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A Summary of the Status of American Plaice, Yellowtail Flounder, and Witch Flounder Stocks on the Grand Banks - 1985

by

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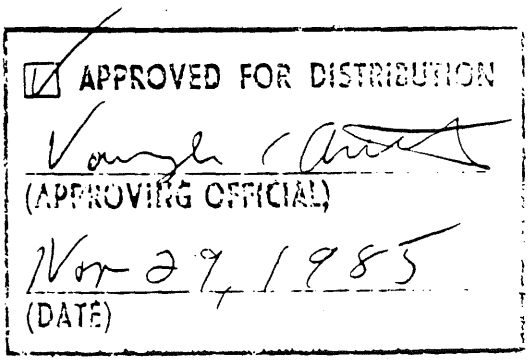

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INTRODUCTION

Since April 1985, New England-based USA otter trawlers have conducted a limited fishery for American plaice, yellowtail flounder, and witch flounder on a portion of the Grand Banks known as the "Tail of the Bank." This fishing area lies beyond the Canadian 200-mile fisheries jurisdiction zone but within Northwest Atlantic Fisheries Organization (NAFO) Divisions 3N and 3O (Figure 1). Fishing activity by U.S. vessels in 1985 on the "Tail of the Bank" increased from two trips in April to 10 trips in May, 14 trips in June, 19 trips in July, and 22 trips in August (Figure 2).

At the 1985 annual meeting of the NAFO Scientific Council, Canadian scientists presented current assessments for several Grand Banks flounder stocks: American plaice in Divisions 3LNO (Brodie 1985a), yellowtail flounder in Divisions 3LNO (Brodie 1985b), and witch flounder in Divisions 3NO (Bowering 1985). Information from these studies and from the preliminary report of the 1985 NAFO Scientific Council Meeting are presented below. In this document, the term "catch" refers to nominal catch (the live weight equivalent of landings) and tonnage figures represent metric tons (t).

Total allowable catch (TAC) and actual catch figures reported herein refer to the entire stock regions for which the assessments were performed. It should be realized that the fishing area in which USA vessels may operate on the "Tail of the Bank" encompasses only a fraction of the total stock area for each of the resources described.

STATUS OF THE STOCKS

American Plaice in Divisions 3LNO

This stock has been exploited consistently since the early 1950's and the nominal catch reached a peak of 94,000 t in 1967. During 1965-1976 USSR

catches were significant, but since then the fishery has been conducted mainly by Canadian trawlers, with catches averaging about 45,000 t annually.

TAC regulation was introduced for this stock in 1973; annual TAC levels have varied from 47,000 to 60,000 tons and, in most years, catches have approximated the TAC. In 1983 and 1984, however, catches were significantly below the TAC. The lower catches in these years were attributed to a reduction in fishing effort by the Canadian (Newfoundland) otter trawl fleet. Recent TACs and catches are as follows:

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TAC (000 tons)	60	47	47	47	47	47	55	55	55	55	49
Catches (000 tons)	43	52	44	50	49	49	50	50	38[1]	34[1]	

[1]Provisional data.

Catch rates in the directed Canadian fishery for American plaice in Divisions 3L and 3N declined steadily from about 0.9 t/hr in the early to mid-1960's to about 0.4 t/hr in the mid-1970's. Since then, catch rates have increased to about 0.58 t/hr in 1980-82 and to 0.62 and 0.65 t/hr in 1983 and 1984, respectively. The 1983 and 1984 directed fishery catches, however, were only 50% of the 1980-82 average, due to the reduction in effort.

Based on the 1985 assessment, a 1986 catch of 55,000 t was recommended. This increase in the advised catch between 1985 and 1986 resulted from a 1984 fishing mortality rate that was significantly lower than the target level due to the substantial reduction in effort. This decline in overall fishing mortality combined with lower than projected fishing mortality on younger ages has resulted in a higher than projected stock size. Total landings in 1983 and 1984 were between 17,000 and 21,000 t below the recommended TACs.

Yellowtail Flounder in Divisions 3LNO

This stock has been under TAC regulation since 1973, when a precautionary TAC of 50,000 t was set. Following a decline in stock biomass, the TAC was set at 9,000 t for 1976. The TAC was allowed to increase gradually to 23,000 t by 1982, but was reduced to 15,000 t by 1985. The TAC for this stock has not been caught since 1979. Recent TACs and catches are as follows:

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TAC (000 tons)	35	9	12	15	18	18	21	23	19	17	15
Catches (000 tons)	23	8	12	15	18	12	15	12	9[1]	13[1]	

[1]Provisional data.

