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Status of fisheries and research carried out in
Subarea 5 and Statistical Area 6 in 1973

by

V.C. Anthony, D.W.K. Au and E.G. Heyerdahl
Northeast Fisheries Center
National Marine Fisheries Service
Woods Hole, Mass., U.S.A.

Reports on research in these areas were submitted by Canada, France, Fed.Rep. Germany, German Dem.Rep., Japan, Poland, Spain, USSR, UK and USA.

Documents containing information on the status and management of resources or environmental conditions are: Res.Doc. 74/8, 9, 10, 14, 16, 17, 18, 19, 30, 31, 32, 33, 34, 37, 50, 51, 56, 57, 58, 60, 61, 64, 65, 68, 81, 83, 87, 88, 93, 94, 96, 97, 98, 99, 100, 101, 105, 108, 110, 112, 113 Summ.Doc. 74/21, 22, 26, 27, 28, 31, 32, 33, 36, 37. Comm. Doc. 74/5, 6, 7, 8, 9, 12, 16, 17, 18, 22, 24, 25, 27.

1. Status of the Fisheries.

Catches of all species taken in Subarea 5 and Statistical 6 for 1972 and 1973 are shown in Tables 1 - 17 by country. Total catch of all species in Subarea 5 and Statistical 6 was 1,820,000 tons in 1973, which represents an 8 percent decrease from the 1972 of 1,980,000 tons.

Of the 15 species under quota regulation in Subarea 5 and Statistical Area 6 during 1973, only the herring catch of 201,000 tons in Division 5Z plus Statistical Area 6 exceeded the established TAC of 150,000 tons, due largely to catches by non-member countries not under quota regulation.

The fishery showing the greatest change was for mackerel, increasing in Subarea 5 by 114,800 tons while decreasing in Statistical Area 6 by 120,952 tons. However, as the mackerel stock is considered to be continuous in Subarea 5 and Statistical Area 6, the large changes should be credited to a shift in fishing effort between the two areas. The remaining major changes include silver hake which increased by 18,500 tons for Subarea 5 and Statistical Area 6 combined, while yellowtail flounder and argentine catches in Subarea 5 and Statistical Area 6 combined decreased by 7,900 tons and 35,800 tons, respectively.

Table 1. Changes for major species are presented in Table 1 as percentages & MT of catch, in ().

| Species | SA 5 | | SA 6 | |
|---------------------|--------------|-------------|-------------|--------------|
| | Increased | Decreased | Increased | Decreased |
| Cod | 9.9(3100) | | | |
| Haddock | | 11.7(800) | | |
| Redfish | | 10.5(1800) | | |
| Silver hake | 12.0(12800) | | 47.1(5700) | |
| Red hake | | 11.8(7100) | 4.6(700) | |
| Pollock | .5(100) | | | |
| Yellowtail flounder | | 13.8(4100) | | 42.3(3800) |
| Other flounders | | 19.2(3700) | 39.3(1800) | |
| Ocean Pout | 89.4(2600) | | | |
| Sculpins | | | | 2.6(100) |
| Scup | 4.9(100) | | 18.0(700) | |
| Sea robins | | | | 64.1(2300) |
| Other groundfish | | | | 32.7(700) |
| Herring | | 1.2(2500) | | 9.0(1400) |
| Mackerel | 57.3(114800) | | | 64.7(120952) |
| Menhaden | 243.6(21800) | | | 6.6(21100) |
| Butterfish | | | 167.5(7400) | |
| Other Pelagic Fish | | | | 82.8(2600) |
| Alewife | | 34.8(3000) | | 29.6(4600) |
| Dogfish | | | | 65.0(5600) |
| Argentine | | 92.3(30200) | | |
| Other fish | | | 29.0(8000) | |
| Squid | 38.2(10000) | | | 9.0(2000) |
| Scallops | 4.7(2200) | | | |
| All species | 12.8(120100) | | | 27.2(281577) |

Cod: Div. 5Y, Div. 5Z.

The cod populations in both ICNAF Divisions 5Y and 5Z appear to be in good condition and the population may even increase in 5Z in 1975 or 1976 due to an increase in recruitment. The catches remained relatively stable from 1970 to 1973 and did not reach the TAC in 1973 of 10,000 tons (5Y) and 30,000 tons (5Z). No change in the TAC for 1974, therefore, is advised for 1975.

Haddock: SA 5

The haddock stock remains at a very low level. The index of the 1973 year-class reflects another poor year-class only slightly better than those of 1965 to 1972. The TAC's advised for 1973, 1974, and 1975 were 6,000 tons, zero and zero, respectively. Comm. Doc. 74/25 proposes that the existing regulation for the prohibition of fishing in the haddock closed area with gear capable of taking demersal species be broadened to include a prohibition on fishing with all types of trawls or trawl lines, excepting gear used in fishing for crustacea and scallops. The Assessment Subcommittee recognized this to be a conservation measure to the extent that it reduces the incidental catch of haddock, but data were not available that would allow for useful evaluation of the proposed change.

Herring: Div 5Y, Div 5Z & SA 6.

The 1970 year-class is good in both stocks and has doubled the adult stock size in both areas at the beginning of 1974 compared to the previous year, but it should be noted that the stock size at the beginning of 1973 was the lowest on record. Poor recruitment of the 1971 and probably the 1972 year-class, coupled with the catches of 25,000 and 150,000 metric tons in 1974, should decrease the stock sizes 20 to 25% by the end of 1974. With the stocks at already low levels and no indication of improved recruitment, caution is advised in considering TAC's for 1975. A similar 1975 catch of 25,000 tons for Division 5Y and 150,000 tons for Division 5Z plus Statistical Area 6 would probably result in a very low recommended TAC for 1976, just to maintain the present low stock size.

