2	3	3		-	OCT-NOV	SEP-NOV	APR-SEP	JUN-SEP
	Pinfish							2	2	2	2	2					-	-	-	APR-AUG	-
	Sheepshead minnow								2	2	2	2					-	-	-	MAY-AUG	MAY-AUG
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				2	3	4	4	4	4	3	2					-	-	-	JAN-AUG	-
	Spot					3	5	5	5	4	4	4	3	3			-	-	-	MAR-NOV	-
	Spotted seatrout								2	2	2						-	-	-	MAY-JUL	MAY-JUL
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet							3	3	3							-	-	-	APR-JUN	-
345	Alewife						2	2	2	2	2	2	2	2			MAR-MAY	OCT-OCT	MAR-MAY	APR-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	FEB-MAY	JAN-DEC	AUG-DEC
	American shad					3	3	3	3	3	3	3	3	3	3		FEB-MAY	MAY-JUN	FEB-JUN	APR-NOV	FEB-MAY
	Atlantic croaker						4	4	4	4	4	2	5	5	5		-	-	-	MAR-JUL SEP-NOV	MAR-OCT
	Atlantic menhaden					3	4	4	4	4	4	4	4	4	3		-	NOV-NOV	FEB-MAY	MAR-NOV	SEP-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAR-JUN	AUG-SEP	MAR-AUG	JAN-DEC	MAR-MAY SEP-NOV
	Bay anchovy				3	3	3	3	3	3	3	3	5	4	4	3	-	-	SEP-OCT	JUN-DEC	JAN-DEC
	Black drum												2	2	2		-	OCT-NOV	-	SEP-NOV	SEP-NOV
	Blueback herring				4	4	3	2	2	2	2	2	2	2			JAN-JUN	JUN-JUL	FEB-JUN	APR-OCT	JAN-JUN
	Bluefish								2	2	2	2	2	2	2		-	NOV-NOV	-	MAY-NOV	-
	Ladyfish							2	2	2	2	2	2	2	3		-	OCT-NOV	SEP-NOV	APR-OCT	JUN-OCT
	Mummichog												4	4	4		SEP-SEP	-	SEP-OCT	SEP-NOV	SEP-NOV
	Pinfish							2	2	2	2	2	2	2	2		-	OCT-NOV	-	APR-NOV	SEP-NOV
	Red drum												3	3	3		-	-	-	SEP-NOV	SEP-NOV
	Seatrout (weakfish)												3	2	2		-	NOV-NOV	-	SEP-NOV	-
	Sheepshead												2	2	2		-	-	-	SEP-NOV	SEP-NOV
	Sheepshead minnow								2	2	2	2	3	3	3		SEP-OCT	-	SEP-OCT	MAY-NOV	MAY-NOV
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				2	2	2	2	2	2	2	2	4	4	4	2	-	-	-	JAN-DEC	JAN-DEC
	Southern flounder				2	3	4	4	4	4	3	2	3	3	3		-	NOV-NOV	-	JAN-NOV	SEP-NOV
	Southern kingfish (whiting)												2	2	2		-	NOV-NOV	-	SEP-NOV	-
	Spot					3	5	5	5	4	4	5	5	5			-	-	-	MAR-NOV	SEP-NOV
	Spotted seatrout								2	2	2		3	3	3		-	-	-	MAY-JUL SEP-NOV	MAY-JUL SEP-NOV
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet							3	3	3			4	4	4		-	NOV-NOV	-	APR-JUN SEP-NOV	SEP-OCT
	Summer flounder												3	3	3		-	NOV-NOV	-	-	SEP-NOV
346	Alewife				2		2	2	2	2	2	2	2	2			MAR-MAY	OCT-OCT	MAR-APR	JAN-JAN APR-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-APR	JAN-DEC	AUG-DEC
	American shad				2	3	3	3	3	3	3	3	3	3	3	3	FEB-APR	MAY-JUN	FEB-JUL	APR-JAN	FEB-MAY
	Atlantic croaker				5		4	4	5	5	5	5	5	5	5	5	-	-	-	MAR-JAN	MAR-OCT
	Atlantic menhaden				3	3	4	4	5	5	5	5	4	4	3	3	-	NOV-DEC	FEB-MAY	MAR-JAN	MAY-JAN
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	MAR-APR	AUG-SEP	MAR-AUG	JAN-DEC	MAR-JAN
	Bay anchovy				4	3	3	3	4	5	5	5	5	4	4	4	-	-	MAY-OCT	MAY-JAN	JAN-DEC
	Black drum				2				2	2	2	2	2	2	2	2	-	OCT-NOV	-	MAY-JAN	MAY-JAN
	Blueback herring				3	4	3	2	2	2	2	2	2	2			FEB-APR	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish								2	2	2	2	2	2	2		-	NOV-NOV	-	MAY-NOV	-
	Ladyfish							2	2	2	2	2	2	2	3		-	OCT-NOV	MAY-JUN SEP-NOV	APR-OCT	MAY-OCT
	Mummichog				4				5	4	4	4	4	4	4	4	MAY-SEP	-	MAY-OCT	MAY-JAN	MAY-JAN
	Pinfish				2			2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	APR-JAN	MAY-JAN
	Red drum				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	MAY-JAN
	Seatrout (weakfish)				2				3	3	3	3	3	2	2	2	-	NOV-DEC	-	MAY-JAN	-
	Sheepshead				3				2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	MAY-JAN
	Sheepshead minnow				3				3	3	3	3	3	3	3	3	MAY-OCT	-	MAY-OCT	MAY-JAN	MAY-JAN
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	2	2	2	4	4	4	4	4	4	4	3	-	-	MAY-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	3	4	4	4	3	3	3	3	3	3	4	-	NOV-DEC	-	JAN-DEC	MAY-NOV
	Southern kingfish (whiting)								2	2	2	2	2	2	2		-	NOV-NOV	-	MAY-NOV	-
	Spot				4		3	5	5	5	5	5	5	5	5	5	-	DEC-JAN	-	MAR-JAN	MAY-DEC
	Spotted seatrout				2				3	3	3	3	3	3	3	2	-	DEC-JAN	-	MAY-JAN	MAY-JAN
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4			3	4	4	4	4	4	4	4	4	-	NOV-DEC	-	APR-JAN	MAY-OCT
	Summer flounder								3	3	3	3	3	3	3		-	NOV-NOV	-	-	MAY-NOV
347	Alewife				2	2	2	2	2	2	2	2	2	2			MAR-MAY	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-JUL	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	4	4	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	APR-AUG	JAN-DEC	JAN-DEC
	Bay anchovy				4	4	4	4	4	5	5	5	5	4	4	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish						2	2	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 120 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
347	Mummichog				4	4	5	5	5	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	2	2	2	-	NOV-DEC	-	JAN-DEC	-
	Sheepshead				3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	3	3	3	3	3	3	4	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Spot				4	4	4	4	5	5	5	5	5	5	5	5	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-OCT
	Summer flounder						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	-	MAR-NOV
348	Alewife				2	2	2	2	2	2	2	2	2	2			MAR-MAY	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-JUL	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	APR-AUG	JAN-DEC	JAN-DEC
	Bay anchovy				4	4	4	4	4	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish						2	2	2	2	2	2	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				4	4	5	5	5	4	4	4	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	4	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	NOV-DEC	-	JAN-DEC	SEP-NOV
	Sheepshead				3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	3	3	3	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Spanish mackerel												2	2			-	OCT-OCT	-	SEP-OCT	-
	Spot				4	4	4	4	5	5	5	5	5	5	5	5	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	SEP-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-OCT
	Summer flounder						3	3	3	3	3	3	4	4	4		-	NOV-NOV	-	SEP-NOV	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
85	American alligator	S	T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
86	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
344	Blue crab				3	3	3	3	3	3	3	3	3	3	3	3	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	White shrimp											2	2				-	-	-	AUG-SEP	-
345	Blue crab				3	3	3	3	3	3	3	3	4	4	4	3	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Grass shrimp												4	4	4		-	-	-	SEP-NOV	SEP-NOV
	Pink shrimp												4	4	4		-	SEP-OCT	-	SEP-NOV	-
	White shrimp											2	3	3			-	SEP-OCT	-	AUG-OCT	-
346	Blue crab				4	3	3	3	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp								4	4	4	4					-	MAY-JUN	-	MAY-AUG	-
	Grass shrimp				4				5	5	4	4	4	4	4	4	-	-	-	MAY-JAN	MAY-JAN
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	White shrimp									3	3	3	3	3			-	JUN-OCT	-	JUL-OCT	-
347	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp					3	3	3	4	4	4	4					-	MAR-JUN	-	FEB-AUG	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	White shrimp									3	3	3	3	3			-	JUN-OCT	-	JUL-OCT	-
348	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-NOV	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp					3	3	3	4	4	4	4					-	MAR-JUN	-	FEB-AUG	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	White shrimp									3	3	3	5	5	5		-	JUN-OCT	-	JUL-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 121

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
76	Brown pelican			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
79	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
88	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
89	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
90	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
91	Brown pelican			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			HIGH	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
92	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			MED				X	X	X	X	X	X				-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
93	Least sandpiper				X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Purple sandpiper				X	X	X	X							X	X	-	-	-	-
	Red knot				X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone				X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 121 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
94	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			MED				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW	X	X	X	X				X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
343	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	1				2	2	2	-	MAY-JUN	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2		1	1						-	JUN-JUL	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)				1		3	3	4	4	4	3	3	3	3	3	-	DEC-JAN	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
89	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
343	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 122

