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(Revised)ANNUAL MEETING - JUNE 1966Review of Status of Fisheries and Research Carried Out
in Subarea 5 in 1965by S. A. Studenetsky
Chairman of Scientific Advisers to Panel 5

1. The following research documents relate to Subarea 5: Nos. 66/8, 66/9, 66/30, 66/33b, 66/36, 66/39, 66/40, 66/41, 66/48, 66/49, 66/50, 66/51, 66/62, 66/74 and Report of Subcommittee on herring and other pelagic species.

2. Introduction

In 1965 the number of countries engaged in the fishery in Subarea 5 decreased in comparison with 1964. In 1965 Canada, USSR and USA made 99% of all catches in Subarea 5. Results of surveys in this Subarea were presented by Canada, USSR, USA, Poland, Great Britain and a non-member country.

This report is based on the summary of their research reports on individual species. Preliminary catch data for 1965 are tabulated below:

Landings of main commercial species in Subarea 5 in 1965 as compared with 1964.
(thousand tons of fresh round fish)

Species	Canada		USSR		USA		Total	
	1964	1965	1964	1965	1964	1965	1964	1965
Herring	636	30	130,723	36,349	27,984	34,454	159,378	74,262
Silver hake	-	-	167,308	281,431	53,145	41,758	220,453	323,189
Haddock	11,695	15,048	5,483	81,882	51,895	56,980	69,539	154,678
Cod	7,133	10,746	5,428	14,415	15,551	15,007	28,416	42,078
Flatfish	614	611	58	2,063	56,780	54,367	57,465	57,113
Redfish	56	68	445	968	7,812	6,986	8,313	8,057
Red hake	-	29	3,588	58,546	24,573	13,490	28,161	72,065
Sea scallop	49,156	36,780	-	-	54,074	13,509	103,230	50,289
Others	5,888	4,711	22,897	25,032	50,706	52,851	80,767	84,073
All species	75,178	68,023	335,930	500,686	342,520	289,402	755,722	865,804
Fish used for industrial purposes	-	-	-	-	27,899	34,049	-	-

Poland and Spain took small quantities of herring, cod and haddock from the Georges Bank area.

3. Herring

Herring catches by the USSR in 1965 went down sharply due to reduction of fishing effort caused by a decrease in demand for herring in the country.

Analysis of age composition showed that the 1960 year-class was predominant in catches in 1965 (about 50%), next by importance were the 1959 and 1961 year-classes. It is supposed that the 1960 year-class would also be the main in the fishery in 1966.

Due to the fact that the abundance of the 1960 year-class will start to reduce because of natural mortality and the 1961 and 1962 year-classes are relatively poor the whole herring stock will somewhat decrease in 1966.

The USSR carried out research on calculation of herring eggs on spawning grounds. It was noted that in 1965 herring spawned in September on two spawning grounds of Georges Bank the area of which were 6 and 2 sq. miles. Eggs were deposited in layers 5 to 7 in. thick.

In August 1965 2,047 herring were tagged.

In 1965 Canada did not conduct herring fishery in Subarea 5.

In September-October 1965 the Canadian research officers collected herring samples in the northern part of Georges Bank. The length of fish ranged from 19.6 to 35.4 cm. 3% of the number of selected otoliths belonged to spring-spawning herring. The 1961 year-class constituted 66% among autumn-spawning fish.

The U. S. catches of herring increased up to 4 thousand tons in 1965. The fishery was noted by poor catches in the western part of the Gulf of Maine and by better than usual catches in the eastern part. The 1963 year-class constituted 90.2% of total catch. The 1964 and 1962 year-classes made up 2.6% and 6.1% correspondingly.

In 1965 the USA made 32 herring samples (2,048 fishes) on Georges Bank and 71 samples (4,833 fishes) in inshore waters of the Gulf of Maine. On Georges Bank the 1960 year-class constituted 48.8%. Next by importance were the 1961, 1962, 1959 and 1963 year-classes. In inshore areas of the Gulf of Maine the 1960 year-class made up 43.6% and it was followed by the year-classes of 1962, 1961, 1959, 1958 and 1963.

In both areas the 1960 year-class was dominant throughout all months except February (Georges Bank) and April (coastal areas of the Gulf of Maine). In these two months the 1962 year-class predominated.

The US research officers carried out analysis of maturity stages of herring and observations over the development of its spawning. There were no spring-spawning herring observed on Georges Bank. Race composition of herring was also studied.

The Polish research workers studied size and age composition of herring on Georges Bank. Their observations confirmed the predominance of herring of the 1960 and 1961 year-classes in August-October 1965 (68.8%).

4. Silver hake

The landings of silver hake exceeded those of other species in Subarea 5 and were about 36% higher than in 1964 because of an increased catch by the USSR.

In 1965 the Soviet stern trawlers conducted silver hake fishery on the southern and south-western slopes of Georges Bank mainly in March-June. Concentrations of silver hake were observed at the near-bottom temperature of 6.0° to 9.5°C at depths of 150 to 280 metres. The USSR continued studies of size and age composition of silver hake catches. In 1965, as in previous years, the bulk of catches was made of 3 (52%) and 4 (33.4%) years old fish. As compared with 1964, some increase in number of three-year old and decrease of four-year old fish were noted. In 1965 1,706 silver hake were tagged on Georges Bank.

The USA in 1965 had a more reduced fishery for silver hake on Georges Bank than in previous years. The U. S. scientists conducted work on checking up the methods of age-reading by scale and otoliths. It does not appear difficult to determine the age of fish at its first and second year of life; however specimens from other areas are found which hinders age reading. Additional research is needed if the method is to be widely used. Work was conducted on collection of samples of the young.