Nominal catch increased steadily from the mid-1960's to a high of 39,000 t in 1972 of which 12,000 t was caught by USSR vessels. Since 1975 the fishery has been conducted almost exclusively by Canadian vessels, with annual catch averaging just under 13,000 t between 1976 and 1984. The majority of the landings come from Division 3N. Catches from Division 3O have been relatively low in recent years. Reduced catches in 1983 and 1984 were due partially to financial and labor problems in the offshore trawler fleet.

The yellowtail fishery is prosecuted year-round mainly by stern otter trawlers usually in conjunction with the American plaice fishery. Catches are usually higher in the autumn, although the pattern differed in 1984 due to a trawler strike in the latter half of the year.

Canadian (Newfoundland) catch rates of yellowtail declined from 0.6 t/hr in 1969-72 to approximately 0.4 t/hr in 1974-77. Catch rates increased between 1976 and 1980, declined slightly in 1982 and have varied between 0.53

- 0.56 t/hr in each of the last three years. Annual total fishing effort has ranged between 16,000 and 24,000 hours since 1979. Since 1981, about 50% of the total yellowtail catch has been from the directed fishery, with the remainder taken as by-catch, primarily in the American plaice fishery.

Based on the relative stability of both commercial and research vessel abundance indices in recent years, a 1986 catch of 15,000 t was advised. The most recent assessment indicated a relatively stable stock size between 1978 and 1982 with a slight increase in 1984. Total landings in 1983 and 1984 were between 4,000 and 10,000 t below the recommended TAC.

Witch Flounder (Gray Sole) in Divisions 3NO

Catches of witch flounder have ranged from 2,400 t in 1980 and 1981 to 8,000 t in 1974. The provisional catch in 1984 was about 2,700 t, a slight decline from the preceding two years. Recent catches and TACs are as follows:

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TAC (000 tons)	10	10	10	10	7	7	5	5	5	5	5
Catches (000 tons)	6	6	6	3	3	2	2	4	4[1]	3[1]	

[1]Provisional data.

Catch and effort statistics from 1972-1984 were analyzed for Canadian trawlers fishing the southwest slope of the Grand Banks (Div. 30) during the winter-spring months. The fishery for witch flounder was considered to be a directed fishery when witch flounder was the predominant species by weight in the catch. Canadian catch rates peaked at 0.712 t/hr in 1972 and declined rapidly to 0.252 t/hr in 1975 during the period when landings were highest.

Catch rates stabilized during 1975-79 but increased to 0.667 t/hr in 1982, the highest since 1972. During 1983 and 1984, catch rates varied between 0.3 and 0.4 t/hr, near the 1973-1984 annual average.

Based on commercial catch rates and age composition of the landings, a 1986 catch of 5,000 t was advised. The most recent TAC is considered by Canadian scientists to be a more realistic approximation of long-term potential yield from this stock than earlier TAC levels. Witch flounder are primarily taken by the USSR as by-catch in their redfish fishery and by Canada in late winter and early spring on the "Tail of the Bank" where prespawning concentrations occur. Total landings in 1983 and 1984 were between 1,000 and 2,000 t below the recommended TAC.

SUMMARY

Total landings of American plaice from NAFO Divisions 3LNO in 1983 and 1984, respectively, were 17,000 and 21,000 t below the recommended TACs, a result of reduced fishing effort by the Newfoundland otter trawl fleet. However, between 1980 and 1982, Canadian scientists noted significant discarding of small (less than 40 cm) plaice, and it is suspected that this practice still continues. The TAC recommended for this stock was increased from 49,000 t in 1985 to 55,000 t in 1986. Total landings of yellowtail flounder from NAFO Divisions 3LNO in 1983 and 1984, respectively, were 10,000 and 4,000 t below the recommended TACs. Stock size remained relatively stable between 1978 and 1982 and increased slightly in 1984. The 1986 TAC recommended for this stock remained equal to the 1985 level of 15,000 t. Total landings of witch flounder from NAFO Divisions 3NO in 1983 and 1984, respectively, were 1,000 and 2,000 t below the recommended TACs. Commercial

abundance indices for this stock in recent years have approximated the long-term average. The 1986 TAC recommended for this stock remained equal to the 1985 level of 5,000 t.