Mackerel: SA 5 & 6.

Polish B-18 trawler catch per effort of mackerel increased again in 1973. Polish trawlers overall took about 30% of the entire 1973 catch, but the proportion taken by the B-18 fleet is not known at this time. In contrast, groundfish survey data, as well as other commercial data, showed a decline in relative abundance. It was concluded by the ad hoc Mackerel Working Group considering all available data, that stock abundance had declined by around 10%. Agreement was also reached by the ad hoc Group on partial recruitment, total mortality in 1973, resulting estimates of year-class strength and the natural mortality of 0.3. No reliable estimates of the sizes of the 1974-1975 year-classes were available and these were set conventionally at conservative levels. The 1975 TAC was recommended at 285,000 tons, which would maintain the fishing mortality rate of 1973 in 1975. This would have the effect of maintaining the stock size at the beginning of 1976 as existed at the beginning of 1974.

It was further noted in the Assessment Subcommittee Report that the 1975 TAC included about 31,000 tons of age 1 fish, and minimizing the catch of this age group would be desirable. It was advised that a minimum size limit be imposed of 25 cm (total length). It was also pointed out that if this were effective, maintaining the quota at 285,000 tons would imply an increase in F from .6 to .7 but this would not significantly change the state of stock in one year. However, it will have to be taken into account in setting the TAC of 1976.

Yellowtail Flounder: SA 5 (East of 69°W)

Catch per effort of the commercial catch statistics and research catch per tow abundance indices have stabilized under the management regime imposed since 1971. Landings per day at age indicate a slight decrease in total mortality under the TAC restrictions. The population size appears to be stable and the past TAC of 16,000 seems adequate to maintain this population size through 1975-1976 unless successive years of poor recruitment occur.

Management Area: SA 5 (West of 69°),

Catch per day of data for all nations fishing the Southern New England and Cape Cod

stocks of yellowtail have steadily and consistently declined from 1970 to 1973. US fall survey catch per tow indices also indicate a strong decline in age 1 fish since 1969. Survey indices for the entire age group of total New England stock declined by a factor of 10 from 1972 to 1973. While similar indices have not been developed for the Cape Cod stock, declines in landings per day indicate that this stock is also in very poor condition. It is recommended that the TAC for 1975 be reduced to the lowest possible values.

Statistical Area 6.

A first assessment for Statistical Area 6 for yellowtail was presented at this meeting. Fishing mortality rates have been very high for this stock since 1966 while stock abundance indices indicate a sharp decline in abundance after 1969. The 1975 abundance indices are also extremely low. Therefore, no directed yellowtail fishery for 1975 is recommended if the extremely low current stock size is to be maintained or increased.

Since the stock boundaries between the Southern New England stock and that of the yellowtail in SA 6 are not well defined, and the management strategy appears to be the same for both groups of fish, it was decided that a single TAC should be applied for yellowtail fisheries for Subarea 5 west of 69° and Statistical Area 6 combined. This TAC was recommended to be zero since incidental catches of from 4,000 to 5,000 tons would be expected from the other groundfish fisheries. In addition, because such an incidental catch was judged of itself to be excessive, it was suggested that all reasonable measures be taken to reduce the incidental catch.

Silver Hake: Div 5Y, Sub Div 5Ze, 5Zw & SA 6.

Survey data indicate that the relative abundance of the 5Ze and 5Zw-6 stocks remained at the approximate level of 1973. The TAC's for 1975 were advised to remain the same as were set for 1974 - 80,000 tons for 5Ze and 80,000 tons for 5ZW-6.

Survey data indicate the appearance of good 1971 to 1973 year-classes in the 5Y silver hake stock. The catch in 5Y increased from 6,700 MT in 1972 to 8,400 MT in 1973 but is still substantially below the 1955 to 1966 average of 28,500 MT. To allow for the gradual recovery of this stock to its former level, only a gradual increase in catch is advised: a TAC for 1975 for 15,000 tons compared to 10,000 tons in 1973.

Red Hake: Div 5Z(E of 69°W), Div 5Z(W of 69°W) & SA 6.

The catch from the Georges Bank stock decreased from 29,200 tons in 1972 to 18,400 tons in 1973. The 1974 TAC of 20,000 tons was advised for 1975. Survey indices of the red hake stock in Division 5Z west of 69° and Statistical Area 6 declined from 1973 to 1974. The catch in 1973 remained the same as in 1972, about 43,000 tons. The TAC for 1975 was advised at 45,000 tons, a reduction from 50,000 tons set for the 1974 TAC.

Redfish: SA 5.

Commercial catch per day and survey catch per tow indices indicate a declining abundance of redfish since 1969 in the Gulf of Maine. Increases in both catch and effort accompanied this decline in abundance. The reason for the decline in abundance is not clear. Caution must, therefore, be advised until a comprehensive assessment of the stock has been completed. The Subcommittee, therefore, advised a TAC for 1975 of 25,000 MT, a decrease of 5,000 MT from the TAC of 1974.

Flounders Other than Yellowtail: SA 5 & 6.

The TAC for this group of species was based on historic catches and research survey trends. Although the US and USSR joint survey cruises have shown a decline in this group of species, there was no firm, additional evidence with which to change the 1974 TAC level of 25,000 tons.

Squid: SA 5 & 6.

