

STATUS OF FISH STOCKS OFF NORTHEASTERN UNITED STATES

Herbert Stern Jr. and Bradford E. Brown

Total 1971 landings (preliminary) of finfish by all countries off the U.S. coast in ICNAF Subareas 5 and 6 (Virginia to Maine, Fig. 1) were 1,356,382 metric tons (MT)--278,088 MT above 1970. The U.S. finfish landings were 460,799 in 1970 and 456,994 MT in 1971. Table 1 summarizes catches by species and country.

In an attempt to stabilize the fishery, the International Commission for the Northwest Atlantic Fisheries (ICNAF) proposed new regulations at its annual meeting in June 1972. These will apply to 1973 catch. Herring regulations are in effect in 1972.

The proposed regulations included the setting of international quotas for several species, allocated with preference to coastal state, more mesh regulations for cod, haddock, and flounder, and a minimum-size limit for scallops.

There was another innovation: including as part of quota allocations the catches of regulated stocks in international waters southwest of ICNAF convention regulation--ICNAF statistical Subarea 6.

HADDOCK

In 1971, total Subarea 5 landings were 12,169 metric tons, 169 MT above quota. U.S. fishermen landed 8,500 metric tons from Subarea 5, 14% below 1970. Landings from Georges Bank (ICNAF Division 5Z E) by New England fishermen were 7,301 metric tons, about 1,000 tons under 1970.

The annual 1970 fall groundfish survey by 'Albatross IV' revealed that the 1971 year-class was poor, continuing a trend begun in 1964. Recruitment of the fishery will continue much below average for at least two years (1972, 1973); abundance will remain at a very low level.

For 1972 and 1973, the Subarea 5 landings quota has been reduced to 6,000 metric tons, half the 1970-71 quota, but still too high to allow the stock to recover. Significant parts of Georges Bank will continue to be closed to groundfishing during March, April, and May. In 1974, the minimum mesh size for haddock and cod will be increased from 4.5 to 5.1 inches (double manila standard). There was no national allocation of the haddock quota; however, countries other than the U.S. agreed essentially not to fish for haddock on Georges Bank.

YELLOWTAIL

In 1971, the reported yellowtail flounder catch in Subarea 5 was 30,629 MT. This exceeded the quota of 28,000 MT. The U.S. catch was 29,465, compared to 42,609 in 1970. The total catch reported for the Georges Bank area east of 69° was 15,698 MT, in southern New England and Cape Cod area 14,931 MT; the quotas were 16,000 MT and 12,000 MT, respectively. The catch on Cape Cod grounds was 2,351 MT.

U.S. commercial landings per day declined on both major fishing grounds (Georges Bank and southern New England). Survey cruise data from Albatross IV also indicate lower relative abundance and a below-average number of pre-recruits, particularly on southern New England grounds. Assessments suggest that abundance for 1972 will be somewhat below 1971.

Annual catch quotas for 1972 and 1973 have been set at 10,000 metric tons for southern New England (west of 69° W), 2,000 less than in 1971; and 16,000 metric tons for Georges Bank (east of 69° W), the same as 1971. The U. S. was allocated 92.3% of these quotas.

The authors are with NMFS Northeast Fisheries Center, Woods Hole, Massachusetts 02543.

The 'fish stocks' of the title are in ICNAF Subarea 5 & 6.

MARINE FISHERIES REVIEW
Reprint No. 953

COD

Total cod catch by all countries from Subarea 5 in 1971 was 35,357 metric tons, 34% taken by foreign countries.

U.S. landings from Georges Bank (ICNAF Division 5Z E) were 15,000 metric tons, slightly above 1970; while 1971 landings from other Subarea 5 grounds were 8,176 MT, slightly lower than 1970.

Survey-cruise and commercial fisheries studies indicate that abundance will probably remain at same level in 1972 and 1973.

ICNAF adopted for 1973 regulations for most cod stocks from Labrador to southern New England. Over 80% of cod catch in Northwest Atlantic will be under quota regulations. Assessment of the Georges Bank stock indicated that a maximum yield of 35,000 MT could be sustained. For Gulf of Maine, ICNAF recommended limiting catch to 10,000 MT, slightly above recent catches, to prevent potential overfishing. Both these values were proposed as quota regulations for 1973.

The U.S. allocation is 29,660 MT, or 66% (20,260) MT on Georges Bank; 9,400 MT in Gulf of Maine). This quota allows for a 1973 U. S. catch increase in Subarea 5 of 6,485 tons over 1972 landings.