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
84	Bufflehead			50	X	X	X	X							X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Merganser			80	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			50	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			50	X	X	X	X						X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
85	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
86	Green-winged teal			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	King rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wood duck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
95	American coot				X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X					X	X	X	X	-	-	-	-
	Black duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common moorhen				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser				X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck				X	X	X	X						X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
96	American coot				X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X					X	X	X	X	-	-	-	-
	Black duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-necked stilt							X	X	X	X	X	X				-	-	-	-
	Common snipe				X	X	X	X					X	X	X	X	-	-	-	-
	Dunlin				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Least sandpiper				X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Lesser yellowlegs				X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Long-billed dowitcher				X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Mallard				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Pectoral sandpiper							X		X	X	X	X				-	-	-	-
	Semipalmated sandpiper							X	X	X	X	X	X				-	-	-	-
	Short-billed dowitcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Stilt sandpiper							X	X		X	X	X	X			-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper				X	X	X	X			X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wood duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
347	Alewife				2	2	2	2	2	2	2	2	2	2			MAR-MAY	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-JUL	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	4	4	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	APR-AUG	JAN-DEC	JAN-DEC
	Bay anchovy				4	4	4	4	4	5	5	5	5	4	4	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish						2	2	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				4	4	5	5	5	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	2	2	2	-	NOV-DEC	-	JAN-DEC	-
	Sheepshead				3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	3	3	3	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Spanish mackerel												2	2			-	OCT-OCT	-	SEP-OCT	-
	Spot				4	4	4	4	5	5	5	5	5	5	5	5	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	SEP-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-OCT
	Summer flounder						3	3	3	3	3	3	4	4	4		-	NOV-NOV	-	SEP-NOV	MAR-NOV
348	Alewife				2	2	2	2	2	2	2	2	2	2			MAR-MAY	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-JUL	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	APR-AUG	JAN-DEC	JAN-DEC
	Bay anchovy				4	4	4	4	4	5	5	5	5	5	5	4	SEP-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish						2	2	2	2	2	2	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				4	4	5	5	5	4	4	4	5	5	5	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	4	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				2	2	2	2	3	3	3	3	3	3	3	2	-	NOV-DEC	-	JAN-DEC	SEP-NOV
	Sheepshead				3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	3	3	3	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Spanish mackerel												2	2			-	OCT-OCT	-	SEP-OCT	-
	Spot				4	4	4	4	5	5	5	5	5	5	5	5	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	SEP-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-OCT
	Summer flounder						3	3	3	3	3	3	4	4	4		-	NOV-NOV	-	SEP-NOV	MAR-NOV
349	Alewife				2	2	2	2	2	2	2	2	2	2			MAR-APR	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-JUL	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	APR-APR	JAN-DEC	JAN-DEC
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	4	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	5	5	5	4	4	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAY-NOV
	Sheepshead				3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 122 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
349	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-JAN	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Spanish mackerel									2	2	2	2	2			-	OCT-OCT	-	JUN-OCT	-
	Spot				5	4	4	4	5	5	5	5	5	5	5	5	-	DEC-JAN	MAY-MAY DEC-JAN	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-OCT
	Summer flounder				4		3	3	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	MAY-JAN	MAR-NOV
350	Alewife				2	2	2	2	2	2	2	2	2	2			-	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-JUL	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	4	4	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAR-NOV
	Sheepshead				3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Spanish mackerel									2	2	2	2	2			-	OCT-OCT	-	JUN-OCT	-
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-OCT
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
85	American alligator	S	T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
86	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
95	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
347	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp					3	3	3	4	4	4	4					-	MAR-JUN	-	FEB-AUG	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	White shrimp									3	3	3	3	3			-	JUN-OCT	-	JUL-OCT	-
348	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	SEP-NOV	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp					3	3	3	4	4	4	4					-	MAR-JUN	-	FEB-AUG	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	White shrimp									3	3	3	5	5	5		-	JUN-OCT	-	JUL-NOV	-
349	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-JAN	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				2				2	2	2	2					-	-	-	JAN-JAN MAY-AUG	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5					-	MAR-JUN	-	JAN-AUG	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
350	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2	2	2					-	-	-	JAN-AUG	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5					-	MAR-JUN	-	JAN-AUG	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	FEB-OCT	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	-	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 123

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
84	Bufflehead			50	X	X	X	X							X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Merganser			80	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			50	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			50	X	X	X	X						X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
89	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
90	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
91	Brown pelican			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			HIGH	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
95	American coot				X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon				X	X	X	X					X	X	X	X	-	-	-	-
	Black duck				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common moorhen				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal				X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser				X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck				X	X	X	X						X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-
	Snowy egret			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
97	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			MED				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		-	-	-	-
98	American coot			720	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			325	X	X	X	X					X	X	X	X	-	-	-	-
	Anhinga							X	X	X	X	X	X				-	-	-	-
	Bald eagle	S/F	E/T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			17	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common moorhen				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			80	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			60	X	X	X	X					X	X	X	X	-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			55	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			11	X	X	X	X	X					X	X	X	-	-	-	-
	Osprey			HIGH			X	X	X	X	X	X	X				MAR-SEP	-	-	-
	Ring-necked duck			205	X	X	X	X						X	X	X	-	-	-	-
	Scaup			100	X	X	X	X						X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
99	Anhinga							X	X	X	X	X	X				-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X				MAR-SEP	-	-	-
	Wood duck				X	X	X	X	X	X	X	X	X	X	X	X	FEB-JUL	-	-	-
	Yellow-crowned night heron						X	X	X	X	X	X	X				MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
100	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis							X	X	X	X	X	X				APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
343	Alewife				2	2	2	2	2								-	-	-	-	JAN-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad					2	2	2	2	1				2	2	2	-	MAY-JUN	-	OCT-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	SEP-MAY	JAN-DEC	MAR-NOV
	Atlantic menhaden				3	5	5	5	5	5	5	5	5	5	5	3	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	MAR-MAY	JAN-DEC	MAR-NOV
	Blueback herring				2	2	2	2		1	1						-	JUN-JUL	-	-	JAN-APR
	Bluefish						3	3	3	3	3	3	3	3	3	3	-	-	-	MAR-DEC	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	JUN-AUG	MAY-SEP	MAY-SEP
	Gray snapper									2	2	2	2	2	2		-	-	-	JUN-NOV	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	-	DEC-APR	JAN-DEC	JAN-DEC
	Ladyfish				2	2	2	2	2	2	2	2	2	2	2	2	-	-	OCT-MAY	MAR-OCT	-
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAR-AUG	-	MAR-SEP	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	5	5	5	5	5	5	5	5	4	-	-	NOV-MAY	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-SEP	NOV-DEC	JUL-OCT	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 123 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
343	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	4	3	APR-AUG	NOV-DEC	APR-SEP	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	MAY-JUL	-	MAY-JUL	JAN-DEC	JAN-DEC
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	SEP-DEC
	Southern kingfish (whiting)				1		3	3	4	4	4	3	3	3	3	3	-	DEC-JAN	APR-SEP	MAR-DEC	MAR-DEC
	Spanish mackerel						3	3	4	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAR-NOV
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	NOV-DEC	DEC-MAY	JAN-DEC	MAR-NOV
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-SEP	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	NOV-APR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-DEC
349	Alewife				2	2	2	2	2	2	2	2	2	2			MAR-APR	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-JUL	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	APR-APR	JAN-DEC	JAN-DEC
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish						2	2	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	4	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	2	2	2	5	5	5	4	4	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	MAY-NOV
	Sheepshead				3	3	3	3	2	2	2	2	2	2	2	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-JAN	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						2	2	2	2	2	2	2	2	2		-	NOV-NOV	-	MAR-NOV	-
	Spanish mackerel									2	2	2	2	2			-	OCT-OCT	-	JUN-OCT	-
	Spot				5	4	4	4	5	5	5	5	5	5	5	5	-	DEC-JAN	MAY-MAY DEC-JAN	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-OCT
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
350	Alewife				2	2	2	2	2	2	2	2	2	2			-	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-JUL	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	-	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-JUL	APR-OCT	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Cobia												2				-	SEP-SEP	-	SEP-SEP	SEP-SEP
	Gray snapper												2	2			-	-	-	SEP-OCT	-
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	4	5	5	5	3	-	OCT-NOV	OCT-NOV	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	3	3	3	3	4	3	3	3	-	NOV-DEC	SEP-OCT	JAN-DEC	MAR-NOV
	Sheepshead				3	3	3	3	2	2	2	2	3	3	3	2	-	-	-	MAY-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	3	3	3	3	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	2	2	2	2	3	3	3		-	NOV-NOV	-	MAR-NOV	SEP-OCT
	Spanish mackerel									2	2	2	3	3	3		-	OCT-NOV	-	JUN-NOV	SEP-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	APR-OCT
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
352	Alewife				2	2	2	2	2	2	2	2	2	2			-	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-APR	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-JAN	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-APR	APR-OCT	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder								2	2	2	2					-	-	-	MAY-AUG	MAY-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	5	5	5	5	3	-	OCT-NOV	OCT-JAN	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	3	3	3	-	NOV-DEC	MAY-OCT	JAN-DEC	MAR-NOV
	Sheepshead				2	3	3	3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	MAY-OCT
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-OCT
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 123 (continued)

