

Suggestions of species to be considered by the New England
and Middle Atlantic Councils for management from catch
and distributional data in ICNAF Subareas 5 and 6

by

Resource Assessment Division

Northeast Fisheries Center
Woods Hole Laboratory
Laboratory Reference No. 76-16
11/1/76

Mean commercial catch (10-year) of individual species in Subarea 5 and Statistical Area 6.

Species	Ten-year mean catch (metric tons)	
	SA 5	SA 6
Cod ¹	40038.6	427.7
Haddock ²	51523.9	24.9
Redfish ³	12826.4	13.1
Silver hake ⁴	134945.7	23010.0
Red hake ⁵	45162.6	11504.4
Pollock ⁶	10328.0	141.6
Yellowtail ⁷	33667.7	4537.2
American plaice ⁸	3505.4	17.4
Witch flounder ⁹	3543.5	57.1
Winter flounder ¹⁰	12512.2	1234.5
Summer flounder ¹¹	495.3	3201.6
Flounder (NS)	430.9	1030.8
Herring ¹²	233548.7	20848.4
Mackerel ¹³	88918.4	64996.9
Cunner ¹⁴	8.0	0.2
Angler ¹⁵	2195.0	202.0
Cusk ¹⁶	1589.6	0.3
K. whiting ¹⁷	2.0	100.6
Northern puffer ¹⁸	-	870.5
Ocean pout ¹⁹	8349.3	460.7
Sandeels ²⁰	22.4	57.4
Sculpins ²¹	4787.1	822.4
Scup ²²	2673.6	6348.3
Searobin ²³	609.5	1804.6
Tautog ²⁴	26.7	27.7
Tilefish ²⁵	134.8	71.4
White hake ²⁶	2020.7	43.9
Wolffish ²⁷	310.3	7.0
Groundfish (NS)	8613.9	15292.2
Anchovies ²⁸	3.6	2.4
Bluefish ²⁹	144.5	1338.5
Butterfish ³⁰	3794.8	4984.6
Pelagics (NS)	314.5	137.7
Alewife ³¹	11503.5	20156.0
Argentine ³²	10621.3	198.6
Atlantic croaker ³³	-	401.6
Silversides ³⁴	-	55.7
Black drum ³⁵	-	86.5
Black sea bass ³⁶	183.8	1570.2
Cobia ³⁷	-	1.1
Common pompano ³⁸	-	1.3
Conger eels ³⁹	-	1325.7

Mean commercial catch (10-year) of individual species in Subarea 5 and Statistical Area 6. (continued)

Species	Ten-year mean catch (metric tons)	
	SA 5	SA 6
Dogfish ⁴⁰	5355.9	2224.0
American eels ⁴¹	153.2	604.0
Frigate mackerel ⁴²	-	1.1
Gizzard shad ⁴³	-	29.9
Grunts ⁴⁴	1.0	5.8
Hickory shad ⁴⁵	-	40.6
King mackerel ⁴⁶	-	5.7
Mulletts ⁴⁷	-	83.3
Harvestfish ⁴⁸	-	61.5
Red drum ⁴⁹	-	9.6
Scads ⁵⁰	58.3	6.6
American shad ⁵¹	123.1	2072.7
Sheepshead ⁵²	0.2	85.8
Skates ⁵³	5546.0	149.2
Smelts ⁵⁴	83.9	0.5
Spanish mackerel ⁵⁵	-	50.1
Spot ⁵⁶	-	1327.6
Spotted seatrout ⁵⁷	-	162.3
Weakfish ⁵⁸	5.3	2012.7
Striped bass ⁵⁹	334.1	4024.6
Sturgeon ⁶⁰	0.7	31.1
White perch ⁶¹	11.6	1026.6
Pigfish ⁶²	-	11.2
Amberjacks ⁶³	-	2.0
Finfish (NS)	12895.7	5734.2
Squid (NS)	7513.2	6000.8
Loligo ⁶⁶	1377.1	1239.6
Illex ⁶⁷	258.3	226.8
Crabs ⁶⁸	892.0	336.0
Lobster ⁶⁸	10896.0	1474.0
Shrimps ⁶⁸	8950.0	731.0
Surf clam ⁶⁸	17.0	190477.0
Ocean quahog ⁶⁸	1745.0	-
Sea scallop ⁶⁸	52650.0	20701.0

Area Consideration Based on Fishery and Stock Distribution

Species	New England	Mid-Atlantic
Cod ¹	X	X
Haddock ²	X	
Redfish ³	X	
Silver hake ⁴	X	X
Red hake ⁵	X	X
Pollock ⁶	X	X
Yellowtail ⁷	X	
American plaice ⁸	X	
Witch flounder ⁹	X	
Winter flounder ¹⁰	X	X
Summer flounder ¹¹	X	X
Flounder (NS)	X	X
Herring ¹²	X	X
Mackerel ¹³	X	X
Cunner ¹⁴	X	X
Angler ¹⁵	X	X
Cusk ¹⁶	X	
K. whiting ¹⁷		X
Northern puffer ¹⁸		X
Ocean pout ¹⁹	X	X
Sandeels ²⁰	X	X
Sculpins ²¹	X	X
Scup ²²	X	X
Searobin ²³	X	X
Tautog ²⁴	X	X
Tilefish ²⁵	X	X
White hake ²⁶	X	X
Wolffish ²⁷	X	
Groundfish (NS)	X	X
Anchovies ²⁸	X	X
Bluefish ²⁹	X	X
Butterfish ³⁰	X	X
Pelagics (NS)	X	X
Alewife ³¹	X	X
Argentine ³²	X	
Atlantic croaker ³³		X
Silversides ³⁴		X
Black drum ³⁵		X
Black sea bass ³⁶	X	X
Cobia ³⁷		X
Common pompano ³⁸		X
Conger eel ³⁹	X	X