There are two types of squid in the ICNAF area - Loligo and Illex. The advice of the Assessment Subcommittee on a TAC level for squid in 1974 applied only to Loligo: 50,000 to 80,000 tons. While no new evidence was available on which to revise the 1974 TAC (71,000 tons) set by the Commissioners, new information is becoming available for Loligo which will provide a new assessment in 1975. At present there is no information on which to base a TAC for Illex.
Argentine: SA 5.

The 1973 catch of argentine in Subarea 5 declined by over 90% (30,000 tons). Some confusion exists over the degree of stock separation, if any, between Subarea 4 and Subarea 5 fish. The 1972 catch of 32,000 tons was made just inside Subarea 5. No assessment information is available that would help to clarify the question. No change was recommended in the 25,000 tons each in Subarea 4 and 5.

Other Finfish: SA 5 & 6.

A TAC for other finfish of 125,000 tons was established in 1974. This was based on historic catches averaging about 140,000 tons during 1963 to 1972 combined with the observed decline in groundfish biomass during the same period of about 50 percent. Numerous species exist in this category for which no assessment has been made. A preliminary assessment, however, was presented on spiny dogfish (Res. Doc. 74/30) which indicated a MSY of 40,000 tons. The recommended TAC for 1975 for other finfish was suggested to remain at 125,000 tons.

Pollock: SA 5.

USA commercial catch per effort data and survey cruise indices indicate that the pollock population of the combined area of Subarea 5 and Division 4VWX is not declining at the current catch and recruitment levels. There was no information available on which to base a change in recommended TAC from the 55,000-ton level established in 1973-1974.

2. Research Carried Out

a) Canada (Res.Doc. 74/8, 9, 56, 60, 87, 93, 94; Summ.Doc. 74/21).

Food, growth, and migration of mackerel from the northern Gulf of St. Lawrence spawning population to determine its relationship to the New England mackerel fishery; food, length frequency, sex differences, and relationship to hydrography of Loligo squid from Georges Bank and the SA 4 shelf; studies of herring otolith development from Jeffreys Ledge and comparison with other samples from SA 4 for possible use in stock identification; participation in fall ICNAF Larval Herring Survey in Bay of Fundy and Gulf of Maine; biological studies on sea scallops on Georges Bank; examination of landings and tag returns from bluefin tuna caught off the mid-Atlantic coast.

b) UK (Res.Doc. 74/83; Summ.Doc. 74/31)

Analysis of length sampling schemes for New England silver hake as part of studies of variance in length and age measurements; 421 miles of continuous plankton recorder tows by vessels of opportunity in Subarea 5.

c) USSR (Res.Doc. 74/51, 64, 65, 14, 108, 113; Summ.Doc. 74/26)

Analysis of growth, stock structure, and research vessel indexes for assessments of red hake and mackerel populations; comparison of the 1971 and 1972 hydrographic conditions off Nova Scotia and on Georges Bank; participation in the fall 1973 ICNAF Larval Herring and Hydrography Survey in the Gulf of Maine and on Georges Bank; participation in the joint USA-USSR hydroacoustical experiment to obtain data to be used in the development of acoustical, stock assessment methods; joint USA-USSR fall groundfish survey including trawl comparisons; oceanographic studies including hydrography, hydrochemistry, zooplankton and ichthyoplankton; studies of nutrition and food relationships in adult fish as well as in herring and silver hake larvae; biochemical studies of herring and mackerel stocks.

d) Poland (Res.Doc. 74/18, 81; Summ.Doc. 74/32)

Studies on size of samples required for estimation of length composition of herring on Georges Bank as a contribution to the problem of variance in length and age measurement; participation in the fall 1973 ICNAF Larval Herring Survey in the Gulf of Maine and on Georges Bank, including hydrographic and plankton biomass studies; participation in the fall groundfish survey on Georges Bank (stratified random sampling).

e) Fed. Rep. Germany (Res.Doc. 74/16, 61, 105; Summ.Doc. 74/33)

February-March juvenile herring survey on Georges Bank and Nantucket Shoals area (stratified random sampling with bottom trawl), including plankton studies of cod and haddock eggs and larvae; participation in fall 1973 ICNAF Larval Herring Survey, including hydrographic measurements.

f) Spain (Summ.Doc. 74/27)

Studies of length frequency, age, and contribution of year-classes to cod catches in SA 5Z during February

g) Japan (Summ.Doc. 74/28)

Measurements of main species caught by trawlers in SA 5; examination of butterflyfish otoliths for age determination and assessment; theoretical examination of by-catch effects on total quotas in multiple species fisheries.

h) German Dem. Rep. (Summ.Doc. 74/36)

Length measurements and age determinations of herring and mackerel; testing of the new pelagic "Jager-trawl".

i) France (Res.Doc. 74/50, 57, 58; Summ.Doc. 74/22)

September-October groundfish survey (stratified random sampling with bottom trawl) on Georges Bank; from these samples studies of sex ratio, growth, and population structure of Loligo squid and comparison with Illex squid caught concurrently, and studies of age structure and year-class contribution in pre-spawning herring populations from Northwest Georges Bank; participation in the fall 1973 ICNAF Larval Herring Survey in the Southern Nova Scotian area and on Georges Bank; meristic comparisons between Scotian Shelf and Georges Bank yellowtail flounder.

j) USA (Res.Doc. 74/37, 10, 17, 19, 30, 31, 32, 33, 34, 68, 96, 97, 98, 99, 100, 101, 110, 112, 113; Summ.Doc. 74/ 37)

