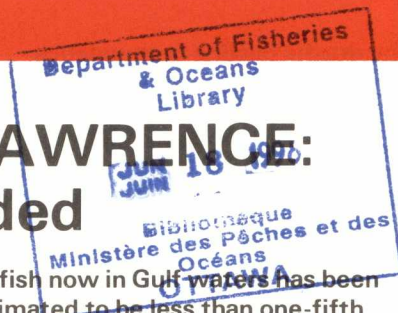


Fishermen's Information

REDFISH IN THE GULF OF ST. LAWRENCE: Strict Conservation Needed



In 1976 the federal government took several measures to protect the stock of redfish in the Gulf of St. Lawrence. The Hon. Roméo LeBlanc, Minister responsible for fisheries, applied a 30,000 metric ton* quota on redfish catches in the Gulf for 1976, restricted the operation of large trawlers in this fishery, and gave them financial incentives to fish in other waters. This leaflet explains why strict conservation measures for redfish in the Gulf were introduced in 1976 and must continue for 1977 and beyond.

The federal Fisheries and Marine Service warned fishing interests as early as 1973 to expect the 1976 cutback in the redfish fishery. Over the last decade, this fishery has depended almost entirely on redfish spawned in 1956 and 1958. Compared to these two-year classes, the production of young in the years since, at least up to 1971, has been small. Redfish are about 8-10 years old when they reach minimum commercial size. Fishing effort for redfish increased greatly in the 1970's. The redfish spawned in 1956 and 1958 have become scarce. The total amount of

redfish now in Gulf waters has been estimated to be less than one-fifth what it was seven years ago. Scientific research by the federal Fisheries and Marine Service shows clearly that unless we reduce fishing effort temporarily, a collapse of this stock could ruin the fishery permanently. The following information, giving further details on the status of the redfish stock in the Gulf of St. Lawrence, comes mainly from a research report by Scott L. Parsons and D.G. Parsons, of the Newfoundland Biological Station of the Fisheries and Marine Service, St. John's, Newfoundland A1C 5X1.

Importance of the Redfish Fishery

Redfish have in recent years provided about one-third of Canada's Atlantic landings of groundfish species. Most of these redfish (generally 50-60 per cent prior to 1976) have been coming from the Gulf of St. Lawrence. There are of course large redfish fisheries in deep water on the edge of the Continental shelf, but up until 1976, these have been harvested chiefly by European nations, particularly the USSR.

The redfish fishery in the Gulf of St. Lawrence yielded an average catch of 89,000 metric tons per year during 1968-74. Canada's share of the redfish catch from this area increased from 58 per cent in 1964 to 97-98 per cent during 1972-74.

The increase in fishing effort

Recent years saw this fishery change from a bottom-trawl to a midwater-trawl fishery. By 1972, midwater trawls were taking 50 per cent of the catch; by 1973, more than 80 per cent.

Fishermen switched over because the midwater trawl caught a lot more fish, at least at first. Catches had been declining, from 90,000 metric tons in 1968 to 79,000 in 1971. With the new gear, the redfish catch in the Gulf increased in 1973 to the all-time high of 130,000 metric tons.

Fishing effort had increased much more than these catch figures show. The new gear multiplied effectiveness at catching fish and pressure on the Gulf redfish stock. Effective fishing effort more than doubled between 1972 and 1973 alone.

The increased fishing effort aroused worries about possible over-fishing. In 1973, scientists of the Fisheries and Marine Service told a government-industry meeting that the redfish fishery had since 1963 depended on two highly successful year-classes, those of 1956 and 1958. (A "year-class" means the fish spawned in a particular calendar year.) Since no other good year-classes had appeared, the fishery would now go into a decline of several years. By 1976 a new strategy of management would become necessary, based on a smaller catch of the younger and weaker year-classes, and protection of a minimum spawning stock size.

Since 1973, things have happened as predicted. Average catch rates, for midwater trawlers of 501-900 tons, declined from 2.84 tons per hour fished in 1972 to about 1.0 tons per hour

*A metric ton, or more precisely, "tonne", is 2205 pounds.

fished in 1975: a decline of 65 per cent in three years. Landings dropped from 130,000 tons in 1973 to 63,000 tons in 1974 and remained at approximately the same level in 1975.

Recent research by the Fisheries and Marine Service has provided further information on the prospects for this fishery.

The drastic decline in abundance

Surveys by research vessels and information collected from the commercial fishery during 1972-76, have provided the basis for re-assessing the redfish stock in the Gulf.

The 1956 and 1958 year-classes became fully "recruited" (that is, added to the population of the adult stock) in 1967 and 1968. Since then, there has been no significant recruitment of new young fish to the stock. The adult stock declined from about 430,000 metric tons at the beginning of 1972 to about 100,000 metric tons at the beginning of 1976.