Area Consideration Based on Fishery and Stock Distribution (continued)

Species	New England	Mid-Atlantic
Dogfish ⁴⁰	X	X
American eels ⁴¹	X	X
Frigate mackerel ⁴²		X
Gizzard shad ⁴³		X
Grunts ⁴⁴		X
Hickory shad ⁴⁵		X
King mackerel ⁴⁶		X
Mulletts ⁴⁷		X
Harvestfish ⁴⁸		X
Red drum ⁴⁹		X
Scads ⁵⁰	X	X
American shad ⁵¹	X	X
Sheepshead ⁵²		X
Skates ⁵³	X	X
Smelts ⁵⁴	X	
Spanish mackerel ⁵⁵		X
Spot ⁵⁶		X
Spotted seatrout ⁵⁷		X
Weakfish ⁵⁸	X	X
Striped bass ⁵⁹	X	X
Sturgeon ⁶⁰	X	X
White perch ⁶¹		X
Pigfish ⁶²		X
Amberjacks ⁶³	X	X
Finfish (NS)		
Squid (NS)		
Loligo ⁶⁶	X	X
Illex ⁶⁷	X	X
Crabs ⁶⁸	X	X
Lobster ⁶⁸	X	X
Shrimps ⁶⁸		X
Surf clam ⁶⁸	X	X
Ocean quahog ⁶⁸	X	X
Sea scallop ⁶⁸	X	X

Estimated¹ weight of finfish caught by marine recreational anglers by species group and region for 1974.

Species group	1974 catch (metric tons)		Total ⁴
	New England ²	Middle Atlantic ³	
Black sea bass	?	?	3535
Bluefish	8401	49642	58074
Cod, Atlantic	8584	3761	12393
Codfishes ⁵	305	1020	1606
Croakers	-	906	1033
Eel, American	?	?	1009
Flounder, Summer	620	15044	15864
Flounder, Winter	4082	4304	8584
Fresh water fishes ⁶	?	?	1283
Herrings and Smelt ⁷	?	?	1260
Mackerel, Atlantic	1995	5298	7657
Mackerels and Tunas ⁸	?	?	1387
Perches ⁹	?	?	3555
Pollock	?	?	497
Scup	1623	1087	2782
Searobins	?	?	1470
Sharks ¹⁰	?	?	2897
Spot	-	1721	1830
Striped bass	?	?	18100
Tautog	?	?	4910
Toadfish, Oyster	?	?	210
Weakfish (Squeteague)	330	8599	9158
Miscellaneous	1026	4129	5163

¹Preliminary unpublished estimates subject to recalculation and revision provided by the National Marine Fisheries Service.

²Includes Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut.

³Includes New York, New Jersey, Delaware, Maryland, and Virginia, but does not include North Carolina for which data is not available.

⁴Totals may not equal the sum of the regions since each estimate requires a specific minimum number of samples. Therefore estimates for some states are not possible where sampling is inadequate, but samples from these states are used to estimate the total for all states.

⁵Includes cusk, haddock, red hake, silver hake, and tomcod.

⁶Includes bullheads, carp, crappie, yellow perch, and sunfishes.

⁷Includes alewives, herrings, shad, and smelt.

⁸Includes albacore, bonito, king mackerel, Spanish mackerel, tunas, and bluefin tuna.

⁹Includes silver perch and white perch.

¹⁰Includes sharks and dogfish sharks.

?When regional totals are less than 90% of the grand total, regional estimates were judged to be inadequate.

Distribution of Species in Subareas 5 and Statistical Area 6

- ¹Cod--Mostly concentrated in 5Y and 5Ze both spring and fall; some overlap into 5Zw and 6A in waters less than 80 meters, mainly during spring.
- ²Haddock--Range almost entirely throughout 5Y and 5Ze both spring and fall. Haddock in SA5 have been managed as a unit with most catches occurring in 5Ze.
- ³Redfish--Concentrated both spring and fall in 5Y and further north with some concentrations scattered throughout the deeper portions of 5Ze. Redfish in SA5 have been managed as a unit.
- ⁴Silver hake--Distributed from Cape Hatteras to Georges Bank and Gulf of Maine. Spring concentrations mainly in deeper waters along the continental shelf with fall distributions scattered throughout a range of depths. Silver hake of 5Y, 5Ze, and 5Zw and 6 have been managed as a unit.
- ⁵Red hake--Range from Cape Hatteras to Georges Bank and Gulf of Maine with major concentrations during both spring and fall located in 5Zw. Red hake of 5Y, 5Ze, and 5Zw and 6 have been maintained as separate groups.
- ⁶Pollock--Normally found from Gulf of St. Lawrence and northeastern Nova Scotia to New Jersey waters; southwards occasionally to Chesapeake Bay. Pollock have been managed as a unit throughout SA5 and northward to Nova Scotia.
- ⁷Yellowtail flounder--Both spring and fall concentrations range throughout 5Ze, 5Zw and 6A. Some scattered concentrations mainly off Delaware Bay area during spring. There are three groups of yellowtail flounder in SA5. These are on Georges Bank (5Z east of 69°W), on the southern New England ground and along Cape Cod (both of these are 5Z west of 69°W). It is not known the degree to which yellowtail flounder of SA6 are separate from the southern New England stock.
- ⁸American plaice (Am. dab)--Its range nearly parallels that of cod, except that it does not extend as far south along the American seaboard; off Martha's Vineyard and Narragansett Bay is probably the western limit of the species range.
- ⁹Witch flounder (gray sole)--Found throughout waters of the Gulf of Maine and westward and southward along the continental shelf and slope as far as Cape Hatteras.
- ¹⁰Winter flounder (blackback)--Concentrated mainly in 5Ze with some fall concentrations in 5Zw and 6A. Winter flounder of Georges Bank probably constitute a separate group from the fish of 5Y, 5Zw and 6A which usually spawn inshore and in estuaries.