BIOLOGICAL RESOURCES:

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
89	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
95	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
98	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
99	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
343	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				3	3	3	3	3	3	3	3	3	3	3	3	MAR-APR AUG-DEC	MAR-APR AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAR-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Blue mussel				3	3	3	3	3	3	3	3	3	3	3	3	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	4	4	3	5	5	5	5	2	2	2	3	-	NOV-MAY	-	APR-NOV	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	APR-OCT	APR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	3	3	-	MAY-OCT	-	JAN-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	JUN-NOV	JUN-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5	3	-	MAY-SEP	-	MAY-DEC	-
349	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	MAY-JAN	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				2				2	2	2	2					-	-	-	JAN-JAN MAY-AUG	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5					-	MAR-JUN	-	JAN-AUG	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	-	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
350	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2	2	2					-	-	-	JAN-AUG	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5					-	MAR-JUN	-	JAN-AUG	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	FEB-OCT	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	-	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
351	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				2	2	2	2	2	2	2	2	2	2	2		-	-	-	JAN-NOV	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2		-	MAR-JUN	-	JAN-NOV	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	FEB-OCT	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-NOV	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
352	American oyster (eastern)				5	5	5	5	5	5	5	5	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	2	2	2	4	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-JUN	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	FEB-OCT	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 124

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
84	Bufflehead			50	X	X	X	X							X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Merganser			80	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			50	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			50	X	X	X	X						X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
91	Brown pelican			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			HIGH	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
100	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis							X	X	X	X	X					APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
102	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
103	Brown pelican			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Common loon			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Herring gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			HIGH	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Oldsquaw			LOW	X	X	X								X	X	-	-	-	-
	Red-throated loon			HIGH	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
104	American coot			300	X	X	X	X	X				X	X	X	X	-	-	-	-
	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American wigeon			130	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			4	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret			MED			X	X	X	X	X	X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Gadwall			6	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis			MED				X	X	X	X	X					-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron			MED			X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			270	X	X	X	X					X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			30	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	White ibis			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
106	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret			MED			X	X	X	X	X	X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Glossy ibis			MED				X	X	X	X	X					-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron			MED			X	X	X	X	X	X	X	X			-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	White ibis			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
107	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Common loon			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Goldeneye			HIGH	X	X	X								X	X	-	-	-	-
	Horned grebe			HIGH	X	X	X	X	X	X					X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 124 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
107	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Red-throated loon			HIGH	X	X	X	X							X	X	-	-	-	-
	Ring-necked duck			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
108	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
109	Bonaparte's gull			HIGH	X	X										X	-	-	-	-
	Forster's tern			HIGH	X	X							X	X	X	X	-	-	-	-
	Great egret			HIGH	X	X										X	-	-	-	-
	Hooded merganser			HIGH	X	X	X	X							X	X	-	-	-	-
	Laughing gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ring-billed gull			HIGH	X	X										X	-	-	-	-
	Snowy egret			HIGH	X	X										X	-	-	-	-
110	Black-crowned night heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Cattle egret			MED			X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis			MED				X	X	X	X	X					APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Green-backed heron			MED			X	X	X	X	X	X	X	X			APR-AUG	APR-JUL	MAY-JUL	JUN-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	White ibis			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUN	JUN-AUG
111	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	MAR-JUN	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Gull-billed tern							X	X	X	X	X	X				MAY-JUL	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
112	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			MED				X	X	X	X	X	X				-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW	X	X	X	X				X	X	X	X	X	-	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
113	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Royal tern				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern							X	X	X	X	X	X	X	X		-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
352	Alewife				2	2	2	2	2	2	2	2	2	2			-	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-APR	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-JAN	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-APR	APR-OCT	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Cobia								2	2	2	2	2				-	OCT-NOV	-	MAY-JAN	JAN-DEC
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder								2	2	2	2					-	-	-	MAY-AUG	MAY-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	5	5	5	5	3	-	OCT-NOV	OCT-JAN	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	3	3	3	-	NOV-DEC	MAY-OCT	JAN-DEC	MAR-NOV
	Sheepshead				2	3	3	3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	MAY-OCT
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-OCT
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
354	Alewife				2	2	2	2	2	2	2	2	2	2			-	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	-	APR-OCT	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder						2	2	2	2	2	2					-	-	-	MAR-AUG	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	5	5	5	5	3	-	OCT-NOV	OCT-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	3	3	3	-	NOV-DEC	APR-OCT	JAN-DEC	MAR-NOV
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 124 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
354	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	MAR-OCT
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	APR-OCT
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
355	Alewife				2	2	2	2	2	2	2	2			2		-	NOV-NOV	-	JAN-AUG NOV-NOV	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	4	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	SEP-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder						2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-OCT	-	APR-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	SEP-NOV	-	SEP-NOV	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	APR-OCT	JAN-DEC	MAR-NOV
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	3	3	3	3	3	3	3		-	NOV-NOV	SEP-SEP	MAR-NOV	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	SEP-OCT	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	-	DEC-AUG	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	APR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
51	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
101	Green sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T						X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
102	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
352	American oyster (eastern)				5	5	5	5	5	5	5	5	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	2	2	2	4	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-JUN	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	FEB-OCT	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
354	American oyster (eastern)				5	5	5	5	5	5	5	5	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-JUN	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	FEB-OCT	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
355	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												2	2	2		SEP-NOV	SEP-NOV	-	-	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-AUG	MAR-MAY AUG-AUG	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-JUN	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	4	FEB-AUG	MAR-AUG	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	5	5	5	4	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-AUG	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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NORTH CAROLINA — ESIMAP 125

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
84	Bufflehead			50	X	X	X	X							X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Merganser			80	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			50	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			50	X	X	X	X						X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
91	Brown pelican			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Horned grebe			MED	X	X	X	X	X	X					X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern gannet			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			HIGH	X	X	X	X							X	X	-	-	-	-
	Ring-billed gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
102	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
104	American coot			300	X	X	X	X	X				X	X	X	X	-	-	-	-
	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American wigeon			130	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			4	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret			MED			X	X	X	X	X	X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Gadwall			6	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis			MED				X	X	X	X	X					-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron			MED			X	X	X	X	X	X	X	X			-	-	-	-
	Green-winged teal			270	X	X	X	X					X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			30	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	White ibis			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wood duck			15	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
105	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret			MED			X	X	X	X	X	X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Glossy ibis			MED				X	X	X	X	X					-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron			MED			X	X	X	X	X	X	X	X			-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	White ibis			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
114	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Peregrine falcon	S/F	E/E	LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
115	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull			LOW	X	X	X	X	X						X	X	-	-	-	-
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			MED				X	X	X	X	X	X				-	-	-	-
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great black-backed gull			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 125 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
115	Laughing gull			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Ring-billed gull			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
355	Alewife				2	2	2	2	2	2	2	2			2		-	NOV-NOV	-	JAN-AUG NOV-NOV	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	4	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	SEP-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder						2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-OCT	-	APR-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	SEP-NOV	-	SEP-NOV	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	APR-OCT	JAN-DEC	MAR-NOV
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	3	3	3	3	3	3	3		-	NOV-NOV	SEP-SEP	MAR-NOV	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	SEP-OCT	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	-	DEC-AUG	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	APR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
102	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
114	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
115	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
355	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												2	2	2		SEP-NOV	SEP-NOV	-	-	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-AUG	MAR-MAY AUG-AUG	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-JUN	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	4	FEB-AUG	MAR-AUG	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	5	5	5	4	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-AUG	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 126