Canada in 1965 carried out some research to study size and age composition and maturity of silver hake.

Poland submitted some data on size and age composition of silver hake on Georges Bank.

5. Haddock

The USSR, Canada and the USA increased their landings of haddock in 1965 (see Table).

The Soviet vessels carried out haddock fishery in the second half of 1965. Concentrations of haddock were mainly observed on the south-eastern and northern slopes of Georges Bank. The USSR made analyses of haddock in catches obtained by research vessels. Haddock with the length of chiefly 30 to 42 cm. was predominant in samples. Otoliths samples are collected which are now being processed.

The Canadian research officers also took samples for determination of size and age composition of haddock and the results of this analysis was turned over to the USA.

According to the US data the 1963 haddock year-class on Georges Bank can be considered as a rich one and the 1964 and 1965 year-classes as considerably poorer than the 1963 year-class. In 1965 the USA continued serological studies and collected some new data in this field of research.

6. Cod

The landings of cod in 1965 in Subarea 5 showed some increase (see Table). The USSR and Canada increased their landings of cod.

The US landings decreased very slightly. Catch per effort was reduced to 0.9 ton per day as compared with 1.0 ton per day in 1964.

No special surveys of cod were carried out in 1965 in Subarea 5.

7. Flatfish

The landings of flatfish in 1965 in Subarea 5 increased (see Table).

The bulk of the US catches was made of yellowtail flounder (60%) fishing which was conducted in two areas - Southern New England and Georges Bank. According to the US data the 1959 and 1960 year-classes of yellowtail flounder are the richest in recent years. Year-classes of 1961 and 1962 can be evaluated as moderate.

Flatfish research in 1965 in Subarea 5 was carried out by the USA only which presented data on size and age composition.

8. Redfish

As a whole, redfish catches in 1965 in Subarea 5 changed inconsiderably in comparison with 1964. The USA points out in its report that in 1965 redfish landings decreased by 10% as compared with 1964. At the same time an increase in catch per effort with some reduction of total effort was noted.

The US research officers carried out redfish tagging in Subarea 5 (the Gulf of Maine).

Canada and the USSR did not conduct research on redfish in 1965 in Subarea 5.

9. Red hake

In 1965 the USSR carried out fishing of red hake on Georges Bank, for human consumption.

Concentrations of red hake were observed from January to May on grounds with the near-bottom temperatures 7.0° to 8.6°C. In summer time red hake did not form any dense concentrations.

The USSR collected some data on size and age composition of red hake catches on Georges Bank. The length of fish was mainly 27 to 39 cm. Age composition was as follows: two-year-old 23%, three-years old 35% and four-years old 32%.

10. Sea scallop

The catch of sea scallop by the USA on Georges Bank went down sharply as compared with 1964. It was due to the fact that the fishing fleet moved to the area south of Subarea 5.

According to data by the US research officers the stock of sea scallop on Georges Bank has been decreasing for the past few years as a result of poor recruitment.

The catch of sea scallop by Canada in Subarea 5 went down by 22% as compared with 1964.

In 1965 Canada also fished for sea scallop south of Subarea 5.

11. Large pelagic species

The landings of swordfish by Canada in Subarea 5 and southward to Cape Hatteras amounted to 3,073 tons. 1,496 tons less than in 1964.

Canada continued studies of feeding of swordfish by fishing areas. Tagging of swordfish was carried out. So far there were no tag returns. Studies of swordfish at post-larval stage were conducted.

Canada caught 567 tons of tuna species in 1965 in Subarea 5. Tuna samples were collected from purse seine and longline catches.

Studies of distribution of tuna species were continued. The USA caught in 1965 in Subarea 5, 268 tons of swordfish and 1,118 tons of tuna species.

12. Fish used for industrial purposes

In 1965 in Subarea 5 the US catch of fish for industrial purposes was 21% bigger than in 1964.

The main species were silver and red hake which made up 58.4%.

13. Special surveys

Apart from surveys mentioned above, the USA carried out in 1965 in Subarea 5 considerable research on plankton and ichthyoplankton. Some objective data were obtained which allow to distinguish eggs and larvae of the most important species of fish of the Gulf of Maine. Studies of the effect of tidal currents on the distribution of herring larvae were conducted.

The programme of collection and analysis of benthos was also carried on. This work will allow to draw up charts of Subarea 5 showing the density of the distribution of benthos by major taxonomic groups.

The three-year programme of seasonal surveys in the area between the Canyon of Hudson and the Bay of Fundy is completed, the aim of which was to describe the seasonal distribution of concentrations of demersal species.

Studies of the yield of individual year-classes were continued. A report on recruitment of haddock stock in the area of New England is submitted to the Commission (Doc. No. 66/74).

In 1965 the USA carried out every three months oceanographic surveys in the Gulf of Maine and on Georges Bank. Apart from these, some other research was conducted in Subarea 5.

In 1965 the USSR conducted regular oceanographic surveys in Subarea 5 in connection with the distribution of concentrations of herring and silver hake. In the period from April to November, 7 plankton surveys were made on Georges Bank. Serological research on silver hake was started with the aim of studying the locality of its stocks.

Research material was summarised on the distribution of herring on Georges Bank in 1961-1965 and a pertaining report is submitted to the Commission.

Large material is collected on hydrology and size and age composition of commercial species, and this material is being processed.

In 1965 in Subarea 5 Canada carried out special surveys on the distribution and size and age composition of argentine, silver hake and herring. Poland conducted oceanographic, plankton and biological research. Great Britain surveyed plankton and FRG carried out biological and oceanographic investigations.