- ¹¹Summer flounder (fluke)--Found in continental waters from Maine to South Carolina, but mainly south of Cape Cod in area 6B and to a lesser extent in 6A and 5Zw.
- ¹²Sea herring--Fall distribution mainly throughout 5Ze with some scattered concentrations in 5Zw. Spring distributions range throughout 5Zw, 6A and 6B. Sea herring of 5Y and 5Z+6 have been managed as separate groups.
- ¹³Mackerel--Range from the Gulf of St. Lawrence to North Carolina. Spring concentrations mostly between 60 to 200 meter depth zone in 6A and 6B. Fall concentrations scattered throughout 5Ze, 5Zw and 6A. Mackerel of SA5+6 have been managed as a unit.
- ¹⁴Cunners--Range from western and southern parts of the Gulf of St. Lawrence, southward in abundance to New Jersey.
- ¹⁵Angler (American goosefish)--Distributed from the Grand Banks and the northern side of the Gulf of St. Lawrence southward to North Carolina. Commonly found in the Gulf of Maine and southern New England to New Jersey waters in moderate depths.
- ¹⁶Cusk--Found regularly in moderately deep waters on hard bottom from Cape Cod northward, but rarely south of New England waters.
- ¹⁷King whiting--Range northward from the coast of Florida to Cape Cod; most numerous from Chesapeake Bay to New York.
- ¹⁸Northern puffer--Atlantic coast of United States from Florida to Cape Cod in abundance; north of Cape Cod in small numbers.
- ¹⁹Ocean pout--Commonly found from the southern side of the Gulf of St. Lawrence and northern Nova Scotia to New Jersey.
- ²⁰Sand eels--Atlantic coast from Cape Hatteras to Gulf of St. Lawrence. Abundant from New Jersey to Cape Sable wherever there are sandy shores.
- ²¹Sculpins--As a whole, the sculpin tribe generally range no further south than waters of southern New England, although the longhorn sculpin is regularly found as far south as New Jersey.
- ²²Scup--Distributed throughout the area from Cape Cod to North Carolina. Spring concentrations mainly in waters 80 to 200 meters in depth in 6B. They are found in shallow coastal waters during summer where they are captured in floating traps and pound nets in southern New England.

- ⁵⁵Spanish mackerel--Commonly found along the East coast as far north as Chesapeake Bay.
- ⁵⁶Spot--Common in inshore waters along the southern east coast and reaching to waters of southern New England.
- ⁵⁷Sea trout--Found inshore along the Atlantic coast from New York south. Fished commercially south of Chesapeake Bay.
- ⁵⁸Weakfish--Range from the east coast of Florida to Massachusetts Bay. The center of abundance is along the coast of the middle Atlantic States from the Virginia Capes to New York.
- ⁵⁹Striped bass--Atlantic coast from the southern side of the Gulf of St. Lawrence to northern Florida.
- ⁶⁰Sturgeons--Coastal waters from the St. Lawrence River along the entire eastern coast of the U.S.
- ⁶¹White perch--Atlantic coast of North America from the Gulf of St. Lawrence and Nova Scotia to South Carolina. Probably not significant north of Cape Cod with center of abundance in the middle Atlantic region.
- ⁶²Pigfish--Found along the Atlantic coast of the USA southward from New York.
- ⁶³Amberjacks--Atlantic coast of U.S., Halifax, Nova Scotia, to Gulf of Mexico.
- ⁶⁶Squids (loligo)--Concentrated during the spring in waters 80 to 200 meters in depth in 5Ze, 5Zw, 6A and 6B. Fall distribution is throughout the same range, but distributed from coastal to offshore areas. Managed as a single stock throughout SA 5 + 6.
- ⁶⁷Squids (illex)--Concentrated during the spring in waters 100 to 200 meters in depth primarily in 6B with smaller concentrations in 6A and area 5. During the fall, illex are distributed throughout areas 5 and 6 but generally further offshore than loligo. Managed as a unit within SA 3, 4, 5 and 6.
- ⁶⁸Mean catch is for years in which data were available.