POLLOCK

In 1971, total U. S. landings of pollock from Subarea 5 were 4,727 metric tons, 1,135 tons above 1970; 3,037 metric tons were taken from Georges Bank. The catch by all countries was 14,311 metric tons.

There has been no definitive assessment study of the sustainable yields of the pollock stock but, most likely, it is much higher than present catch.

HERRING

In 1971, total Subarea 5 landings of herring were 268,063 metric tons, about 4% above 1970. U.S. landings from Gulf of Maine (ICNAF Division 5Y, the major U.S. fishing area) were 31,491 MT, 74% of 42,642 MT catch of all countries in Division 5Y. The

juvenile catch was only 21% of 1971 total; prior to 1967, the catch was almost exclusively young fish (2- and 3-year-olds).

The last large year-class recruited to Gulf of Maine stock was that of 1961. Recruitment has been low and abundance down significantly in recent years. Abundance is expected to continue downward.

The Georges Bank-Middle Atlantic (ICNAF 5Z and 6) herring stock is under stress from overfishing. Effort has increased rapidly since 1967, while stock size has decreased. The 1971 catch was 267,374 MT, of which U. S. landings were 3,822 MT. Recruitment declined from 1964 through 1968. Current projections indicate poor abundance.

Because of herring's critical state, ICNAF enacted a quota system at a special meeting in January 1972. The 1972 quotas were 150,000 metric tons for Georges Bank-Middle Atlantic stock, and 30,000 metric tons for Gulf of Maine stock (excluding inshore sardine fishery). Both of these will serve to slow stock decline but are too high (especially former case) to stabilize stock size. The U.S. allocation was 21,000 MT for Gulf of Maine, and 5,000 MT for Georges Bank-Middle Atlantic stock.

A 9-inch minimum-size limit in all offshore areas was established. Also, Canada and the U.S. had agreed in 1971 to eliminate purse-seine fishery for one-year-old herring pursued to a large extent by Canada in Bay of Fundy.

SILVER HAKE (WHITING)

In 1971, total landings of whiting from SA 5 and 6 were 107,908 MT. U.S. landings of whiting from Subarea 5 were 13,332 metric tons, 31% below 1970. U.S. landings in Subarea 6 were 2,989 metric tons, about 700 MT above 1970. U.S. food-fish landings from Gulf of Maine and Georges Bank were 11,332 metric tons, 28% below 1970. Industrial landings of silver hake were 822 metric tons, down 398 tons from 1970.

The Gulf of Maine silver hake appears to be a separate stock from that in southern New England and Middle Atlantic. The status

of silver hake in eastern areas of Georges Bank is not clear. It appears to be separate from that to the southward and, at least during fishing season, distinct from those inshore.

The southern New England-Middle Atlantic stock appears in very good condition. It probably has benefited from reduced fishery caused by closed fishing area established by ICNAF, and the Polish and USSR bilateral agreements.

The eastern Georges Bank area appears in worse condition, while Gulf of Maine area is intermediate. In 1971, the U.S. catch from Gulf of Maine stock was 8,263 of a 8,316 total; the U.S. catch from other stocks was 8,058 MT of a 99,592 MT total.

Pre-recruit indices suggest improved incoming year-classes. These should support increased fishing in all areas for 1973 and 1974. The Gulf of Maine area particularly shows a significant increase for 1974 if too many small fish are not caught (mortality can be severe even if small fish are discarded).

ICNAF established quota regulations for 1973. The Gulf of Maine (Division 5Y) quota will be 10,000 MT, of which 9,500 is allocated to the U.S. This is an increase of 1,237 MT over 1971 U.S. landings from this area. The 5Z E area (Georges Bank, east of 70° line) and 5Z W-SA 6 area (southern New England and Middle Atlantic) each was assigned 80,000 MT quotas. Of this total, 42,000 MT were allocated to the U.S. This quota is five times the 1971 catch of 8,058 MT.

The regulated area in deep waters off southern New England will be closed during April in 1973, a change from the previous January through March closure.

REDFISH

In 1971, U.S. ocean perch (redfish) landings from New England waters were 16,267 metric tons, about 5% above 1970. Landings from Gulf of Maine, the principal U.S. ground, were 12,541 metric tons, down 1,000 tons from 1970. In 1971, catch of all countries in Subarea 5 was 20,034. The U.S. also caught 10,967 metric tons of redfish off Canada.

Landings per day continued to decline in 1971 on all but the Nova Scotia shelf, and abundance could be lower. Good catches still will be possible in most areas from 1972. The inshore closed area in Subarea 5 was modified to allow the redfish fishery to operate during March-May.