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
84	Bufflehead			50	X	X	X	X							X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Merganser			80	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			50	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			50	X	X	X	X						X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
109	Bonaparte's gull			HIGH	X	X										X	-	-	-	-
	Forster's tern			HIGH	X	X							X	X	X	X	-	-	-	-
	Great egret			HIGH	X	X										X	-	-	-	-
	Hooded merganser			HIGH	X	X	X	X							X	X	-	-	-	-
	Laughing gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ring-billed gull			HIGH	X	X										X	-	-	-	-
	Snowy egret			HIGH	X	X										X	-	-	-	-
116	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-JUN	APR-JUL	JUN-AUG
	Cattle egret						X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Glossy ibis							X	X	X	X	X					APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Green-backed heron						X	X	X	X	X	X	X	X			APR-AUG	APR-JUL	MAY-JUL	JUN-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUN	JUN-AUG
117	Black-crowned night heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret			MED			X	X	X	X	X	X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis			MED				X	X	X	X	X					-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-backed heron			MED			X	X	X	X	X	X	X	X			-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
118	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
119	Bonaparte's gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Common tern			HIGH	X	X							X	X	X	X	-	-	-	-
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Forster's tern			HIGH	X	X							X	X	X	X	-	-	-	-
	Great black-backed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Herring gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Laughing gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ring-billed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Royal tern			HIGH	X	X				X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			HIGH	X	X				X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
352	Alewife				2	2	2	2	2	2	2	2	2	2			-	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	FEB-APR	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-JAN	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	FEB-APR	APR-OCT	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder								2	2	2	2					-	-	-	MAY-AUG	MAY-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	5	5	5	5	3	-	OCT-NOV	OCT-JAN	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	3	3	3	-	NOV-DEC	MAY-OCT	JAN-DEC	MAR-NOV
	Sheepshead				2	3	3	3	3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	MAY-OCT
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-OCT
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
353	Alewife				2		2	2	2					1	2	2	-	OCT-NOV	-	NOV-JAN	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-FEB	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-APR
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	4	4	4	5	5	5	5	5	4	3	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	MAR-JUN	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	3	3	1	1		2	2	2	3	-	JUN-JUL	-	SEP-NOV	DEC-MAY
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 126 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
353	Bluefish						3	3	3	3	3	3	3	3	3	1	-	NOV-DEC	-	MAR-NOV	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	JAN-APR	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	JUN-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	-	MAY-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	4	4	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	AUG-NOV	-	AUG-DEC	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	APR-JUL	NOV-DEC	APR-OCT	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	JUN-AUG	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	MAR-JUN	-	APR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAY-SEP	JAN-DEC	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	APR-DEC
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
354	Alewife				2	2	2	2	2	2	2	2	2	2			-	OCT-OCT	-	JAN-OCT	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	DEC-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	3	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2			-	JUN-JUL	-	APR-OCT	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	-
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder						2	2	2	2	2	2					-	-	-	MAR-AUG	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	5	5	5	5	3	-	OCT-NOV	OCT-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	3	3	3	-	NOV-DEC	APR-OCT	JAN-DEC	MAR-NOV
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	MAR-OCT
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	-	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	-	JAN-DEC	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	APR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
355	Alewife				2	2	2	2	2	2	2	2		2			-	NOV-NOV	-	JAN-AUG NOV-NOV	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-MAR	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-MAY
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	5	5	5	5	5	5	5	5	4	3	-	NOV-DEC	FEB-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	2	2	2	2	2	2	2	2		-	JUN-JUL	-	APR-NOV	JAN-MAY
	Bluefish						3	3	3	3	3	3	3	3	3		-	NOV-NOV	-	MAR-NOV	SEP-NOV
	Cobia								2	2	2	2	2				-	SEP-SEP	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder						2	2	2	2	2	2	2	2	2		-	SEP-OCT	-	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	MAY-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	APR-OCT	-	APR-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	5	5	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	SEP-NOV	-	SEP-NOV	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	APR-OCT	JAN-DEC	MAR-NOV
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	JAN-APR	JAN-DEC	APR-NOV
	Southern kingfish (whiting)						3	3	3	3	3	3	3	3	3		-	NOV-NOV	SEP-SEP	MAR-NOV	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	MAR-DEC
	Spotted seatrout				2	2	3	3	3	3	3	3	3	3	3	2	SEP-OCT	DEC-JAN	MAY-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	MAR-MAY	-	-	DEC-AUG	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	APR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	3	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
53	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

NORTH CAROLINA — ESIMAP 126 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
352	American oyster (eastern)				5	5	5	5	5	5	5	5	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	2	2	2	4	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-JUN	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	FEB-OCT	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-NOV	MAY-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
353	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				2	2	2	2	2	2	2	2	2	2	2	2	AUG-DEC	AUG-DEC	-	-	JAN-DEC
	Blue crab				3	3	3	4	4	4	4	4	4	4	4	3	-	APR-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-MAY	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	5	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	MAY-AUG	-	MAY-NOV	-
354	American oyster (eastern)				5	5	5	5	5	5	5	5	3	3	3	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	2	2	2	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-OCT	MAR-MAY AUG-OCT	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-JUN	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	4	4	FEB-OCT	MAR-NOV	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-OCT	-	MAY-NOV	-
355	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	3	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												2	2	2		SEP-NOV	SEP-NOV	-	-	SEP-NOV
	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	2	-	-	-	JAN-DEC	-
	Brackishwater clam				3	3	3	3	3	3	3	3	3	3	3	3	MAR-MAY AUG-AUG	MAR-MAY AUG-AUG	-	JAN-DEC	JAN-DEC
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-JUN	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	4	FEB-AUG	MAR-AUG	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	5	5	5	4	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	JUN-AUG	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HUMAN USE RESOURCES:

WATER_INTAKE:

RAR#	Name	Owner	Contact	Phone
H032	POWER PLANT COOLING INTAKE			

NORTH CAROLINA — ESIMAP 127

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
70	Piping plover	S/F	T/T				X	X	X	X	X	X	X				MAR-OCT	-	-	-
120	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X				MAR-OCT	-	-	-
	Wilson's plover			MED			X	X	X	X	X	X	X				-	-	-	-
121	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			MED				X	X	X	X	X	X				-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		-	-	-	-
	Seaside sparrow				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Sharp-tailed sparrow				X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
353	Alewife				2		2	2	2					1	2	2	-	OCT-NOV	-	NOV-JAN	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-FEB	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-APR
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	4	4	4	5	5	5	5	5	4	3	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	MAR-JUN	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	3	3	1	1		2	2	2	3	-	JUN-JUL	-	SEP-NOV	DEC-MAY
	Bluefish						3	3	3	3	3	3	3	3	3	1	-	NOV-DEC	-	MAR-NOV	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	JAN-APR	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	JUN-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	-	MAY-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	4	4	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	AUG-NOV	-	AUG-DEC	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	APR-JUL	NOV-DEC	APR-OCT	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	JUN-AUG	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	MAR-JUN	-	APR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAY-SEP	JAN-DEC	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	APR-DEC
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
353	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				2	2	2	2	2	2	2	2	2	2	2	2	AUG-DEC	AUG-DEC	-	-	JAN-DEC
	Blue crab				3	3	3	4	4	4	4	4	4	4	4	3	-	APR-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-MAY	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	5	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	MAY-AUG	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 128

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
122	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Common tern			MED				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	MAR-OCT	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
353	Alewife				2		2	2	2					1	2	2	-	OCT-NOV	-	NOV-JAN	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-FEB	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-APR
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	4	4	4	5	5	5	5	5	4	3	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	MAR-JUN	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	3	3	1	1		2	2	2	3	-	JUN-JUL	-	SEP-NOV	DEC-MAY
	Bluefish						3	3	3	3	3	3	3	3	3	1	-	NOV-DEC	-	MAR-NOV	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	JAN-APR	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	JUN-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	-	MAY-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	4	4	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	AUG-NOV	-	AUG-DEC	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	APR-JUL	NOV-DEC	APR-OCT	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	JUN-AUG	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	MAR-JUN	-	APR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAY-SEP	JAN-DEC	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	APR-DEC
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
353	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				2	2	2	2	2	2	2	2	2	2	2	2	AUG-DEC	AUG-DEC	-	-	JAN-DEC
	Blue crab				3	3	3	4	4	4	4	4	4	4	4	3	-	APR-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-MAY	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	5	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	MAY-AUG	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 129

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
70	Piping plover	S/F	T/T				X	X	X	X	X	X	X				MAR-OCT	-	-	-
122	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Common tern			MED				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	MAR-OCT	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
123	Piping plover	S/F	T/T	LOW	X	X	X	X				X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
124	Clapper rail			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sharp-tailed sparrow			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wood stork	S/F	E/E	MED						X	X	X	X				-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
353	Alewife				2		2	2	2					1	2	2	-	OCT-NOV	-	NOV-JAN	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-FEB	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-APR
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	4	4	4	5	5	5	5	5	4	3	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	MAR-JUN	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	3	3	1	1		2	2	2	3	-	JUN-JUL	-	SEP-NOV	DEC-MAY
	Bluefish						3	3	3	3	3	3	3	3	3	1	-	NOV-DEC	-	MAR-NOV	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	JAN-APR	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	JUN-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	-	MAY-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	4	4	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	AUG-NOV	-	AUG-DEC	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	APR-JUL	NOV-DEC	APR-OCT	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	JUN-AUG	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	MAR-JUN	-	APR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAY-SEP	JAN-DEC	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	APR-DEC
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
353	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				2	2	2	2	2	2	2	2	2	2	2	2	AUG-DEC	AUG-DEC	-	-	JAN-DEC
	Blue crab				3	3	3	4	4	4	4	4	4	4	4	3	-	APR-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-MAY	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	5	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	MAY-AUG	-	MAY-NOV	-
	SALINITY TIME PERIOD				T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 130

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
124	Clapper rail			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sharp-tailed sparrow			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wood stork	S/F	E/E	MED						X	X	X	X				-	-	-	-
127	Anhinga							X	X	X	X	X	X				-	-	-	-
	Common moorhen				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Waterfowl			LOW	X	X	X								X	X	-	-	-	-
	White ibis			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wood stork	S/F	E/E	HIGH						X	X	X	X				-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
128	Common merganser			LOW	X	X									X	X	-	-	-	-
	Red-breasted merganser			LOW	X	X									X	X	-	-	-	-
129	Black duck			MED	X	X									X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X						X	X	X	X	-	-	-	-
	Clapper rail			MED				X	X	X	X	X					APR-AUG	-	-	-
	Shorebirds			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wading birds			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
353	Alewife				2		2	2	2					1	2	2	-	OCT-NOV	-	NOV-JAN	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-FEB	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-APR
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	4	4	4	5	5	5	5	5	4	3	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	MAR-JUN	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	3	3	1	1		2	2	2	3	-	JUN-JUL	-	SEP-NOV	DEC-MAY
	Bluefish						3	3	3	3	3	3	3	3	3	1	-	NOV-DEC	-	MAR-NOV	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	JAN-APR	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	JUN-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	-	MAY-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	4	4	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	AUG-NOV	-	AUG-DEC	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	APR-JUL	NOV-DEC	APR-OCT	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	JUN-AUG	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	MAR-JUN	-	APR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAY-SEP	JAN-DEC	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	APR-DEC
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
127	American alligator	S	T		X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
353	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				2	2	2	2	2	2	2	2	2	2	2	2	AUG-DEC	AUG-DEC	-	-	JAN-DEC
	Blue crab				3	3	3	4	4	4	4	4	4	4	4	3	-	APR-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-MAY	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	5	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	MAY-AUG	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 131