- ²³Common sea robins--For the most part are distributed from the Bay of Fundy to South Carolina, chiefly west and south of Cape Cod.
- ²⁴Tautog--Distributed from the outer coast of Nova Scotia to South Carolina, chiefly south of Cape Ann; most abundant between Cape Cod and Delaware Capes, and restricted to the immediate vicinity of the coast.
- ²⁵Tilefish--Found from Nova Scotia to the Middle Atlantic area in depths of 45 to 200 fathoms. The chief center of abundance is between Nantucket and Delaware Bay.
- ²⁶White hake--White hake are common in the Gulf of Maine and on Georges Bank and they are found as far south as North Carolina.
- ²⁷Wolffishes--North Atlantic south to Cape Cod regularly, and less often found westward along southern New England.
- ²⁸Anchovies--Most commonly found in the inshore waters from Cape Hatteras to Cape Cod.
- ²⁹Bluefish--Widely but seasonally distributed in warmer waters; known along the eastern coast of the United States, northward to the Gulf of Maine.
- ³⁰Butterfish--From South Carolina to the outer coast of Nova Scotia. Concentrations in waters of 20 to 200 meters in 6A and 6B during spring, with good concentrations during fall found mainly in 5Zw and 6B.
- ³¹Alewife--Gulf of St. Lawrence and northern Nova Scotia south to North Carolina. Spring concentrations throughout 5Zw, 6A and 6B, with fall concentrations mainly in 5Ze.
- ³²Argentine--Ranges from Nova Scotia Banks southward to southern New England in waters usually as deep as 80 to 300 fathoms.
- ³³Atlantic croaker--Found primarily south of New Jersey.
- ³⁴Silversides--Generally from Gulf of St. Lawrence and Nova Scotian coast to Massachusetts Bay. Most abundant in inshore waters from Massachusetts Bay southward to Chesapeake Bay.
- ³⁵Black drum--Southern Atlantic coast to southern New England, but most abundant from New York to the Carolinas.
- ³⁶Black seabass--Atlantic coastal waters from Florida to Cape Cod, but extends into the Gulf of Maine in some years.
- ³⁷Cobia--Found along the east coast of the United States primarily south of New Jersey.

- ³⁸Florida pompano--Found along the east coast of the USA primarily south of New Jersey.
- ³⁹Conger--Adults are known north to the tip of Cape Cod but the southern limit cannot be determined.
- ⁴⁰Dogfish--Smooth dogfish along southern coast regularly to Cape Cod. Spiny dogfish are along the North Atlantic coast chiefly in the temperate and sub-arctic belt.
- ⁴¹American eel--Gulf of St. Lawrence south to the Gulf of Mexico.
- ⁴²Frigate mackerel--Oceanic in warm parts of the Atlantic, sometimes reaching the shores of the U.S. As strays known off southern Nova Scotia and Martha's Vineyard.
- ⁴³G. shad--Fresh and brackish waters of the Atlantic coast from Massachusetts southward with a significant fishery in the Chesapeake Bay.
- ⁴⁴Grunts--Distributed along the Atlantic coast southward from New York. Commercial fishing is generally centered around the Chesapeake Bay in the Middle Atlantic.
- ⁴⁵Hickory shad--Distributed from the Bay of Fundy to Florida. This is primarily a southern fish with the Gulf of Maine as the extreme northern limit to its range.
- ⁴⁶King mackerel--Ranges along the Atlantic coast from Cape Cod to southern Florida, with major concentration south of the Delaware Cape.
- ⁴⁷Mulletts--Mainly found in temperate waters ranging as far north as Cape Cod. Mulletts are common as far north as New York, and less so to Cape Cod.
- ⁴⁸Harvest fish--Ranging from Florida northward along the middle Atlantic Coast to Cape Cod. While abundant in its southern range, it rarely reaches as far north as the outer Cape Cod coast.
- ⁴⁹Red drum--Common along the South Atlantic and Gulf of Mexico coast of the United States. Found as far north as New York but not commercially significant farther north than New Jersey.
- ⁵⁰Scads--Members of the family known to be in warm and temperate waters sometimes common north to New York.
- ⁵¹American shad--Ranges from Gulf of St. Lawrence to Florida.
- ⁵²Sheepshead--Along the eastern Atlantic Coast as far north as Cape Cod; mostly abundant south of New York.
- ⁵³Skates--Atlantic coast from northern Nova Scotia to Virginia in coastal waters.
- ⁵⁴Smelts--Found regularly from the Gulf of St. Lawrence southward to New Jersey and reported as far south as Virginia.