The total weight of the adult stock is now apparently only one-third the size of the stock which produced the very successful year-class of 1956.

The extremely steep decline resulted from high catches at a time when no young fish were joining the adult stock.

The fishing prospects: poor

With the stock at such a low level, the crucial question is the recruitment of young (that is, their addition to the adult stock).

There have been only two year-classes of any substance in recent years. The first, that of 1966, failed to survive in any significant numbers. Neither the research survey nor the commercial landings in 1975 revealed much trace of this year-class.

The second year-class of significance, that of 1971, appears promising but will probably add little to redfish landings until about 1980.

Although the 1974 year-class shows signs of strength, it is still too early to judge.

The Gulf of St. Lawrence redfish stock has produced large year-classes very infrequently. Apparently, it can only do so given rare combinations of

environmental circumstances. Because of their late age at maturity (9-12) and very slow growth, redfish rebuild their stocks only slowly after a period of intense exploitation.

In short, recruitment and fishery prospects for the next several years are poor. Even if the redfish fishery in the Gulf stopped entirely, the adult stock would increase very little for the next four or five years.

It is dangerous to let the adult "spawning" stock decline below a certain proportion of the original size of the stock. (For example, a minimum level of 20 per cent of the stock's size before development of the fishery has been suggested as necessary for cod stocks). Reduction of the adult stock below this critical level, combined with unfavourable environmental conditions, can bring about a collapse of a stock, such as that suffered by haddock on the Grand Bank in the 1960's.

Any further reduction in the size of the Gulf of St. Lawrence stock of adult redfish may put it beyond the critical level, and produce a collapse.

Trends in Redfish Catches from the Gulf of St. Lawrence (ICNAF Divisions 4R, 4S, 4T Combined)

Year	Can. (M + Q)	Can. (Nfid.)	U.S.A.	Others	Total Catch All countries	Canadian catch	% Canada
1953	6,003	2,363			8,366	8,366	100
1954		15,540	17,228		32,768	15,540	47
1955	10,343	4,775	34,739		49,857	15,118	30
1956	14,949	7,080	24,825		46,854	22,029	47
1957	12,965	3,827	17,539		34,331	16,792	49
1958	11,294	3,912	7,364		22,570	15,206	67
1959	9,986	1,779	5,213		16,978	11,765	69
1960	9,069	1,842	1,298	9	12,218	10,911	89
1961	9,655	517	200	19	10,391	10,172	98
1962	6,125	393	67		6,585	6,518	99
1963	11,818	3,097	4,879		19,794	14,915	75
1964	14,296	3,038	12,278	88	29,700	17,334	58
1965	24,202	7,521	17,099	5	48,827	31,723	65
1966	37,882	14,567	12,766		65,215	52,449	80
1967	44,064	9,997	15,581	394	70,036	54,061	77
1968	55,411	18,049	16,437	1066	90,963	73,460	81
1969	55,518	20,234	12,122	1001	88,875	75,752	85
1970	50,942	28,790	7,592	264	87,588	79,732	91
1971	58,026	16,624	4,706	50	79,406	74,650	94
1972	60,266	18,670	1,111	282	80,329	78,936	98
1973	93,434	33,032	1,627	2071	130,164	126,466	97
1974	47,410	13,950	1,031	1067	63,458	61,360	97
1975	45,288	18,997	—	1116	65,401	64,285	98
1976*	29,307	9,378	N/A	N/A	N/A	38,685	