Analysis of foreign and U.S. catch and effort data, of age composition, growth and research vessel indexes to obtain assessments of mackerel, red hake, silver hake, cod, herring, yellowtail flounder, and Loligo squid; descriptions of the U.S. fisheries, 1969-72, by gear, species caught, and catch trends; description of sampling procedures and data obtained from U.S. research and commercial vessels, description of the mixture of species and their degree of geographical overlap in SA 5 and 6; analysis of the effects on long-term yields of catch versus effort quotas as fishery management strategies; description and status of present pre-recruit indexes and analysis of the probable costs of pre-recruit surveys for desired precision levels from ± 10 to $\pm 50\%$; analysis of the number and size of samples required to obtain age structure information from commercial catches for various desired precision levels; review of U.S. age validation studies; studies of the gut contents of larval herring from Georges Bank as part of studies of survival mechanisms; participation in the fall 1973 ICNAF Larval Herring Surveys; a re-survey of larval herring on Georges Bank during February 1974; cooperative US-USSR hydroacoustical experiment to obtain basic data to be used in the development of acoustical stock assessment methods; laboratory experiments on behavior, feeding, and energetics of larval fish; studies on the reproductive biology of large pelagic gamefish, (tunas, sharks, and billfish) on the distribution and abundance of ichthyoplankton species between Cape Hatteras and Nova Scotia; direct observation by divers and manned submarine of upper slope fauna, and attempts to study by same means herring spawning and larval hatching from egg beds; fall and spring standard groundfish surveys (stratified random sampling) to monitor the status of the stocks, including hydrographic measurements; continued studies of spawning and fecundity of gadoids from Georges Bank, the Gulf of Maine and the Scotian Shelf; continued demersal food chain studies; joint US-USSR gear selectivity studies toward development of a new standard survey trawl.

Table 3.

STATUS OF FISHERIES - SA 5

| | Am. PLATICE | | WITCH | | YELLOWTAIL | | WINTER FLOR. | | SUMMER FLOR. | | OTHER FLOR. | |
|--------|-------------|------|-------|------|------------|-------|--------------|------|--------------|------|-------------|------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| USA | 22 | 38 | 13 | 10 | 9 | 12 | 8 | 14 | | | 39 | 39 |
| DEM F | | | | | | | | | | | | |
| FRASP | | | | | | | | | | | | |
| FRG | | | | | | | | | | | | |
| GDR | | | | | | | | | | | | |
| ICE | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | |
| JAP | | | | | 5 | 2 | | | | | | 5 |
| NOR | | | | | | | | | | | | |
| POL | | | | | | | | | | | | |
| POR | | | | | | | | | | | | |
| ROM | | | | | 32 | | | | | | | |
| SPA | | | | | | | | | | | | |
| USSR | 439 | 447 | 2533 | 621 | 4816 | 339 | 2517 | 1486 | 393 | 22 | | |
| UK | | | | | | | | | | | | |
| USA | 1794 | 1602 | 2908 | 2423 | 24200 | 25070 | 7980 | 7832 | 181 | 374 | 94 | 471 |
| OTHERS | | | | | | | | | | | 118 | |
| TOTAL | 2255 | 2087 | 5454 | 3054 | 29620 | 26533 | 10505 | 9332 | 574 | 396 | 260 | 515 |

Table 4.
STATUS OF FISHERIES - SAs

| | ANGER | | CUNNER | | CUSK | | KING WHITING | | OCEAN POUT | | SCULPIN | |
|--------|-------|------|--------|------|------|------|--------------|------|------------|------|---------|------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | | | | | | | 3 | | | 15 | | |
| CAN | | 1 | | | 768 | 581 | | | | | | |
| DEN F | | | | | | | | | | | | |
| FRAS P | | 19 | | | | | | | | | | |
| FRG | | | | | | | | | | | | |
| GDR | | | | | 1 | | | | | | | |
| ICE | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | |
| JAP | | | | | | | | | | | | |
| NOR | | | | | | | | | | | | |
| POL | | 160 | | | | | | | | | | |
| FOR | | | | | | | | | | | | |
| ROM | | | | | | | | | | | | |
| SPA | 9 | | | | | | | | | | | |
| USSR | 4092 | 6612 | | | | | 975 | | 2676 | 4217 | 4326 | |
| UK | | | | | | | | | | | | |
| USA | 231 | 392 | 5 | | 916 | 1221 | 19 | 1 | 2810 | 645 | 1882 | |
| OTHERS | | | | | | | | | | | | |
| TOTAL | 4332 | 7184 | 5 | - | 1695 | 1802 | 19 | 1 | 2905 | 5501 | 4862 | 6208 |

Table 5.

STATUS OF FISHERIES - S A 5

| | SCUP | | SEA ROBIN | | TAUTOG | | TILEFISH | | WHITE HAKE | | WOLFFISH | |
|--------|------|------|-----------|------|--------|------|----------|------|------------|------|----------|------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BEL | 23 | 49 | | | | | | | | | | |
| DNK | | | | | | | | | | | | |
| DEU | | | | | | | | | | | | |
| FRS | | | | | | | | | | | | |
| FRG | | | | | | | | | | | | |
| GDR | 18 | | 15 | | | | | | | | | 1 |
| ICE | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | |
| JAP | | | | | | | | | 140 | | | |
| NOR | | | | | | | | | | | | |
| POL | 401 | 499 | | 962 | | | | | | | | 150 |
| POR | | | | | | | | | | | | |
| ROM | | 81 | 29 | | | | | | | | | |
| SPA | | | | | | | | | 19 | | | |
| USSR | 314 | 77 | 283 | 604 | | | | | | | | |
| UK | | | | | | | | | | | | |
| USA | 473 | 583 | 47 | 37 | 24 | 20 | 2 | 62 | 2885 | | 249 | 244 |
| OTHERS | | | | | | | | | | | | |
| TOTAL | 1229 | 1289 | 374 | 1603 | 24 | 20 | 2 | 62 | 3084 | - | 285 | 431 |

Table 6.