RED HAKE

In 1971, total red-hake landings off the U. S. were 39,937 metric tons, up 27,451 metric tons over 1970. U. S. landings were 3,604 in 1971 and 4,940 in 1970. Red hake on Georges Bank are still in low abundance, but moderate numbers are available from southern New England-Middle Atlantic stock. ICNAF adopted a quota of 40,000 metric tons for 1973, with 15,000 metric tons allocated to the U.S. for 5Z W-SA 6 area (southern New England-Middle Atlantic).

MIXED INDUSTRIAL FISHERY

In 1971, total New England landings of mixed industrial species were 11,412 metric tons, about 51% below 1970. Dockside sampling of these catches indicate that red hake, silver hake, and ocean pout made up a larger percentage of 1971 landings than 1970; flounders, particularly yellowtail, contributed less in 1971.

SCALLOPS

The 1971 Georges Bank (Division 5Z) scallop landings were 5,230 MT total meat weight; U.S. vessels took 1,336 MT of these. The 1970 values were 5,504 MT and 1,421 MT. Catch per hour dragged by the Canadian fleet was 84 pounds, about the same as in 1970, but considerably below earlier years. The age at first capture has declined to 4 years for U.S. vessels and 3 years for Canadian, lower than the 5 years in previous years, or the 7 years that would give maximum sustainable yield. At its 1972 annual meeting, ICNAF adopted a minimum size limit prohibiting retention of scallops less than 95 mm shell diameter, and an average meat count of 40 meats per pound or greater.