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
124	Clapper rail			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Seaside sparrow			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sharp-tailed sparrow			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Snowy egret			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wood stork	S/F	E/E	MED						X	X	X	X				-	-	-	-
128	Common merganser			LOW	X	X									X	X	-	-	-	-
	Red-breasted merganser			LOW	X	X									X	X	-	-	-	-
129	Black duck			MED	X	X									X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X						X	X	X	X	-	-	-	-
	Clapper rail			MED				X	X	X	X	X					APR-AUG	-	-	-
	Shorebirds			MED		X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wading birds			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
130	Piping plover	S/F	T/T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
131	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			MED			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Caspian tern			MED	X	X		X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern			MED				X	X	X	X	X	X				-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			4			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Reddish egret			2					X	X	X	X	X	X			-	-	-	-
	Royal tern			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern			MED				X	X	X	X	X	X	X	X		-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			MED			X	X	X	X	X	X	X				-	-	-	-
132	Black scoter (common)			MED	X	X									X	X	-	-	-	-
	Bufflehead			MED	X	X									X	X	-	-	-	-
	Common goldeneye			MED	X	X									X	X	-	-	-	-
	Oldsquaw			MED	X	X									X	X	-	-	-	-
	Surf scoter			MED	X	X									X	X	-	-	-	-
133	Black-bellied plover			HIGH			X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Dowitcher			HIGH			X	X	X				X	X	X	X	-	-	-	-
	Dunlin			HIGH			X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gulls			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH			X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH			X	X	X				X	X	X		-	-	-	-
	Terns			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
134	Common loon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Red-throated loon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
353	Alewife				2		2	2	2					1	2	2	-	OCT-NOV	-	NOV-JAN	MAR-MAY
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	NOV-FEB	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	3	3	3	3	3	3	3	3	-	MAY-JUN	-	JAN-DEC	FEB-APR
	Atlantic croaker				5	5	5	5	5	5	5	5	5	5	5	5	-	-	OCT-APR	JAN-DEC	MAR-OCT
	Atlantic menhaden				3	3	4	4	4	5	5	5	5	5	4	3	-	NOV-DEC	DEC-MAY	JAN-DEC	JAN-DEC
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	3	3	3	3	3	3	3	3	-	OCT-NOV	MAR-JUN	JAN-DEC	JAN-DEC
	Blueback herring				3	3	3	3	3	1	1		2	2	2	3	-	JUN-JUL	-	SEP-NOV	DEC-MAY
	Bluefish						3	3	3	3	3	3	3	3	3	1	-	NOV-DEC	-	MAR-NOV	JUN-NOV
	Cobia								2	2	2	2	2	1			-	SEP-OCT	-	MAY-SEP	MAY-SEP
	Gray snapper								2	2	2	2	2	2			-	-	-	MAY-OCT	-
	Gulf flounder				2	2	2	2	2	2	2	2	2	2	2		-	SEP-OCT	JAN-APR	MAR-NOV	MAR-AUG
	Ladyfish						2	2	2	2	2	2	2	2	3		-	OCT-NOV	APR-JUN SEP-NOV	MAR-OCT	JUN-OCT
	Mummichog				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	-	MAY-NOV	JAN-DEC	JAN-DEC
	Pinfish				3	3	4	5	5	4	4	5	5	5	5	3	-	OCT-NOV	NOV-MAR	JAN-DEC	JAN-DEC
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	AUG-NOV	-	AUG-DEC	JAN-DEC	JAN-DEC
	Seatrout (weakfish)				3	3	3	3	4	4	4	4	4	4	3	3	APR-JUL	NOV-DEC	APR-OCT	JAN-DEC	JAN-DEC
	Sheepshead				2	2	2	2	3	3	3	3	3	3	3	3	-	-	JUN-AUG	JAN-DEC	JAN-DEC
	Sheepshead minnow				3	3	3	3	4	4	4	4	4	4	4	3	APR-OCT	-	APR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				3	3	3	3	4	4	4	4	4	4	4	3	MAR-JUN	-	APR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
	Southern kingfish (whiting)				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	MAY-SEP	JAN-DEC	MAR-NOV
	Spanish mackerel									3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	JUN-OCT
	Spot				5	5	5	5	5	5	5	5	5	5	5	5	-	DEC-JAN	DEC-MAY	JAN-DEC	APR-DEC
	Spotted seatrout				3	3	3	3	3	3	3	3	3	3	3	3	APR-OCT	DEC-JAN	APR-OCT	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	-	JAN-DEC
	Striped mullet				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	MAR-NOV
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
59	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
130	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
353	American oyster (eastern)				5	5	5	5	5	5	5	5	5	5	5	5	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				2	2	2	2	2	2	2	2	2	2	2	2	AUG-DEC	AUG-DEC	-	-	JAN-DEC
	Blue crab				3	3	3	4	4	4	4	4	4	4	4	3	-	APR-DEC	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel				4	4	4	4	4	4	4	4	4	4	4	4	-	DEC-FEB	-	JAN-DEC	-
	Brown shrimp				3	3	3	3	5	5	5	5	2	2	2	2	-	MAR-MAY	-	JAN-DEC	-
	Grass shrimp				4	4	5	5	5	5	4	4	4	4	5	5	-	-	-	JAN-DEC	JAN-DEC
	Pink shrimp									3	4	4	4	4	4	4	-	JUN-OCT	-	JUL-DEC	-
	Quahog spp. (hard clam)				5	5	5	5	5	5	5	5	5	5	5	5	APR-NOV	APR-DEC	-	JAN-DEC	JAN-DEC
	White shrimp								5	5	5	5	5	5	5		-	MAY-AUG	-	MAY-NOV	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

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BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
18	Canada goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			LOW	X	X	X	X						X	X	X	-	-	-	-
64	American coot			32	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			29	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			120	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			76	X	X	X	X							X	X	-	-	-	-
	Canada goose			26	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			12	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			740	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			76	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			44	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			36	X	X	X	X					X	X	X	X	-	-	-	-
	Ring-necked duck			5	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			190	X	X	X	X						X	X	X	-	-	-	-
	Scaup			30	X	X	X	X						X	X	X	-	-	-	-
	Scoter			23	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			7	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			260	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			4	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
125	American wigeon			4	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			44	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			78	X	X	X	X							X	X	-	-	-	-
	Canvasback			2	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			3	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			2	X	X	X								X	X	-	-	-	-
	Green-winged teal			12	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			134	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			5	X	X	X	X	X					X	X	X	-	-	-	-
	Ring-necked duck			30	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			832	X	X	X	X						X	X	X	-	-	-	-
	Scaup			1	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			20	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
126	American wigeon			20	X	X	X	X					X	X	X	X	-	-	-	-
	Bufflehead			2	X	X	X	X							X	X	-	-	-	-
	Canada goose			15	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			30	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Mallard			40	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Ruddy duck			4	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			340	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			2275	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			10	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
151	American wigeon			31	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gadwall			190	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1300	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			74	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			870	X	X	X	X					X	X	X	X	-	-	-	-
152	American coot			1500	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			480	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			74	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			66	X	X	X	X							X	X	-	-	-	-
	Canada goose			350	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			360	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			1900	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			45	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			12000	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			1400	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			230	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			870	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			8700	X	X	X	X						X	X	X	-	-	-	-
	Scaup			140	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			3000	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			2	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
266	Merganser			10000	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
272	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	FEB-JUN
	Atlantic croaker				3	4	4	4	5	5	5	5	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	4	5	5	4	4	4	4	4	3	-	-	JAN-MAY	JAN-DEC	-
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				4	4	4	4	5	5	5	5	5	5	5	4	-	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				2	2	2	2	2	2	2	2	2	2	2	2	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							2	2	2	2	2	2	2			-	OCT-OCT	-	APR-OCT	JUN-OCT
	Gray snapper										2	2	2	2			-	-	-	JUL-OCT	-
	Ladyfish							2	2	2	2	2	2	2			-	-	-	APR-OCT	-
	Mummichog				2	2	2	2	2	2	2	2	2	2	2	2	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				2	2	2	2	2	2	2	2	2	2	2	2	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum					2	2	2	2	2	2	2	2	2	2		-	-	-	FEB-NOV	-
	Seatrout (weakfish)				2	2	2	2	2	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	-
	Sheepshead									2	2	2	2				-	SEP-SEP	-	JUN-SEP	JUN-SEP
	Sheepshead minnow				2	2	2	2	2	2	2	2	2	2	2	2	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Spanish mackerel								2	2	2	2	2	2	2		-	OCT-NOV	-	MAY-NOV	-
	Spot				4	4	4	4	5	5	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	APR-OCT
	Spotted seatrout				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	JAN-DEC
	Striped bass				4	4	4	4	4	4	4	4	4	4	4	4	-	-	APR-JUN	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	3	3	3	3	4	4	4	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				2	2	2	2	2	2	2	2	2	2	2	2	-	DEC-JAN	-	JAN-DEC	MAR-DEC
	White perch				4	4	4	4	4	4	4	4	4	4	4	4	APR-JUN	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
4	Carolina grasswort	S	T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
149	American alligator	S	T	LOW	X	X	X	X	X	X	X	X	X	X	X	X	JUN-JUL	AUG-SEP	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
272	Blue crab				4	4	4	4	4	4	4	4	4	4	4	4	-	-	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	AUG-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY	MAR-JUN	-	JAN-DEC	JAN-DEC
	Grass shrimp				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	White shrimp									4	4	4	4				-	JUN-SEP	-	-	-
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 133