STATUS OF FISHERIES - S A S

| | GNO-FSH (NS) | | HERRING | | MACKEREL | | MENHADEN | | ATL. SAURY | |
|--------|--------------|------|---------|--------|----------|--------|----------|-------|------------|------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | | | 2239 | 1731 | 7452 | 24369 | | | 2 | |
| CANAD | 47 | 46 | 11691 | 9189 | 1 | 53 | | | | |
| DEN F | | | | | | | | | | |
| FRA SP | | | 500 | 1180 | | | | | | |
| FRG | | 429 | 30633 | 32378 | 757 | 1259 | | | | |
| GDR | | | 47239 | 57601 | 25372 | 54874 | | | 12 | |
| ICE | | | | | | | | | | |
| ITA | | | | | | | | | | |
| JAP | 424 | | 1159 | 1205 | 209 | 126 | | | | |
| NOR | | | | | | | | | | |
| POL | | | 41224 | 47071 | 61486 | 100729 | | | | |
| POR | | | | | | | | | | |
| ROM | | | 2059 | 58 | 515 | 905 | | | | |
| SPA | | | | | 6 | | | | | |
| USSR | | | 43764 | 42242 | 103686 | 32335 | | | 3415 | |
| UK | | | | | | | | | | |
| USA | 2479 | 3969 | 40456 | 25764 | 1025 | 674 | 8957 | 30780 | | |
| OTHERS | | | | | 9 | | | | | |
| TOTAL | 2950 | 4444 | 220964 | 218419 | 200518 | 315324 | 8957 | 30780 | 3429 | - |

Table 7.

STATUS OF FISHERIES — S A S

| | BLACK S. BASS | | BLUEBACH | | DOG FISH | | SHARK | | SKATE | |
|--------|---------------|------|----------|------|----------|------|-------|------|-------|------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | | | | | | | | | | |
| CAN/NO | | | | | | | | | | |
| DEN F | | | | | | | 260 | | | |
| FRASP | | | | | | | | | | |
| FRG | | | | | 20 | | | | | |
| GDR | | | | | 356 | 508 | | | | 1 |
| ICE | | | | | | | | | | |
| ITA | | | | | | | | | | |
| JAP | | | | | | | | | | |
| NOR | | | | | | | 29 | | | |
| POL | | | | | | | | | | |
| POR | | | | | | | | | | |
| ROM | | | | | | | 5 | | | |
| SPA | | | | | | | | | | |
| USSR | | | | | 8228 | | 12486 | | 7957 | 6754 |
| UK | | | | | | | | | | |
| USA | 18 | 25 | | 68 | | | 18 | 18 | 778 | 1098 |
| OTHERS | | | | | | | | | | |
| TOTAL | 18 | 25 | - | 219 | 356 | 8756 | 12798 | 18 | 8735 | 7853 |

Table 8.

STATUS OF FISHERIES - SAS

| | Bluefish | | Butterfish | | Swordfish | | Bluefin Tuna | | Yellowfin Tuna | | Sub-Total | | Total | |
|--------|----------|-----|------------|------|-----------|-----|--------------|-----|----------------|----|-----------|------|---------|--------|
| | 72 | 73 | 72 | 73 | 72 | 73 | 72 | 73 | 72 | 73 | 72 | 73 | | |
| BUL | 2 | | 96 | 206 | | | | | | | 98 | 206 | 15330 | 28,399 |
| CAN | | | | | | 14 | | | | | | 14 | 17394 | 16910 |
| DEN | | | | | | | | | | | | | | |
| FRAS | | | | | | | | | | | | | 500 | 1199 |
| FRG | | | | | | | 6 | | | | 6 | | 32240 | 95186 |
| GDR | | 12 | 10 | 190 | | | | 30 | | | 10 | 232 | 77935 | 113917 |
| ICE | | | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | | | |
| JAP | | | 1396 | 2857 | | | | | | | 1396 | 2857 | 3766 | 4426 |
| NOR | | | | | | | | | | | | | | |
| POL | 15 | 197 | | 2590 | | 74 | | | | | 21 | 2861 | 103331 | 153361 |
| POR | | | | | | | | | | | | | | |
| ROM | | | | 56 | | | | | | | | 56 | 2705 | 1105 |
| SPA | | | | | | | | | | | | | 7913 | 7170 |
| USSR | 1 | | 435 | 1352 | | | | | | | 436 | 1352 | 331318 | 352928 |
| UK | | | | | | | | | | | | | | |
| USA | 134 | 157 | 123 | 514 | 81 | 189 | 593 | 372 | | | 710 | 1453 | 151057 | 172417 |
| OTHERS | | | | | | | | | | | | | 957 | |
| TOTAL | 152 | 366 | 2060 | 7765 | 81 | 277 | 593 | 384 | - | 30 | 2677 | 9031 | 744,446 | 886918 |