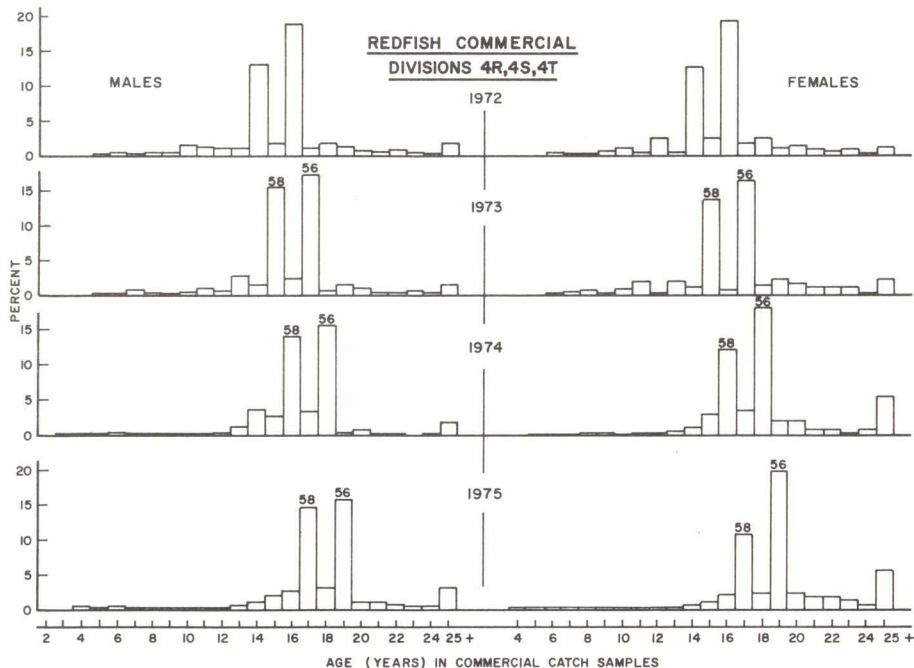
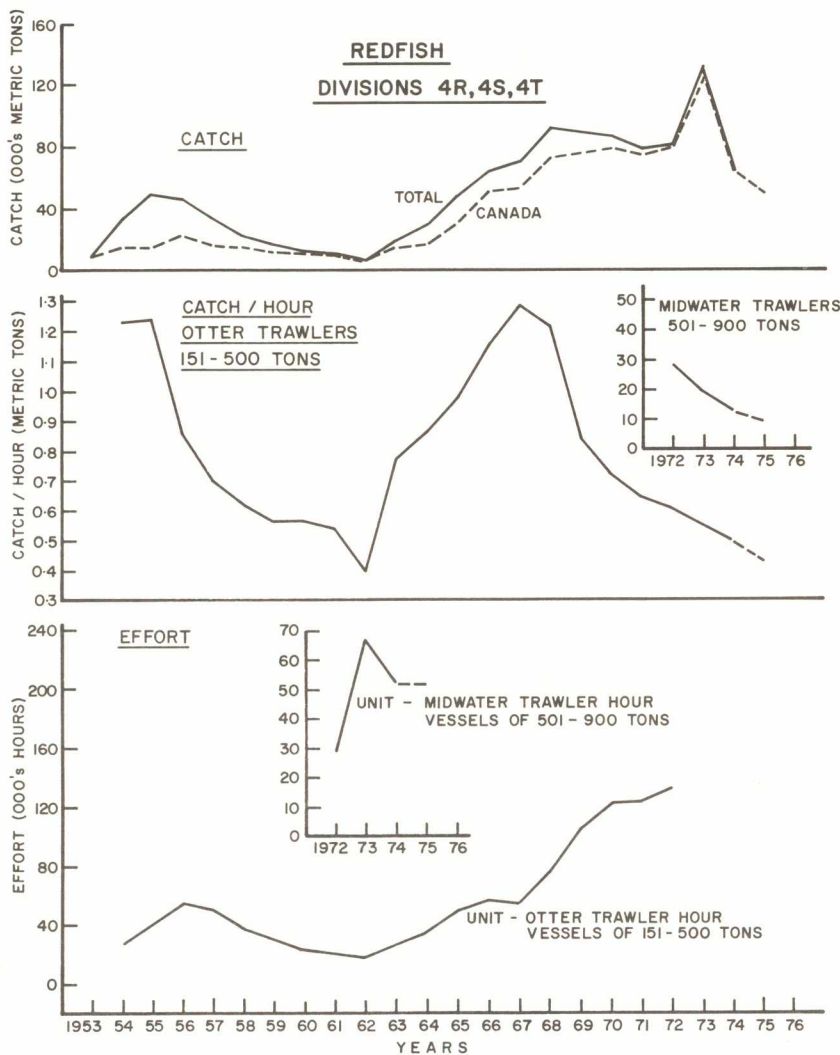
*The 1976 figures, January through November, are based on preliminary statistics of the Fisheries and Marine Service for Canadian catches. More complete figures for all countries will appear in ICNAF statistics later in 1977.