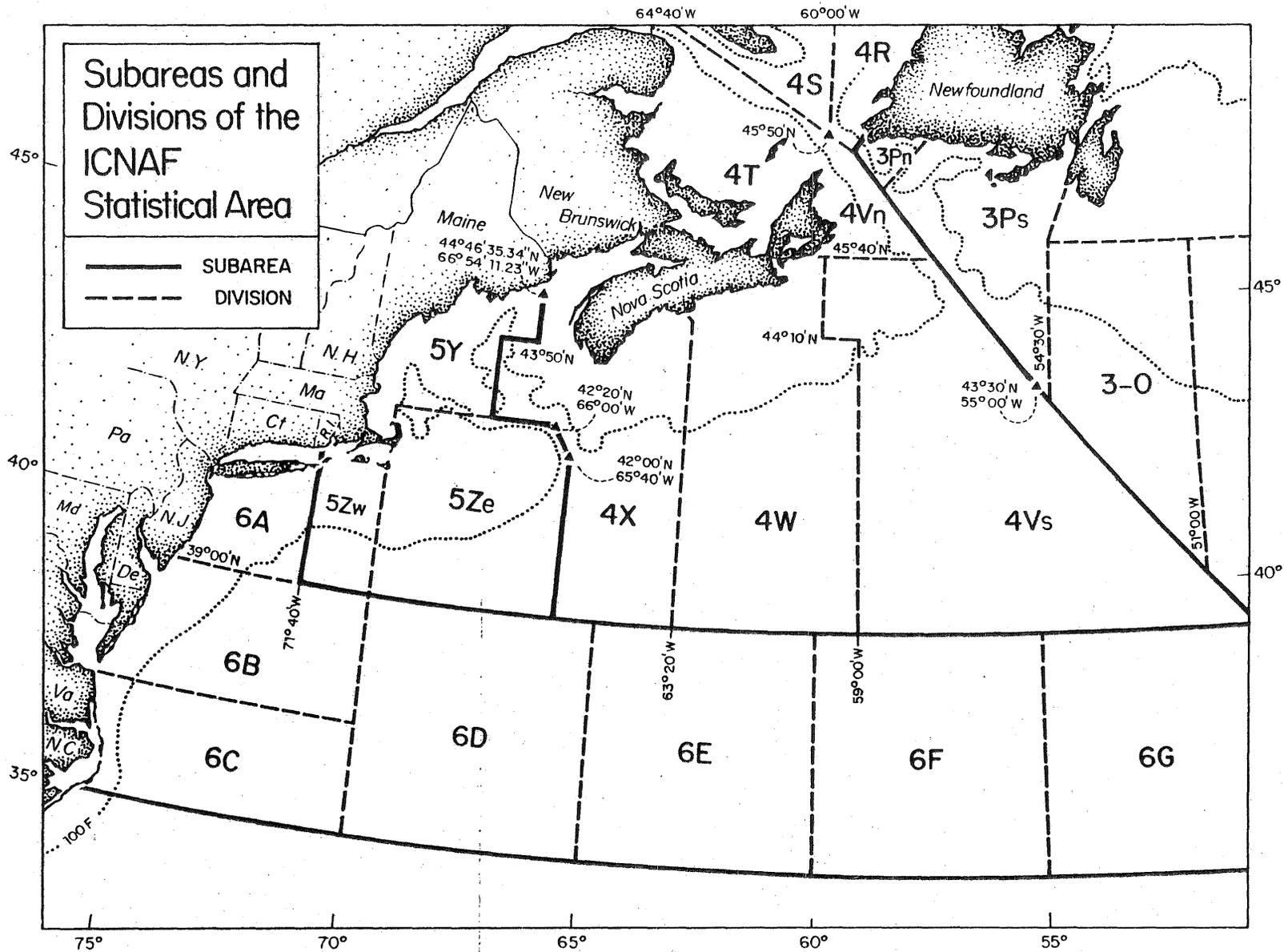


Figure 1. Northwest Atlantic Ocean partitioned into ICNAF Divisions.

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Redfish ³	X	
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Red hake ⁵	X	X
Pollock ⁶	X	X
Yellowtail ⁷	X	
American plaice ⁸	X	
Witch flounder ⁹	X	
Winter flounder ¹⁰	X	X
Summer flounder ¹¹	X	X
Flounder (NS)	X	X
Herring ¹²	X	X
Mackerel ¹³	X	X
Cunner ¹⁴	X	X
Angler ¹⁵	X	X
Cusk ¹⁶	X	
K. whiting ¹⁷		X
Northern puffer ¹⁸		X
Ocean pout ¹⁹	X	X
Sandeels ²⁰	X	X
Sculpins ²¹	X	X
Scup ²²	X	X
Searobin ²³	X	X
Tautog ²⁴	X	X
Tilefish ²⁵	X	X
White hake ²⁶	X	X
Wolffish ²⁷	X	
Groundfish (NS)	X	X
Anchovies ²⁸	X	X
Bluefish ²⁹	X	X
Butterfish ³⁰	X	X
Pelagics (NS)	X	X
Alewife ³¹	X	X
Argentine ³²	X	
Atlantic croaker ³³		X
Silversides ³⁴		X
Black drum ³⁵		X
Black sea bass ³⁶	X	X
Cobia ³⁷		X
Common pompano ³⁸		X
Conger ee ³⁹	X	X

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Area Consideration Based on Fishery and Stock Distribution (continued)

Species	New England	Mid-Atlantic
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American eels ⁴¹	X	X
Frigate mackerel ⁴²		X
Gizzard shad ⁴³		X
Grunts ⁴⁴		X
Hickory shad ⁴⁵		X
King mackerel ⁴⁶		X
Mulletts ⁴⁷		X
Harvestfish ⁴⁸		X
Red drum ⁴⁹		X
Scads ⁵⁰	X	X
American shad ⁵¹	X	X
Sheepshead ⁵²		X
Skates ⁵³	X	X
Smelts ⁵⁴	X	
Spanish mackerel ⁵⁵		X
Spot ⁵⁶		X
Spotted seatrout ⁵⁷		X
Weakfish ⁵⁸	X	X
Striped bass ⁵⁹	X	X
Sturgeon ⁶⁰	X	X
White perch ⁶¹		X
Pigfish ⁶²		X
Amberjacks ⁶³	X	X
Finfish (NS)		
Squid (NS)		
Loligo ⁶⁶	X	X
Illex ⁶⁷	X	X
Crabs ⁶⁸	X	X
Lobster ⁶⁸	X	X
Shrimps ⁶⁸		X
Surf clam ⁶⁸	X	X
Ocean quahog ⁶⁸	X	X
Sea scallop ⁶⁸	X	X

Estimated¹ weight of finfish caught by marine recreational anglers by species group and region for 1974.