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
3	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
176	American coot			65	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			8	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			33	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			150	X	X	X	X							X	X	-	-	-	-
	Canada goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			775	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			47	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			12	X	X	X								X	X	-	-	-	-
	Green-winged teal			330	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			18	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			4303	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			220	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			1995	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			309	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			346	X	X	X	X						X	X	X	-	-	-	-
	Scaup			2235	X	X	X	X						X	X	X	-	-	-	-
	Scoter			648	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			80	X	X	X	X						X	X	X	-	-	-	-
179	American coot			10	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			12	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			50	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead				X	X	X	X							X	X	-	-	-	-
	Canada goose			2	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback				X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			71	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye				X	X	X								X	X	-	-	-	-
	Green-winged teal			490	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser				X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			330	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead				X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck				X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck				X	X	X	X						X	X	X	-	-	-	-
	Scaup				X	X	X	X						X	X	X	-	-	-	-
	Scoter				X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			120	X	X	X	X						X	X	X	-	-	-	-
208	American avocet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 133 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
208	Black-necked stilt							X	X	X	X	X	X				-	-	-	-
	Blue-winged teal			LOW						X							-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Common snipe			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Goldeneye			LOW	X	X	X								X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Hooded merganser			HIGH	X	X	X	X							X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Lesser yellowlegs			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Long-billed dowitcher			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Pectoral sandpiper			HIGH				X			X	X	X	X			-	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Red-breasted merganser			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			MED	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			MED	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			MED	X	X	X	X						X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snow goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Stilt sandpiper			HIGH				X	X		X	X	X	X			-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White-rumped sandpiper								X	X		X	X	X			-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
209	American avocet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-necked stilt			LOW				X	X	X	X	X	X				-	-	-	-
	Blue-winged teal			LOW						X							-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Common snipe			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Goldeneye			LOW	X	X	X								X	X	-	-	-	-
	Great blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Hooded merganser			HIGH	X	X	X	X							X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Lesser yellowlegs			HIGH	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Long-billed dowitcher			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Northern pintail			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Pectoral sandpiper			HIGH				X			X	X	X	X			-	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Red-breasted merganser			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Redhead			MED	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			MED	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			MED	X	X	X	X						X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Scaup			LOW	X	X	X	X						X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snow goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Stilt sandpiper			HIGH				X	X		X	X	X	X			-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 133 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
209	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
210	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer			HIGH			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Terns			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
211	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
287	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	4	4	4	4	4	4	3		-	OCT-NOV	-	APR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	-	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	-	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	-	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	MAY-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3			2	3	3	3	3	3	3	3	3	-	SEP-OCT	-	APR-JAN	JUN-OCT
	Sheepshead minnow				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	OCT-NOV	JAN-MAR	JAN-DEC	JAN-JAN MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	DEC-JAN	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
288	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	JUN-JUL	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 133 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
288	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	OCT-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	-	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	-	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	SEP-OCT	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
291	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	4	4	4	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	4	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAY-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	2	2	2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish							3	4	4	4	4	4	4	3		-	NOV-NOV	-	APR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	3	3	3	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	3	3	3	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	MAY-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
	Sheepshead				3			2	3	3	3	3	3	3	3	3	-	NOV-DEC	-	APR-JAN	JUN-OCT
	Sheepshead minnow				4	2	2	2	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-MAR	JAN-DEC	JAN-JAN MAY-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 133 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
292	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
210	Green sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
212	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
287	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
288	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
291	American oyster (eastern)				3	2	2	2	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	4	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	2	4	4	4	4	3	3	3	2	-	JAN-JAN MAY-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	3	3	3	4	4	4	4	4	4	4	4	APR-AUG	APR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	2	2	2	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	2	2	2	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HUMAN USE RESOURCES:

WATER_INTAKE:

RAR#	Name	Owner	Contact	Phone
H704	PEA ISLAND NWR IMPOUNDMENTS	USFWS		(919)987-2394

NORTH CAROLINA — ESIMAP 134

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
147	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
177	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			120	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bufflehead			340	X	X	X	X							X	X	-	-	-	-
	Canada goose			10	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			70	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Goldeneye			30	X	X	X								X	X	-	-	-	-
	Green-winged teal			130	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			86	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			1500	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			340	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			850	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			147	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			2	X	X	X	X						X	X	X	-	-	-	-
	Scaup			65	X	X	X	X						X	X	X	-	-	-	-
	Scoter			65	X	X	X	X						X	X	X	-	-	-	-
	Whistling swan (tundra swan)			10	X	X	X	X						X	X	X	-	-	-	-
219	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	American wigeon			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			VERY HIGH	X	X	X	X	X						X	X	-	-	-	-
	Dunlin			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
220	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
221	American oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Gull-billed tern							X	X	X	X	X	X				-	-	-	-
	Herring gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Laughing gull			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			HIGH			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 134 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
221	Ring-billed gull			HIGH	X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
222	Brown pelican			300	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Double-crested cormorant			300	X	X							X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
223	Brant			500	X	X	X	X	X						X	X	-	-	-	-
224	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Brown pelican			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Cattle egret						X	X	X	X	X	X	X	X	X		APR-SEP	APR-JUL	MAY-JUL	JUN-SEP
	Double-crested cormorant			VERY HIGH	X	X							X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
225	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
227	American oystercatcher				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			MAR-SEP	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
273	American coot			MED	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Gadwall			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			LOW	X	X	X	X						X	X	X	-	-	-	-
	Scaup			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Scoter			HIGH	X	X	X	X						X	X	X	-	-	-	-
	Snow goose			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			MED	X	X	X	X						X	X	X	-	-	-	-
274	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Oldsquaw			LOW	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 134 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
221	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
227	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
212	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 135

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
23	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X	X	X	X						X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Clapper rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Northern harrier				X	X	X	X					X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
28	Common loon			MED	X	X	X	X	X						X	X	-	-	-	-
	Northern gannet			MED	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Red-throated loon			MED	X	X	X	X							X	X	-	-	-	-
	Scoter			MED	X	X	X	X						X	X	X	-	-	-	-
135	Black skimmer			3			X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Common tern			4				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Royal tern			656	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Sandwich tern			614				X	X	X	X	X	X	X	X		APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
166	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
191	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
192	American coot			5	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			120	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			100	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			11	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			28	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			130	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			86	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			11	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			10	X	X	X	X						X	X	X	-	-	-	-
194	Black scoter (common)			200	X	X	X	X	X					X	X	X	-	-	-	-
	Bufflehead			3450	X	X	X	X							X	X	-	-	-	-
	Canvasback			17700	X	X	X	X					X	X	X	X	-	-	-	-
	Common merganser			30	X	X									X		-	-	-	-
	Hooded merganser			50	X	X	X	X							X	X	-	-	-	-
	Oldsquaw			HIGH	X	X	X								X	X	-	-	-	-
	Red-breasted merganser			50	X	X	X	X	X				X	X	X	X	-	-	-	-
	Redhead			1200	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			450	X	X	X	X						X	X	X	-	-	-	-
	Ruddy duck			35	X	X	X	X						X	X	X	-	-	-	-
	Scaup			10950	X	X	X	X						X	X	X	-	-	-	-
	Surf scoter			250	X	X	X	X	X					X	X	X	-	-	-	-
195	American coot			600	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			860	X	X	X	X					X	X	X	X	-	-	-	-
	Bald eagle	S/F	E/T		X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black duck			806	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			60	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Canada goose			40	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			282	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			114	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			100	X	X	X	X					X	X	X	X	-	-	-	-
	Northern shoveler			10	X	X	X	X					X	X	X	X	-	-	-	-
	Snow goose			1	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			480	X	X	X	X						X	X	X	-	-	-	-
	Wood duck			250	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
196	Osprey						X	X	X	X	X	X	X	X			APR-JUL	-	-	-
198	American coot			8	X	X	X	X	X				X	X	X	X	-	-	-	-
	American wigeon			180	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			150	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Canada goose			17	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			42	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			190	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			130	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern pintail			16	X	X	X	X					X	X	X	X	-	-	-	-
	Whistling swan (tundra swan)			14	X	X	X	X						X	X	X	-	-	-	-
199	Common tern			10				X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern			134	X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
231	Piping plover	S/F	T/T				X	X	X	X	X	X	X				MAR-OCT	-	-	-
232	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Double-crested cormorant			MED	X	X							X	X	X	X	-	-	-	-
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
233	American oystercatcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Brown pelican				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 135 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
233	Canada goose			HIGH	X	X	X	X					X	X	X	X	-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	MAR-AUG	MAR-MAY	APR-JUN	MAY-AUG
	Greater yellowlegs			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	MAY-JUL	JUN-AUG
	Least sandpiper			MED	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Marbled godwit			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Redhead			VERY HIGH	X	X	X	X						X	X	X	-	-	-	-
	Ruddy turnstone			MED	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			MED				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-JUN	APR-JUL	MAY-AUG
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	APR-JUN	JUN-AUG
	Western sandpiper			MED	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			MED				X	X		X	X	X	X			-	-	-	-
	Willet			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
234	Brant			HIGH	X	X	X	X	X						X	X	-	-	-	-
	Great black-backed gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	APR-MAY	MAY-JUL	JUL-AUG
	Herring gull				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	JUN-JUL	JUL-AUG
235	Forster's tern				X	X	X	X	X	X	X	X	X	X	X	X	APR-AUG	MAY-JUN	MAY-JUL	JUL-AUG
236	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern				X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
237	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer						X	X	X	X	X	X	X	X	X	X	MAY-SEP	MAY-JUN	MAY-JUL	JUL-AUG
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern											X	X	X	X		-	-	-	-
	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
	Double-crested cormorant			HIGH	X	X							X	X	X	X	-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern				X	X							X	X	X	X	-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern			LOW			X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Merlin				X	X	X	X	X				X	X	X	X	-	-	-	-
	Osprey						X	X	X	X	X	X	X	X			-	-	-	-
	Peregrine falcon	S/F	E/E		X	X	X	X					X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	LOW			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern				X	X				X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			LOW			X	X	X	X	X	X	X				-	-	-	-
238	American oystercatcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black-bellied plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Curlew sandpiper										X	X					-	-	-	-
	Dunlin			HIGH	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Greater yellowlegs			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			HIGH	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Long-billed curlew				X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Marbled godwit			VERY HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Piping plover	S/F	T/T	HIGH			X	X	X	X	X	X	X	X			MAR-OCT	-	-	-
	Red knot			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ruddy turnstone			HIGH	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated plover			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			HIGH				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			HIGH	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			HIGH				X	X		X	X	X	X			-	-	-	-
	Willet			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover			HIGH			X	X	X	X	X	X	X				-	-	-	-
239	Black-crowned night heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Glossy ibis							X	X	X	X	X					-	-	-	-
	Great egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Little blue heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Snowy egret				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Tricolored heron				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	White ibis				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Yellow-crowned night heron							X	X	X	X	X	X				-	-	-	-
246	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer												X	X	X		-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern												X	X	X		-	-	-	-
	Common tern												X	X	X		-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern												X	X	X		-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-