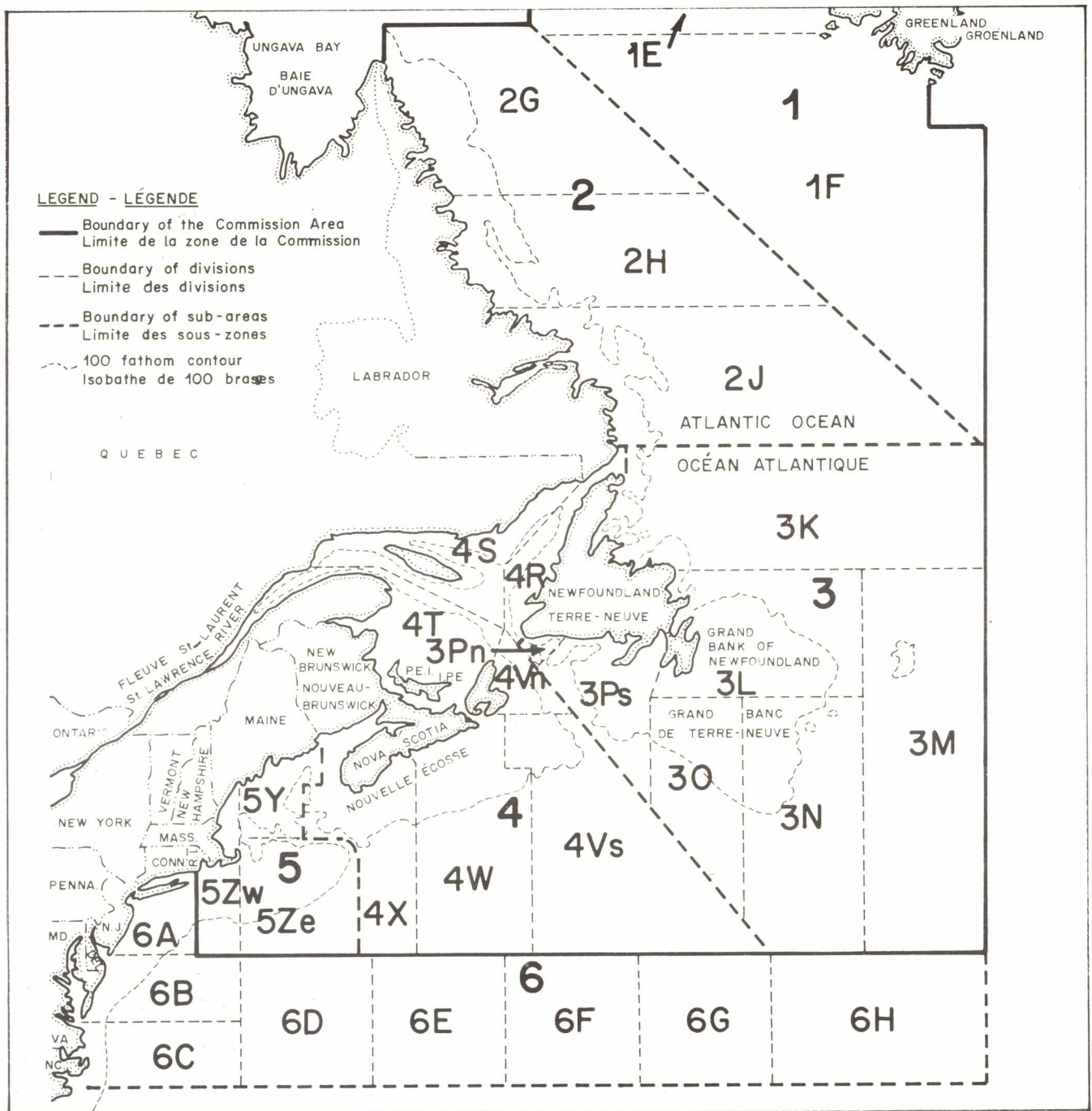
“What to do?”

In 1976, the Hon. Roméo LeBlanc arranged a transfer of redfish quotas from the Soviet Union and Cuba to Canada, through ICNAF (the international Commission for the Northwest Atlantic Fisheries). The extra fish (14,000 tons from the U.S.S.R. and 1,500 from Cuba) doubled our redfish quota for waters off Newfoundland. For 1977, Canada will have about 63,000 tons of redfish (about double the 1976 figure) available for catching in waters outside the Gulf. In further efforts, the federal Fisheries and Marine Service undertook consultations with fishing companies and fishermen’s representatives in the fall of 1976. (One major consultative body is the Offshore Groundfish Advisory Committee, which includes fishermen’s and processor’s representatives, and federal government officials.) A fishing plan for 1977, worked out in these discussions, will deploy the large-vessel and small-vessel fleets to make the most of the available resources, in the Gulf of St. Lawrence and elsewhere.

A final request

If you are on a vessel of more than 5.5 gross tons, one that carries log-books, please fill them out as carefully as you can. Please enter the location of the catch and other information as accurately and exactly as possible. This is of the greatest help to the Fisheries and Marine Service, in the management of the redfish and other fisheries.





INTERNATIONAL COMMISSION for the NORTHWEST ATLANTIC FISHERIES
COMMISSION INTERNATIONALE des PÊCHERIES de L'ATLANTIQUE
NORD - OUEST

This is one of a series of Fishermen's Information leaflets from the Information Branch, Fisheries and Marine Service, Department of Fisheries and the Environment, Ottawa K1A 0H3. We welcome suggestions for topics that would interest fishermen.

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