STATUS OF FISHERIES - SAs

| | Skipjack Tuna | | Bonito | | Pollock (MS) | | Alewife | | Argentine | | Sub-total | | Total |
|--------|---------------|----|--------|----|--------------|-----|---------|------|-----------|------|-----------|------|--------|
| | 72 | 73 | 72 | 73 | 72 | 73 | 72 | 73 | 72 | 73 | 72 | 73 | |
| BUL | | | | | | | | | | | | | |
| CAN | | | | | | | | | | | | | |
| DEN | | | | | | | | | | | | | |
| FRSP | | | | | | | | | | | | | |
| FRG | | 3 | | | | 18 | | | | | | | 1199 |
| GDR | | | | | | | | | | | 18 | 3 | 32258 |
| ICE | | | | | | | | | | | 1107 | 594 | 79042 |
| ITA | | | | | | | | | | | | | |
| JAP | | | | | | 235 | | | 97 | 90 | | 90 | 4098 |
| NOR | | | | | | | | | | | | | |
| POL | | | | | | | | | | | | | |
| POR | | | | | | | | | | | | | |
| ROM | | | | | | | | | | | | | |
| SPA | | | | | | | | | | | | | |
| USSR | | | | | | | | | | | | | |
| UK | | | | | | | | | | | | | |
| USA | | | 2 | 5 | | | | | | | | | |
| OTHERS | | | | | | | | | | | | | |
| TOTAL | | 3 | 2 | 5 | 375 | — | 8656 | 5646 | 32707 | 2512 | 41740 | 8166 | 895084 |

Table 10.

STATUS OF FISHERIES - SA 5

| | OTHER FISH | | LOLLIGO | | ILLEX | | SQUID (NS) | | SCALLOP | | OTHER SHELLFISH | | TOTAL | |
|-------|------------|-------|---------|-------|---------|------|------------|-------|---------|-------|-----------------|-------|--------|---------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | 4308 | | | | | | 480 | | | | | | 20625 | 20525 |
| CANAD | | | | 396 | | | | | 34535 | 35054 | 212 | 227 | 52141 | 52091 |
| DEN F | | | | | | | | | | | | | 260 | |
| FRASP | | | | | | | 6 | 403 | | | | | 506 | 1602 |
| FRG | 128 | 308 | | | | | 63 | 137 | | | | | 32449 | 35254 |
| GDR | 51 | 11392 | | | | | | 313 | | | | | 79449 | 126725 |
| ICE | | | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | | | |
| JAP | 578 | 285 | | 5946 | | 85 | 7862 | | | | 1 | | 12539 | 10832 |
| NOR | | | | | | | | | | | | | 29 | |
| POL | 3996 | 4657 | | | | | 5042 | 9157 | | | | | 113850 | 170098 |
| POR | | | | | | | | | | | | | | |
| ROM | | | | | | | | | | | | | 2798 | 1196 |
| SPA | 207 | 59 | | 7713 | | 2434 | 5797 | | | | 1 | | 13918 | 17376 |
| USSR | 11925 | 8509 | | | | | 6381 | 8631 | | | 30 | | 407352 | 387737 |
| UK | | | | | | | | | | | | | | |
| USA | 217 | 261 | | | | | 459 | 873 | 11226 | 12858 | 36325 | 36881 | 201157 | 225997 |
| OTHER | 586 | | | | | | 14 | | | | | | 1557 | |
| TOTAL | 21996 | 25562 | 500(NS) | 14055 | 500(NS) | 2519 | 2611 | 19514 | 45761 | 47912 | 36569 | 37108 | 938530 | 1058625 |

Table 11. Comparison of catches from Statistical Area 6 between 1972 and 1973, by country and species.

| | Cod | | Haddock | | Redfish | | Silver hake | | Red hake | | Pollock | |
|--------|------|------|---------|------|---------|------|-------------|--------|----------|--------|---------|------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | 2 | | | | | | 196 | | 6 | | | |
| CAN | | | | | | | | | | | | |
| DEN | | | | | | | | | | | | |
| FRA | | | | | | | | | | | | |
| FRG | | | | | | | | 1 | | 1 | | |
| GDR | 5 | 22 | | | | | | | 40 | | 23 | 18 |
| ICE | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | |
| JAP | 4 | 4 | | | | | 90 | 2 | 534 | 2 | | |
| NOR | | | | | | | | | | | | |
| POL | 97 | 50 | | | 4 | | | | 1 | | | |
| POR | | | | | | | | | | | | |
| ROM | | | | | | | 127 | | 43 | | | |
| SPA | 3 | | | | | | | | | | | |
| USSR | 52 | 42 | | | 2 | 23 | 7,735 | 15,624 | 14,704 | 15,624 | | |
| UK | | | | | | | | | | | | |
| USA | 266 | 257 | 1 | 2 | 1 | | 274 | 1,256 | 817 | 1,256 | 1 | 1 |
| OTHERS | | | | | | | | | | | | |
| TOTAL | 429 | 375 | 1 | 2 | 7 | 23 | 8,424 | 16,883 | 16,145 | 16,883 | 24 | 19 |

D 4

Table 12. Comparison of catches from Statistical Area 6 between 1972 and 1973, by country and species.

| | Amer. plaice | | Witch | | Yellowtail | | Winter flounder | | Summer flounder | | Flounder (MS) | |
|--------|--------------|------|-------|------|------------|-------|-----------------|------|-----------------|-------|---------------|-------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | | | | | | | | | | | | |
| CAN | | | | | | | | | | | | |
| DEN | | | | | | | | | | | | |
| FRA | | | | | | | | | | | | |
| FRG | | | | 1 | | | | | | | | |
| GDR | | | | | | | | | | | | |
| ICE | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | |
| JAP | | | | | | 2 | | | | | 10 | 23 |
| NOR | | | | | | | | | | | | |
| POL | | | | 2 | | | | | | | | |
| POR | | | | | | | | | | | | |
| ROM | | | | | | 42 | | | | | | |
| SPA | | | | | | | | | | | | |
| USSR | | | | 35 | | 61 | 197 | 14 | 33 | | | |
| UK | | | | | | | | | | | | |
| USA | 1 | 1 | 26 | 11 | 8,774 | 4,937 | 478 | 474 | 3,107 | 3,984 | 804 | 1,703 |
| OTHERS | | | | | | | | | | | | |
| TOTAL | 3 | 1 | 61 | 19 | 8,871 | 5,134 | 492 | 507 | 3,107 | 3,984 | 814 | 1,726 |