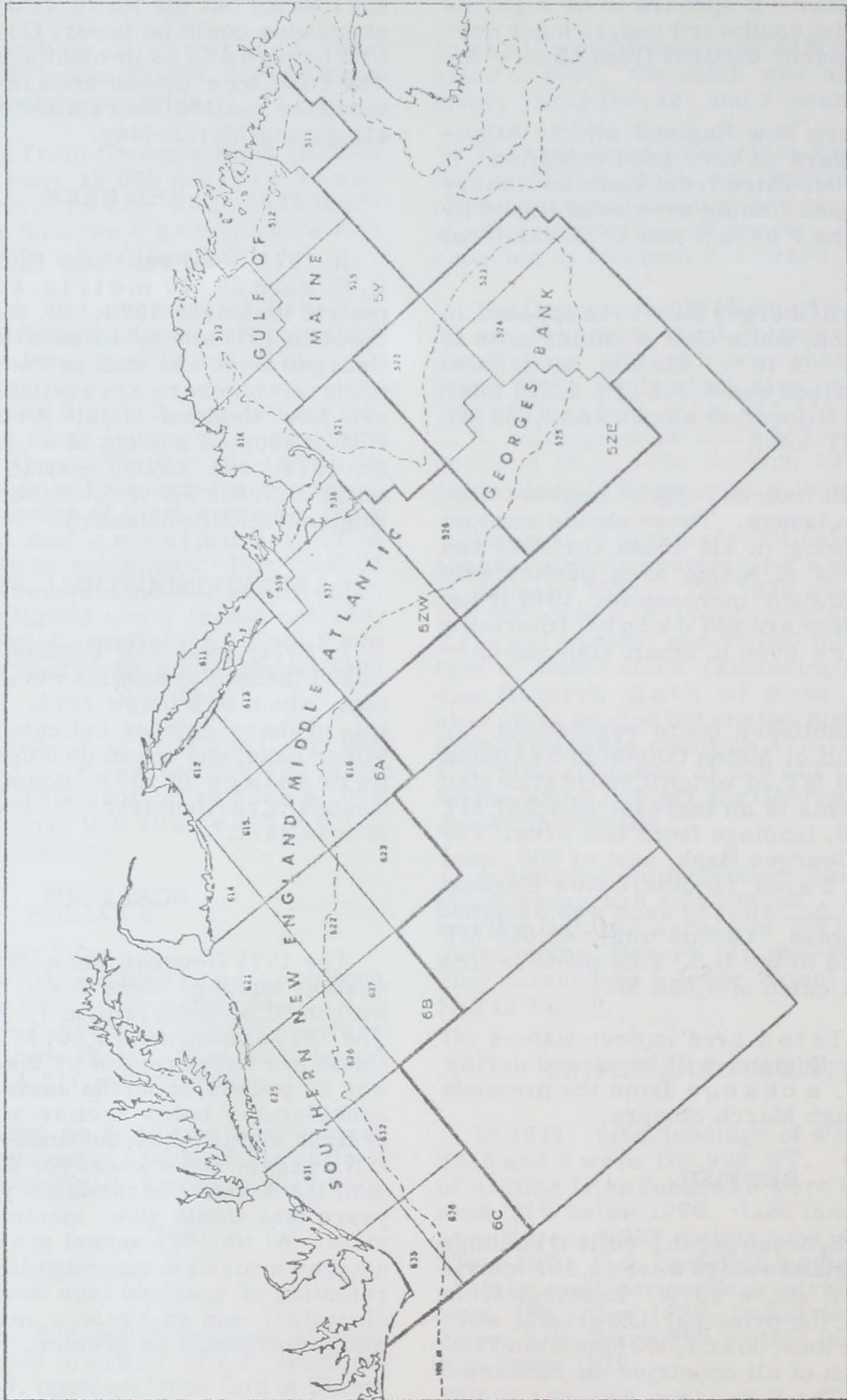


TABLE 1. CATCHES (METRIC TONS) BY SPECIES AND COUNTRY FROM ICNAF SUBAREA 5 FOR 1971 AND (1970)

SPECIES	USA	CANADA	JAPAN	POLAND	ROMANIA	SPAIN	W.GERMANY	USSR	NON-MEMBER	TOTAL
Cod	23175 (22347)	3098 (2609)	20 (15)	155 (641)	6 (129)	7619 (7249)	4 (14)	1270 (364)	10 (-)	35357 (38025)
Haddock	8500 (9872)	1715 (2016)	10 (1)	1 (15)	225 (-)	1337 (845)	4 (-)	374 (103)	3 (-)	12169 (12856)
Redfish	16267 (15534)	269 (338)	4 (19)	84 (30)	- (35)	- (-)	- (-)	3394 (-)	16 (115)	20034 (16075)
Silver Hake	13332 (19379)	- (-)	103 (74)	136 (15)	390 (113)	- (-)	- (2)	81515 (28997)	1658 (439)	97134 (49017)
Red Hake	2783 (4281)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	25353 (6515)	1463 (197)	29606 (10993)
Herring	33890 (30484)	20034 (5012)	2434 (1223)	69083 (54875)	887 (685)	- (-)	56467 (88221)	63903 (39173)	21365 (39268)	268063 (258941)
Mackerel	1593 (3092)	- (-)	272 (463)	43682 (40987)	1774 (758)	3 (-)	1175 (1004)	59074 (56457)	8867 (9006)	116440 (111767)
Yellowtail Flounder	22341 (31920)	105 (75)	3 (-)	- (-)	- (-)	- (-)	- (-)	925 (2905)	131 (-)	23505 (34900)
Winter Flounder	10435 (11697)	62 (61)	- (-)	- (-)	- (-)	- (-)	- (-)	1946 (462)	- (-)	12443 (12220)
American Plaice	2170 (2586)	40 (87)	2 (-)	1 (-)	499 (688)	- (-)	- (-)	340 (945)	- (-)	3052 (4306)
Witch	3158 (2959)	31 (15)	- (-)	1 (-)	- (-)	- (-)	- (-)	2713 (108)	- (-)	5903 (3082)
Other Flounder	162 (307)	16 (19)	4 (119)	- (8)	- (107)	- (-)	- (-)	843 (-)	- (87)	1025 (647)
Cusk	783 (552)	1040 (813)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	1823 (1365)
Ocean Pout	2678 (5851)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	3553 (895)	- (-)	6231 (6746)
Pollock	4727 (3592)	1636 (853)	5 (1)	1 (-)	- (-)	183 (6)	633 (3156)	1163 (51)	5963 (-)	14311 (7659)
Angler	88 (201)	- (-)	- (-)	- (-)	- (-)	5 (-)	- (-)	3644 (477)	- (-)	3737 (678)

TABLE 1. CATCHES (METRIC TONS) BY SPECIES AND COUNTRY FROM ICNAF SUBAREA 5 FOR 1971 AND (1970) (CONTD)