NORTH CAROLINA — ESIMAP 135 (continued)

BIOLOGICAL RESOURCES:

BIRD:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Laying	Hatching	Fledging
246	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Least tern						X	X	X	X	X	X	X				APR-AUG	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern												X	X	X		-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern												X	X	X		-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Wilson's plover						X	X	X	X	X	X	X				-	-	-	-
248	American oystercatcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Black skimmer												X	X	X		-	-	-	-
	Black-bellied plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Bonaparte's gull				X	X							X	X	X	X	-	-	-	-
	Caspian tern												X	X	X		-	-	-	-
	Common tern												X	X	X		-	-	-	-
	Dunlin			LOW	X	X	X	X	X	X			X	X	X	X	-	-	-	-
	Forster's tern												X	X	X		-	-	-	-
	Great black-backed gull				X	X							X	X	X	X	-	-	-	-
	Greater yellowlegs			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Herring gull				X	X							X	X	X	X	-	-	-	-
	Laughing gull				X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Least sandpiper			LOW	X	X	X	X	X		X	X	X	X	X		-	-	-	-
	Marbled godwit			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Red knot			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Ring-billed gull				X	X							X	X	X	X	-	-	-	-
	Royal tern												X	X	X		-	-	-	-
	Ruddy turnstone			LOW	X	X	X	X	X	X		X	X	X	X	X	-	-	-	-
	Sanderling			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Sandwich tern												X	X	X		-	-	-	-
	Semipalmated plover			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Semipalmated sandpiper			LOW				X	X	X	X	X	X	X			-	-	-	-
	Short-billed dowitcher			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Western sandpiper			LOW	X	X	X	X			X	X	X	X	X	X	-	-	-	-
	Whimbrel			LOW				X	X		X	X	X	X			-	-	-	-
	Willet			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
249	American wigeon			1244	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			752	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Blue-winged teal			35	X	X	X	X	X		X	X	X	X	X	X	-	-	-	-
	Bufflehead			602	X	X	X	X							X	X	-	-	-	-
	Canada goose			27	X	X	X	X					X	X	X	X	-	-	-	-
	Canvasback			1650	X	X	X	X					X	X	X	X	-	-	-	-
	Gadwall			450	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Green-winged teal			140	X	X	X	X					X	X	X	X	-	-	-	-
	Mallard			58	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			954	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			470	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			4300	X	X	X	X						X	X	X	-	-	-	-
	Ring-necked duck			1000	X	X	X	X						X	X	X	-	-	-	-
	Scaup			703	X	X	X	X						X	X	X	-	-	-	-
250	American bittern			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Clapper rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Northern harrier			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Seaside sparrow			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Virginia rail			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
251	Common tern							X	X	X	X	X	X				APR-AUG	MAY-JUL	MAY-JUL	JUN-AUG
272	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			MED	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Goldeneye			LOW	X	X	X								X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			LOW	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Redhead			VERY HIGH	X	X	X	X						X	X	X	-	-	-	-
274	American wigeon			LOW	X	X	X	X					X	X	X	X	-	-	-	-
	Black duck			MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Brant			MED	X	X	X	X	X						X	X	-	-	-	-
	Bufflehead			HIGH	X	X	X	X							X	X	-	-	-	-
	Canada goose			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Double-crested cormorant			LOW	X	X							X	X	X	X	-	-	-	-
	Mallard			LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-
	Merganser			HIGH	X	X	X	X	X					X	X	X	-	-	-	-
	Northern pintail			MED	X	X	X	X					X	X	X	X	-	-	-	-
	Oldsquaw			LOW	X	X	X								X	X	-	-	-	-

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
290	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
292	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 135 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
292	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-JAN
																					APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	JAN-DEC
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
293	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	OCT-NOV	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia												3	1	1		-	SEP-OCT	SEP-NOV	SEP-SEP	SEP-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder												3	3	3		-	NOV-NOV	-	SEP-NOV	SEP-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	SEP-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	SEP-SEP	APR-DEC	SEP-OCT
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	SEP-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	2	2	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	4	4	4	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
301	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	3	3	3	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	APR-AUG
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	MAY-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	MAR-APR	SEP-OCT	MAR-MAY	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Ladyfish				3	3	3	3	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	MAY-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	-	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAY-OCT	OCT-NOV	-	JAN-DEC	MAY-JAN
	Sheepshead				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	-	APR-DEC	-
	Spanish mackerel										3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	-
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	APR-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				3	3	3	3	3	3	3	3	3	3	3	3	-	-	-	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	-	JAN-DEC	JAN-DEC
	Summer flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
306	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	MAR-APR	JAN-DEC	JAN-SEP
	American eel				3	4	4	4	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	3	3	5	5	5	4	4	4	3	3	3	-	-	OCT-JAN	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	AUG-SEP	-	JAN-DEC	MAY-AUG
	Bay anchovy				5	4	4	4	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3		3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAR-JAN	JUN-NOV
	Blueback herring				2	2	2	2	3	3	3	3	3	3	3	2	-	SEP-OCT	MAR-APR	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	MAY-NOV
	Cobia				1				3	3	3	3	3	1	1	1	-	SEP-OCT	MAY-JAN	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-NOV
	Ladyfish				3			2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-JAN	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-JAN	JAN-DEC	MAY-OCT
	Red drum				3		3	3	3	3	3	3	3	3	3	3	-	-	JUL-DEC	MAR-JAN	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAY-NOV	JAN-DEC	MAR-JAN
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 135 (continued)

BIOLOGICAL RESOURCES:

FISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Outmig.	Larvae	Juveniles	Adults
306	Sheepshead				3				3	3	3	3	3	3	3	3	-	NOV-DEC	-	MAY-JAN	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)								3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	MAY-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	3	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-FEB	JAN-DEC	JAN-JAN MAR-NOV
	Spotted seatrout				3	2	3	3	3	3	4	4	4	3	3	3	MAY-SEP	DEC-JAN	MAY-NOV	JAN-DEC	MAR-JAN
	Striped bass				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-APR	JAN-DEC	JAN-DEC
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	DEC-JAN	JAN-DEC	APR-JAN
	Summer flounder				4	3	3	3	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-MAR	JAN-DEC	MAR-JAN
	White perch				2	3	3	3	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
312	Alewife				2	2	2	2	3	3	3	3	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-OCT
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2	2	2	2	2	2	2	2	-	MAY-JUN	-	JAN-DEC	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	4	4	4	4	3	3	-	-	SEP-APR	JAN-DEC	DEC-OCT
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2	2	2	2	2	2	2	2	-	-	APR-JUL	JAN-DEC	JAN-DEC
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper										3	3	3	3	3		-	-	-	JUL-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	3	3	3	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	JUN-SEP
	Mummichog				4	4	4	4	4	4	4	4	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	4	4	4	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	SEP-SEP	-	JUL-DEC	JAN-DEC	APR-NOV
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	3	3	3	3	4	4	3	-	NOV-DEC	SEP-NOV	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	3	3	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUL-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUL-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	4	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	3	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	DEC-OCT
	Striped mullet				3	3	3	3	4	4	4	4	4	4	3	3	-	NOV-DEC	OCT-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2	2	2	2	3	3	3	2	-	-	APR-JUL	DEC-AUG	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	Alewife				2	2	2	2	3	2	2	2	3	3	3	2	-	OCT-NOV	-	JAN-DEC	JAN-MAY SEP-SEP
	American eel				3	3	3	3	3	3	3	3	3	3	3	3	-	AUG-DEC	JAN-MAY	JAN-DEC	AUG-DEC
	American shad				2	2	2	2	2				2	2	2	2	-	MAY-MAY	-	SEP-MAY	JAN-MAY
	Atlantic croaker				3	5	5	5	5	5	5	5	4	3	3	3	-	-	OCT-APR	JAN-DEC	JAN-DEC
	Atlantic menhaden				3	4	5	5	5	5	4	4	4	4	4	3	-	-	NOV-MAY	JAN-DEC	MAR-NOV
	Atlantic sturgeon				2	2	2	2	2				2	2	2	2	-	SEP-SEP	-	SEP-MAY	APR-MAY
	Bay anchovy				5	5	5	5	5	5	5	5	5	5	5	5	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Black drum				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Blueback herring				2	2	2	2	3	2	2	2	3	3	3	2	-	SEP-OCT	-	JAN-DEC	FEB-MAY SEP-SEP
	Bluefish						3	3	4	4	4	4	4	4	3		-	NOV-NOV	-	MAR-NOV	APR-MAY JUL-NOV
	Cobia				1	1	1	1	3	3	3	3	3	1	1	1	-	SEP-OCT	JAN-DEC	MAY-SEP	MAY-SEP
	Gray snapper									3	3	3	3	3	3		-	-	-	JUN-NOV	-
	Gulf flounder				3	3	3	3	3	3	3	3	3	3	3	3	-	NOV-DEC	-	JAN-DEC	JUN-NOV
	Ladyfish				3	3	3	2	2	2	2	2	3	3	3	3	-	SEP-OCT	SEP-APR	APR-SEP	SEP-SEP
	Mummichog				4	4	4	4	4	5	5	5	4	4	4	4	APR-SEP	-	APR-OCT	JAN-DEC	JAN-DEC
	Pinfish				4	4	4	4	4	5	5	5	4	4	4	4	-	OCT-NOV	DEC-APR	JAN-DEC	MAY-OCT
	Red drum				3	3	3	3	3	3	3	3	3	3	3	3	JUL-AUG	-	JUL-DEC	JAN-DEC	APR-OCT
	Seatrout (weakfish)				2	2	3	3	4	4	4	4	4	3	3	2	MAR-OCT	OCT-NOV	MAR-NOV	JAN-DEC	JAN-DEC
	Sheepshead				3	3	3	3	3	4	4	4	3	3	3	3	JUN-JUL	NOV-DEC	JUN-JUL	JAN-DEC	JUN-OCT
	Sheepshead minnow				4	4	4	4	4	4	4	4	4	4	4	4	MAR-OCT	-	MAR-OCT	JAN-DEC	JAN-DEC
	Shortnose sturgeon	S/F	E/E		2	2	2	2	2	2	2	2	2	2	2	2	-	FEB-JUN	JAN-DEC	APR-SEP	JAN-DEC
	Silversides				4	4	4	4	4	4	4	4	4	4	4	4	MAR-JUN	-	MAR-AUG	JAN-DEC	JAN-DEC
	Southern flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	NOV-DEC	DEC-MAR	JAN-DEC	JAN-DEC
	Southern kingfish (whiting)							2	3	4	4	3	3	3	3	3	-	OCT-NOV	JUN-SEP	APR-DEC	JUN-OCT
	Spanish mackerel								3	3	3	3	3	3	3		-	OCT-NOV	-	JUN-NOV	MAY-OCT
	Spot				4	4	4	5	5	5	5	5	5	4	4	4	-	DEC-JAN	JAN-APR	JAN-DEC	JAN-NOV
	Spotted seatrout				3	3	3	3	3	4	4	4	4	3	3	3	APR-SEP	DEC-JAN	APR-NOV	JAN-DEC	JAN-DEC
	Striped bass				2	2	2	2	2	2	2	2	2	2	2	2	-	-	-	JAN-DEC	SEP-MAY
	Striped mullet				3	3	3	3	4	4	3	3	4	4	3	3	-	NOV-DEC	DEC-APR	JAN-DEC	JAN-DEC
	Summer flounder				4	4	4	4	4	4	4	4	4	4	4	4	-	JAN-FEB	DEC-APR	JAN-DEC	JAN-DEC
	White perch				2	2	2	2	2				2	2	2	2	-	-	APR-MAY	SEP-MAY	SEP-MAY
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					

HABITAT:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D
6	Seabeach amaranth	S/F	T/T		X	X	X	X	X	X	X	X	X	X	X	X

REPTILE:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Nesting	Hatching	Internesting
28	Green sea turtle	S/F	T/T	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Hawksbill sea turtle	S/F	E/E	LOW	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Kemp's ridley sea turtle	S/F	E/E	MED	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
	Leatherback sea turtle	S/F	E/E	LOW					X	X							-	-	-
	Loggerhead sea turtle	S/F	T/T	HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-
166	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
236	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
237	Green sea turtle	S/F	T/T	LOW					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-
	Loggerhead sea turtle	S/F	T/T	HIGH					X	X	X	X	X	X	X		MAY-AUG	JUL-NOV	-

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
240	Atlantic bay scallop			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
247	Quahog spp. (hard clam)			HIGH	X	X	X	X	X	X	X	X	X	X	X	X	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
290	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	-	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
292	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					

NORTH CAROLINA — ESIMAP 135 (continued)

BIOLOGICAL RESOURCES:

SHELLFISH:

RAR#	Species	S/F	T/E	Concen	J	F	M	A	M	J	J	A	S	O	N	D	Spawning	Larvae	Mating	Juveniles	Adults
292	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
293	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop												4	4	4		-	SEP-NOV	-	SEP-NOV	SEP-NOV
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-NOV
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	SEP-OCT	SEP-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
301	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	MAY-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAY-AUG	MAY-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	JAN-DEC	JAN-DEC
	White shrimp				3				3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-JAN MAY-NOV	-
302	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	3	3	3	2	-	JAN-MAY	-	JAN-DEC	-
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	-
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	-	-	-	-	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	-
306	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4				4	4	4	4	4	4	4	4	-	AUG-DEC	-	MAY-JAN	MAY-JAN
	Blue crab				4	4	4	5	5	5	4	4	4	4	4	4	-	APR-SEP	MAY-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-NOV	MAR-JUN AUG-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	2	3	4	4	4	4	3	3	3	2	-	JAN-JAN APR-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3		3	4	4	4	4	4	4	4	4	3	-	-	-	APR-JAN	MAY-JUN SEP-JAN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
312	American oyster (eastern)				3	3	3	3	3	3	3	3	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	SEP-NOV	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	5	4	4	4	3	3	4	-	APR-NOV	MAR-OCT	JAN-DEC	JAN-DEC
	Brackishwater clam				4	4	4	4	4	4	4	4	4	4	4	4	MAR-MAY AUG-AUG	MAR-JUN AUG-AUG DEC-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	4	4	4	4	3	3	2	-	JAN-MAY	-	JAN-DEC	JUL-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	-	-	JAN-DEC	SEP-JUN
	Quahog spp. (hard clam)				4	4	4	4	4	4	4	4	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					T	L	L	L	T	T	T	T	H	H	H	T					
318	American oyster (eastern)				3	3	3	3	3	4	4	4	3	3	3	3	MAY-NOV	MAY-NOV	-	JAN-DEC	JAN-DEC
	Atlantic bay scallop				4	4	4	4	4	4	4	4	4	4	4	4	AUG-AUG	AUG-DEC	-	JAN-DEC	JAN-DEC
	Blue crab				4	4	5	5	5	4	4	4	4	4	4	4	-	APR-SEP	MAR-OCT	JAN-DEC	JAN-DEC
	Blue mussel									2							-	-	-	JUN-JUN	-
	Brackishwater clam				4	4	4	4	4	2	2	2	4	4	4	4	MAR-MAY SEP-NOV	MAR-MAY SEP-DEC	-	JAN-DEC	JAN-DEC
	Brown shrimp				2	2	3	3	4	5	5	5	3	3	3	2	-	JAN-JUN	-	JAN-DEC	SEP-SEP
	Grass shrimp				4	4	4	4	4	4	4	4	4	4	4	4	MAR-AUG	MAR-SEP	-	JAN-DEC	JAN-DEC
	Pink shrimp				3	3	3	3	4	4	4	4	4	4	4	3	-	JUN-AUG	-	JAN-DEC	SEP-MAY
	Quahog spp. (hard clam)				4	4	4	4	4	5	5	5	4	4	4	4	MAY-OCT	MAY-NOV	-	JAN-DEC	JAN-DEC
	White shrimp				3	3	3	3	3	3	3	3	3	3	3		-	JUN-SEP	-	JAN-NOV	SEP-NOV
SALINITY TIME PERIOD					L	L	L	T	T	H	H	H	T	T	T	T					