Table 13. Comparison of catches from Statistical Area 6 between 1972 and 1973, by country and species.

| | Ocean pout | | Sculpins | | Scup | | Sea robins | | Gro fish (NS) | | Herring | |
|--------|------------|------|----------|-------|-------|-------|------------|-------|---------------|------|---------|--------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | | 2 | | | 61 | 162 | | | | | 116 | 27 |
| CAN | | | | | | | | | | | | |
| DEN | | | | | | | | | | | | |
| FRA | | | | | | | | | | | | |
| FRG | | | | | | | | | 717 | | | |
| GDR | | | | | 237 | | 31 | 1 | | | 2,073 | 1,009 |
| ICE | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | |
| JAP | | | | | | | | | 851 | | 2 | 44 |
| NOR | | | | | | | | | | | | |
| POL | | | | | 234 | 152 | | 90 | | | 8,262 | 2,215 |
| POR | | | | | | | | | | | | |
| ROM | | | | | | 294 | | | 40 | | 97 | 239 |
| SPA | | | | | | | | | 1 | | | |
| USSR | 92 | 37 | 2,337 | 2,117 | 359 | 378 | 3,489 | 1,172 | | | 4,564 | 10,167 |
| UK | | | | | | | | | | | | |
| USA | 358 | 285 | 100 | 257 | 2,967 | 3,547 | 26 | 10 | 417 | 33 | 522 | 529 |
| OTHERS | | | | | | | | | | | | |
| TOTAL | 450 | 324 | 2,437 | 2,374 | 3,858 | 4,553 | 3,546 | 1,273 | 1,309 | 750 | 15,642 | 14,230 |

Table 14. Comparison of catches from Statistical Area 6 between 1972 and 1973, by country and species.

| | Mackerel | | Menhaden | | Bluefish | | Butterfish | | Bluefin Tuna | | Other Tunas (MS) | |
|--------|----------|--------|----------|---------|----------|------|------------|--------|--------------|------|------------------|------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | 16,104 | 7,374 | 6 | | | | 18 | 33 | | | | |
| CAN | | | | | | | | | 165 | 102 | 38 | |
| DEN | | | | | | | | | | | | |
| FRA | | | | | | | | | | | | |
| FRG | 13 | 268 | | | | | | | | | | |
| GDR | 55,165 | 21,883 | | | 6 | | 24 | 6 | | | | 21 |
| ICE | | | | | | | | | | | | |
| ITA | 800 | 375 | | | | | | | | | | |
| JAP | 895 | 322 | | | | | 2,265 | 2,447 | | | | |
| NOR | | | | | | | | | | | | |
| POL | 80,513 | 16,525 | | | | | | 214 | 1 | | | |
| POR | | | | | | | | | | | | |
| ROM | 2,004 | 4,971 | | | | | | 96 | | | | |
| SPA | | | | | | | | | | | | |
| USSR | 30,371 | 13,461 | | | | | 1,413 | 982 | | | | |
| UK | | | | | | | | | | | | |
| USA | 981 | 715 | 320,810 | 299,761 | 1,556 | 21 | 696 | 1,037 | 1,277 | 161 | 37 | 94 |
| OTHERS | | | | | | | | | | | | |
| TOTAL | 186,846 | 65,894 | 320,816 | 299,761 | 1,556 | 27 | 4,416 | 11,815 | 1,443 | 263 | 75 | 115 |

Table 15. Comparison of catches from Statistical Area 6 between 1972 and 1973, by country and species.

| | O pelagic (MS) | | Alewife | | Black Sea bass | | Blue back | | Dogfish | | Sharks | |
|--------|----------------|------|----------------------|--------|----------------|-------|-----------|------|---------|-------|--------|------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | 16 | | | | | | | 219 | | | | |
| CAN | | | 146 | 60 | | | | | | | | |
| DEN | | | | | | | | | | | | |
| FRA | | | | | | | | | | | | |
| FRG | | 130 | | | | | | | 8 | | 2 | |
| GDR | | | 3,374 | 1,036 | | | | | 390 | 111 | | |
| ICE | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | |
| JAP | | | | | | | | | | | | |
| NOR | | | | | | | | | | | | |
| POL | | | 407 | 338 | | | | | | | | |
| POR | | | | | | | | | | | | |
| ROM | 103 | | | | | | | | | 56 | 31 | |
| SPA | | | | | | | | | | | | |
| USSR | | | 2,048 | 800 | | | | | 8,364 | 2,864 | | |
| UK | | | | | | | | | | | | |
| USA | 6 | 14 | 10,609 ¹⁾ | 8,735 | 703 | 1,121 | | | | | 96 | 106 |
| OTHERS | | | | | | | | | | | | |
| TOTAL | 125 | 144 | 15,584 | 10,969 | 703 | 1,121 | - | 219 | 8,684 | 3,039 | 129 | 106 |

¹⁾ Taken from Summ. Dec. 73/74.