Species group	1974 catch (metric tons)		Total ⁴
	New England ²	Middle Atlantic ³	
Black sea bass	?	?	3535
Bluefish	8401	49642	58074
Cod, Atlantic	8584	3761	12393
Codfishes ⁵	305	1020	1606
Croakers	-	906	1033
Eel, American	?	?	1009
Flounder, Summer	620	15044	15864
Flounder, Winter	4082	4304	8584
Fresh water fishes ⁶	?	?	1283
Herrings and Smelt ⁷	?	?	1260
Mackerel, Atlantic	1995	5298	7657
Mackerels and Tunas ⁸	?	?	1387
Perches ⁹	?	?	3555
Pollock	?	?	497
Scup	1623	1087	2782
Searobins	?	?	1470
Sharks ¹⁰	?	?	2897
Spot	-	1721	1830
Striped bass	?	?	18100
Tautog	?	?	4910
Toadfish, Oyster	?	?	210
Weakfish (Squeteague)	330	8599	9158
Miscellaneous	1026	4129	5163

¹Preliminary unpublished estimates subject to recalculation and revision provided by the National Marine Fisheries Service.

²Includes Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut.

³Includes New York, New Jersey, Delaware, Maryland, and Virginia, but does not include North Carolina for which data is not available.

⁴Totals may not equal the sum of the regions since each estimate requires a specific minimum number of samples. Therefore estimates for some states are not possible where sampling is inadequate, but samples from these states are used to estimate the total for all states.

⁵Includes cusk, haddock, red hake, silver hake, and tomcod.

⁶Includes bullheads, carp, crappie, yellow perch, and sunfishes.

⁷Includes alewives, herrings, shad, and smelt.

⁸Includes albacore, bonito, king mackerel, Spanish mackerel, tunas, and bluefin tuna.

⁹Includes silver perch and white perch.

¹⁰Includes sharks and dogfish sharks.

?When regional totals are less than 90% of the grand total, regional estimates were judged to be inadequate.

Distribution of Species in Subareas 5 and Statistical Area 6

- ¹Cod--Mostly concentrated in 5Y and 5Ze both spring and fall; some overlap into 5Zw and 6A in waters less than 80 meters, mainly during spring.
- ²Haddock--Range almost entirely throughout 5Y and 5Ze both spring and fall. Haddock in SA5 have been managed as a unit with most catches occurring in 5Ze.
- ³Redfish--Concentrated both spring and fall in 5Y and further north with some concentrations scattered throughout the deeper portions of 5Ze. Redfish in SA5 have been managed as a unit.
- ⁴Silver hake--Distributed from Cape Hatteras to Georges Bank and Gulf of Maine. Spring concentrations mainly in deeper waters along the continental shelf with fall distributions scattered throughout a range of depths. Silver hake of 5Y, 5Ze, and 5Zw and 6 have been managed as a unit.
- ⁵Red hake--Range from Cape Hatteras to Georges Bank and Gulf of Maine with major concentrations during both spring and fall located in 5Zw. Red hake of 5Y, 5Ze, and 5Zw and 6 have been maintained as separate groups.
- ⁶Pollock--Normally found from Gulf of St. Lawrence and northeastern Nova Scotia to New Jersey waters; southwards occasionally to Chesapeake Bay. Pollock have been managed as a unit throughout SA5 and northward to Nova Scotia.
- ⁷Yellowtail flounder--Both spring and fall concentrations range throughout 5Ze, 5Zw and 6A. Some scattered concentrations mainly off Delaware Bay area during spring. There are three groups of yellowtail flounder in SA5. These are on Georges Bank (5Z east of 69°W), on the southern New England ground and along Cape Cod (both of these are 5Z west of 69°W). It is not known the degree to which yellowtail flounder of SA6 are separate from the southern New England stock.
- ⁸American plaice (Am. dab)--Its range nearly parallels that of cod, except that it does not extend as far south along the American seaboard; off Martha's Vineyard and Narragansett Bay is probably the western limit of the species range.
- ⁹Witch flounder (gray sole)--Found throughout waters of the Gulf of Maine and westward and southward along the continental shelf and slope as far as Cape Hatteras.
- ¹⁰Winter flounder (blackback)--Concentrated mainly in 5Ze with some fall concentrations in 5Zw and 6A. Winter flounder of Georges Bank probably constitute a separate group from the fish of 5Y, 5Zw and 6A which usually spawn inshore and in estuaries.

- ¹¹Summer flounder (fluke)--Found in continental waters from Maine to South Carolina, but mainly south of Cape Cod in area 6B and to a lesser extent in 6A and 5Zw.
- ¹²Sea herring--Fall distribution mainly throughout 5Ze with some scattered concentrations in 5Zw. Spring distributions range throughout 5Zw, 6A and 6B. Sea herring of 5Y and 5Z+6 have been managed as separate groups.
- ¹³Mackerel--Range from the Gulf of St. Lawrence to North Carolina. Spring concentrations mostly between 60 to 200 meter depth zone in 6A and 6B. Fall concentrations scattered throughout 5Ze, 5Zw and 6A. Mackerel of SA5+6 have been managed as a unit.
- ¹⁴Cunners--Range from western and southern parts of the Gulf of St. Lawrence, southward in abundance to New Jersey.
- ¹⁵Angler (American goosefish)--Distributed from the Grand Banks and the northern side of the Gulf of St. Lawrence southward to North Carolina. Commonly found in the Gulf of Maine and southern New England to New Jersey waters in moderate depths.
- ¹⁶Cusk--Found regularly in moderately deep waters on hard bottom from Cape Cod northward, but rarely south of New England waters.
- ¹⁷King whiting--Range northward from the coast of Florida to Cape Cod; most numerous from Chesapeake Bay to New York.
- ¹⁸Northern puffer--Atlantic coast of United States from Florida to Cape Cod in abundance; north of Cape Cod in small numbers.
- ¹⁹Ocean pout--Commonly found from the southern side of the Gulf of St. Lawrence and northern Nova Scotia to New Jersey.
- ²⁰Sand eels--Atlantic coast from Cape Hatteras to Gulf of St. Lawrence. Abundant from New Jersey to Cape Sable wherever there are sandy shores.
- ²¹Sculpins--As a whole, the sculpin tribe generally range no further south than waters of southern New England, although the longhorn sculpin is regularly found as far south as New Jersey.
- ²²Scup--Distributed throughout the area from Cape Cod to North Carolina. Spring concentrations mainly in waters 80 to 200 meters in depth in 6B. They are found in shallow coastal waters during summer where they are captured in floating traps and pound nets in southern New England.