SPECIES	USA	CANADA	JAPAN	POLAND	ROMANIA	SPAIN	W.GERMANY	USSR	NON-MEMBER	TOTAL
Sculpin	863 (2608)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	1095 (2230)	- (-)	1958 (4838)
White Hake	2664 (1845)	100 (45)	109 (159)	- (-)	- (-)	- (63)	- (-)	- (-)	- (-)	2873 (2113)
Bluefin Tuna	1123 (563)	424 (-)	- (-)	2 (-)	- (-)	- (-)	1 (-)	- (-)	- (-)	1550 (563)
Butterfish	419 (391)	- (-)	973 (1723)	- (-)	- (-)	- (-)	- (-)	400 (396)	1 (-)	1793 (2550)
Menhaden	6355 (5122)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	6355 (5122)
Atlantic Saury	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	2144 (1054)	- (-)	2144 (1054)
Alewife	1005 (1463)	- (-)	- (-)	1406 (-)	95 (-)	- (-)	- (-)	9014 (13135)	3098 (75)	14618 (14673)
Argentine	- (-)	- (-)	5398 (369)	- (-)	- (-)	- (-)	- (-)	1893 (999)	2 (-)	7293 (1368)
Sharks	13 (75)	- (-)	64 (334)	- (-)	40 (-)	- (-)	- (-)	9045 (4336)	- (-)	9162 (4745)
Skates	741 (1437)	2 (1)	- (-)	- (-)	- (-)	- (-)	- (-)	3750 (2544)	- (14)	4493 (3996)
Other Finfish	8036 (6679)	334 (1352)	1269 (660)	9137 (5169)	1110 (205)	- (-)	56 (2)	8930 (2965)	2984 (14254)	31856 (31285)
Scallops	14142 (12938)	32434 (34006)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	46576 (46944)
Other Shellfish	64664 (60335)	102 (-)	4612 (5396)	- (-)	- (-)	256 (-)	- (-)	6473 (1065)	80 (-)	76187 (66795)
TOTAL	246107 (258110)	61442 (47303)	15289 (10556)	123689 (101740)	5026 (2720)	9147 (8163)	58340 (92399)	292754 (166176)	45641 (68110)	857691 (755277)
Total Finfish	167301 (184837)	28906 (13297)	10677 (5160)	123689 (101740)	5026 (2720)	9147 (8163)	58340 (92399)	286281 (165111)	45561 (68110)	734928 (641537)
Total Shellfish	78806 (73273)	32536 (34006)	4612 (5396)	- (-)	- (-)	256 (-)	- (-)	6473 (1065)	80 (-)	122763 (113740)

TABLE 1. CATCHES (METRIC TONS) BY SPECIES AND COUNTRY FROM ICNAF SUBAREA 6 FOR 1971 AND (1970) (CONTD)

SPECIES	USA	CANADA	JAPAN	POLAND	ROMANIA	SPAIN	W.GERMANY	USSR	NON-MEMBER	TOTAL
Cod	383 (364)			101 (143)						484 (507)
Haddock	8 (2)									8 (2)
Silver Hake	2989 (2248)		49 (256)	12 (-)	42 (-)			7061 (3044)	621 (-)	10774 (5548)
Red Hake	821 (659)		7 (-)					8285 (834)	1218 (-)	10331 (1493)
Yellowtail Flounder	6867 (4050)		7 (3)					829 (1113)	125 (-)	7828 (4164)
Other Flounder	3776 (4548)		- (161)					299 (19)	36 (-)	4111 (4728)
Ocean Pout	1448 (426)							186 (-)	2 (-)	1636 (426)
Herring	1423 (708)		32 (192)	19242 (15859)	11 (-)		- (356)	17355 (22406)	3890 (-)	41953 (39527)
Mackerel	809 (957)		753 (1037)	68612 (27153)	5122 (-)		1621 (45)	68754 (68026)	88958 (-)	234628 (97218)
Butterfish	1151 (1478)		4795 (6898)					86 (8)	25 (-)	6057 (8324)
Menhaden	234396 (218304)									234396 (218304)
Alewife	11799 (14888)			819 (-)				2275 (5954)	6320 (-)	21213 (20842)
Sharks	89 (169)		76 (325)					2997 (588)		3162 (1082)
Other Finfish	23734 (27161)	567 (2084)	856 (1743)	7392 (2226)	888 (-)			5354 (1318)	6081 (-)	44872 (34532)
Scallops	7455 (8828)									7455 (8828)
Other Shellfish	424195 (442834)		5953 (8314)					479 (-)	10 (-)	430637 (451148)
TOTAL	721343 (727624)	567 (2084)	12528 (18935)	96178 (45381)	6063 (-)		1621 (45)	113960 (102308)	107286 (-)	1059546 (896733)
Total Finfish	289693 (275962)	567 (2084)	6575 (10621)	96178 (45381)	6063 (-)		1621 (45)	113481 (102308)	107276 (-)	621454 (436757)
Total Shellfish	431630 (451662)	0 (0)	5953 (8314)	- (-)	- (-)		- (-)	479 (-)	10 (-)	438092 (459976)