Table 16. Comparison of catches from Statistical Area 6 between 1972 and 1973, by country and species.

| | Skates | | Oth fish (Ns) | | Lobster | | Shrimp | | Squid | | Oth shellfish (Ns) | |
|--------|--------|------|---------------|--------|---------|-------|--------|------|--------|--------|--------------------|---------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | | | 2,548 | | | | | | 19 | 14 | | |
| CAN | | | | | | | | | | | 135 | |
| DEN | | | | | | | | | | | | |
| FRA | | | | | 7 | | | | 290 | 417 | | |
| FRG | | | 24 | | | | | | 400 | 1,502 | | |
| GDR | | | 34 | 5 | | | | | | | | |
| ICE | | | | | | | | | | | | |
| ITA | | | | 375 | | | | | 3,200 | 3,165 | | |
| JAP | | | 788 | 856 | 10 | | | | 10,829 | 9,374 | | |
| NOR | | | | | | | | | | | | |
| POL | | | 2,911 | 595 | | | | | 386 | 42 | | |
| POR | | | | | | | | | | | | |
| ROM | | | | 96 | | | | | 59 | 150 | | |
| SPA | | | 17 | 36 | | | | | 6,063 | 4,782 | | |
| USSR | | | 5,406 | 1,329 | | | | | 595 | 346 | | |
| UK | | | | | | | | | | | | |
| USA | 88 | 82 | 14,924 | 30,746 | 1,762 | 1,178 | | 367 | 738 | 757 | 391,608 | 242,607 |
| OTHERS | | | | | | | | | | | | |
| TOTAL | 88 | 82 | 26,652 | 34,038 | 1,779 | 1,178 | - | 367 | 22,579 | 20,549 | 391,743 | 242,607 |

Table 17. Comparison of catches from Statistical Area 6 between 1972 and 1973, by country and species.

| | Shellfish | | Finfish | | TOTAL | |
|--------|-----------|---------|-----------------------|-----------------------|-----------|---------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| BUL | 19 | 14 | 19,231 | 7,950 | 19,250 | 7,964 |
| CAN | 135 | | 203 | 102 | 338 | 102 |
| DEN | | | | | | |
| FRA | 297 | 417 | | | 297 | 417 |
| FRG | 400 | 1,502 | 39 | 1,125 | 439 | 2,627 |
| GDR | | | 60,326 | 24,127 | 60,326 | 24,127 |
| ICE | | | | | | |
| ITA | 3,200 | 3,165 | 800 | 750 | 4,000 | 3,915 |
| JAP | 10,839 | 9,374 | 5,441 | 10,867 | 16,280 | 20,241 |
| NOR | | | | | | |
| POL | 386 | 42 | 92,439 | 20,179 | 92,825 | 20,221 |
| POR | | | | | | |
| ROM | 59 | 150 | 2,487 | 5,796 | 2,546 | 5,946 |
| SPA | 6,063 | 4,782 | 21 | 36 | 6,084 | 4,818 |
| USSR | 595 | 346 | 81,046 | 60,954 | 81,641 | 61,300 |
| UK | | | | | | |
| USA | 394,108 | 244,909 | 374,395 | 365,672 | 768,503 | 610,581 |
| OTHERS | | | | | | |
| TOTAL | 416,101 | 264,701 | 636,428 ¹⁾ | 497,558 ²⁾ | 1,038,419 | 756,842 |

1) Includes 320,816 tons of menhaden.

2) Includes 289,761 tons of menhaden.

Table 2.

STATUS OF FISHERIES - SA 5

| | COO | | HADDOCK | | REDFISH | | SILVER HAKE | | RED HAKE | | POLLOCK | |
|--------|-------|-------|---------|------|---------|-------|-------------|--------|----------|-------|---------|-------|
| | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 | 1972 | 1973 |
| DEU | 74 | 40 | | 1 | 15 | 33 | 3347 | 1477 | 1508 | 388 | | |
| GBR | 2598 | 3287 | 632 | 1613 | 124 | 34 | | | | 117 | 1366 | 1726 |
| DEN F | | | | | | | | | | | | |
| FRA SP | | | | | | | | | | | | |
| FRG | 17 | 5 | | 1 | 3 | | 357 | 29 | | | 467 | 1085 |
| GDR | 132 | 53 | 5 | 1 | 127 | 40 | 220 | 185 | 5 | | 4779 | 930 |
| ICE | | | | | | | | | | | | |
| ITA | | | | | | | | | | | | |
| JAP | 96 | 3 | | | 15 | 6 | 115 | 203 | 202 | 5 | 4 | 14 |
| NOR | | | | | | | | | | | | |
| POL | 174 | 380 | 1 | | 1 | 28 | | 343 | 15 | 158 | 8 | 20 |
| POR | | | | | | | | | | | | |
| ROM | | | 14 | | 14 | | 42 | 5 | | | | |
| SPA | 6701 | 5980 | 1098 | 386 | | | | | | 5 | 80 | 799 |
| USSR | 1837 | 2935 | 141 | 602 | 5639 | 5240 | 94150 | 101752 | 56629 | 46508 | 1043 | 2752 |
| UK | | | | | | | | | | | | |
| USA | 19916 | 22002 | 4778 | 3286 | 13157 | 11954 | 8054 | 15959 | 1703 | 5804 | 5242 | 5728 |
| OTHERS | 2 | | | | | | 828 | | | | | |
| TOTAL | 31547 | 34685 | 6669 | 5890 | 19095 | 17335 | 107113 | 119453 | 60062 | 52985 | 12989 | 13054 |