- ²³Common sea robins--For the most part are distributed from the Bay of Fundy to South Carolina, chiefly west and south of Cape Cod.
- ²⁴Tautog--Distributed from the outer coast of Nova Scotia to South Carolina, chiefly south of Cape Ann; most abundant between Cape Cod and Delaware Capes, and restricted to the immediate vicinity of the coast.
- ²⁵Tilefish--Found from Nova Scotia to the Middle Atlantic area in depths of 45 to 200 fathoms. The chief center of abundance is between Nantucket and Delaware Bay.
- ²⁶White hake--White hake are common in the Gulf of Maine and on Georges Bank and they are found as far south as North Carolina.
- ²⁷Wolffishes--North Atlantic south to Cape Cod regularly, and less often found westward along southern New England.
- ²⁸Anchovies--Most commonly found in the inshore waters from Cape Hatteras to Cape Cod.
- ²⁹Bluefish--Widely but seasonally distributed in warmer waters; known along the eastern coast of the United States, northward to the Gulf of Maine.
- ³⁰Butterfish--From South Carolina to the outer coast of Nova Scotia. Concentrations in waters of 20 to 200 meters in 6A and 6B during spring, with good concentrations during fall found mainly in 5Zw and 6B.
- ³¹Alewife--Gulf of St. Lawrence and northern Nova Scotia south to North Carolina. Spring concentrations throughout 5Zw, 6A and 6B, with fall concentrations mainly in 5Ze.
- ³²Argentine--Ranges from Nova Scotia Banks southward to southern New England in waters usually as deep as 80 to 300 fathoms.
- ³³Atlantic croaker--Found primarily south of New Jersey.
- ³⁴Silversides--Generally from Gulf of St. Lawrence and Nova Scotian coast to Massachusetts Bay. Most abundant in inshore waters from Massachusetts Bay southward to Chesapeake Bay.
- ³⁵Black drum--Southern Atlantic coast to southern New England, but most abundant from New York to the Carolinas.
- ³⁶Black seabass--Atlantic coastal waters from Florida to Cape Cod, but extends into the Gulf of Maine in some years.
- ³⁷Cobia--Found along the east coast of the United States primarily south of New Jersey.

- ³⁸Florida pompano--Found along the east coast of the USA primarily south of New Jersey.
- ³⁹Conger--Adults are known north to the tip of Cape Cod but the southern limit cannot be determined.
- ⁴⁰Dogfish--Smooth dogfish along southern coast regularly to Cape Cod. Spiny dogfish are along the North Atlantic coast chiefly in the temperate and sub-arctic belt.
- ⁴¹American eel--Gulf of St. Lawrence south to the Gulf of Mexico.
- ⁴²Frigate mackerel--Oceanic in warm parts of the Atlantic, sometimes reaching the shores of the U.S. As strays known off southern Nova Scotia and Martha's Vineyard.
- ⁴³G. shad--Fresh and brackish waters of the Atlantic coast from Massachusetts southward with a significant fishery in the Chesapeake Bay.
- ⁴⁴Grunts--Distributed along the Atlantic coast southward from New York. Commercial fishing is generally centered around the Chesapeake Bay in the Middle Atlantic.
- ⁴⁵Hickory shad--Distributed from the Bay of Fundy to Florida. This is primarily a southern fish with the Gulf of Maine as the extreme northern limit to its range.
- ⁴⁶King mackerel--Ranges along the Atlantic coast from Cape Cod to southern Florida, with major concentration south of the Delaware Cape.
- ⁴⁷Mulletts--Mainly found in temperate waters ranging as far north as Cape Cod. Mulletts are common as far north as New York, and less so to Cape Cod.
- ⁴⁸Harvest fish--Ranging from Florida northward along the middle Atlantic Coast to Cape Cod. While abundant in its southern range, it rarely reaches as far north as the outer Cape Cod coast.
- ⁴⁹Red drum--Common along the South Atlantic and Gulf of Mexico coast of the United States. Found as far north as New York but not commercially significant farther north than New Jersey.
- ⁵⁰Scads--Members of the family known to be in warm and temperate waters sometimes common north to New York.
- ⁵¹American shad--Ranges from Gulf of St. Lawrence to Florida.
- ⁵²Sheepshead--Along the eastern Atlantic Coast as far north as Cape Cod; mostly abundant south of New York.
- ⁵³Skates--Atlantic coast from northern Nova Scotia to Virginia in coastal waters.
- ⁵⁴Smelts--Found regularly from the Gulf of St. Lawrence southward to New Jersey and reported as far south as Virginia.

- ⁵⁵Spanish mackerel--Commonly found along the East coast as far north as Chesapeake Bay.
- ⁵⁶Spot--Common in inshore waters along the southern east coast and reaching to waters of southern New England.
- ⁵⁷Sea trout--Found inshore along the Atlantic coast from New York south. Fished commercially south of Chesapeake Bay.
- ⁵⁸Weakfish--Range from the east coast of Florida to Massachusetts Bay. The center of abundance is along the coast of the middle Atlantic States from the Virginia Capes to New York.
- ⁵⁹Striped bass--Atlantic coast from the southern side of the Gulf of St. Lawrence to northern Florida.
- ⁶⁰Sturgeons--Coastal waters from the St. Lawrence River along the entire eastern coast of the U.S.
- ⁶¹White perch--Atlantic coast of North America from the Gulf of St. Lawrence and Nova Scotia to South Carolina. Probably not significant north of Cape Cod with center of abundance in the middle Atlantic region.
- ⁶²Pigfish--Found along the Atlantic coast of the USA southward from New York.
- ⁶³Amberjacks--Atlantic coast of U.S., Halifax, Nova Scotia, to Gulf of Mexico.
- ⁶⁶Squids (loligo)--Concentrated during the spring in waters 80 to 200 meters in depth in 5Ze, 5Zw, 6A and 6B. Fall distribution is throughout the same range, but distributed from coastal to offshore areas. Managed as a single stock throughout SA 5 + 6.
- ⁶⁷Squids (illex)--Concentrated during the spring in waters 100 to 200 meters in depth primarily in 6B with smaller concentrations in 6A and area 5. During the fall, illex are distributed throughout areas 5 and 6 but generally further offshore than loligo. Managed as a unit within SA 3, 4, 5 and 6.
- ⁶⁸Mean catch is for years in which data were available.

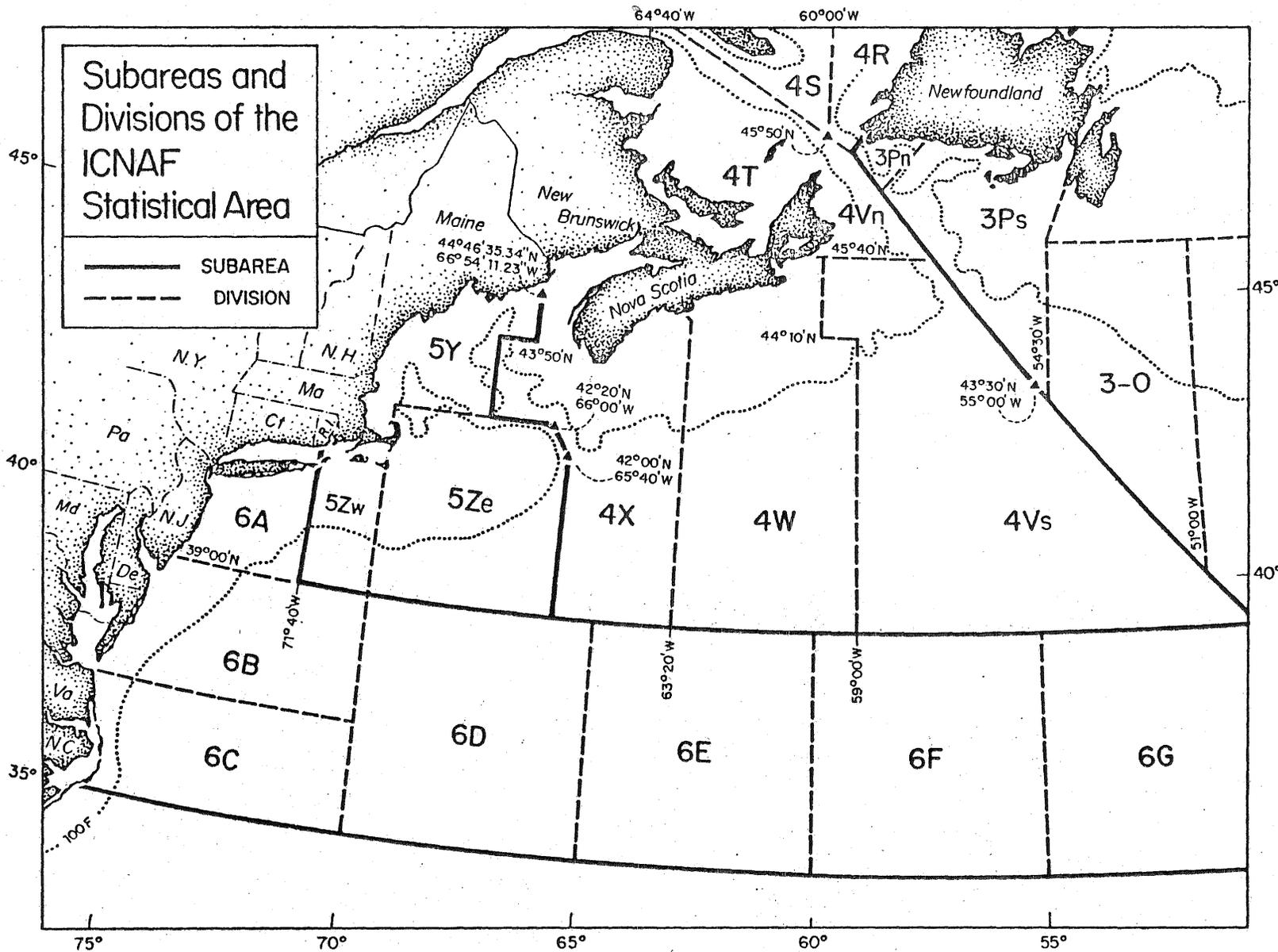


Figure 1. Northwest Atlantic Ocean partitioned into ICNAF Divisions.