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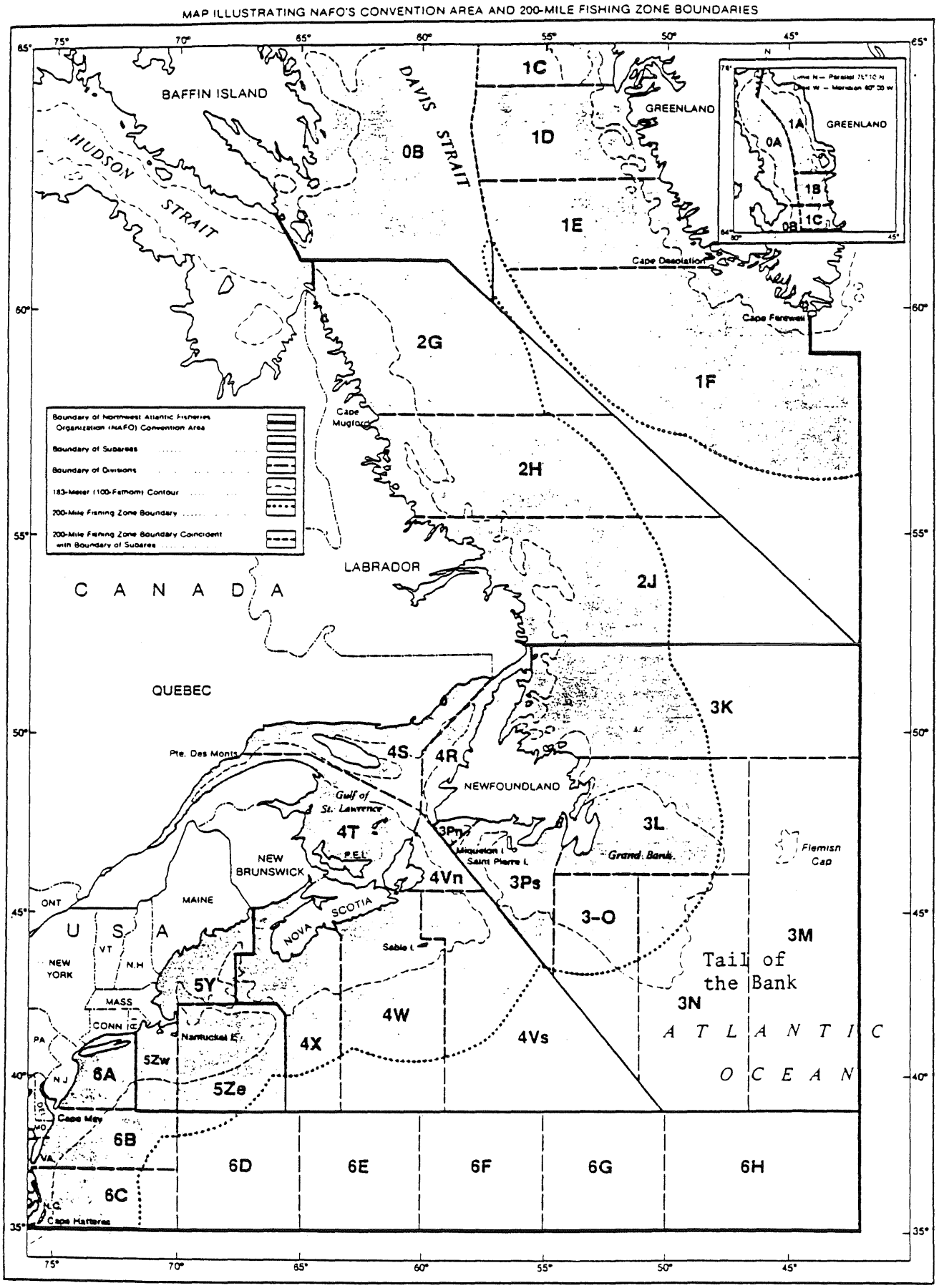

Figure 1. Location of the region of the Grand Banks known as the "Tail of the Bank".

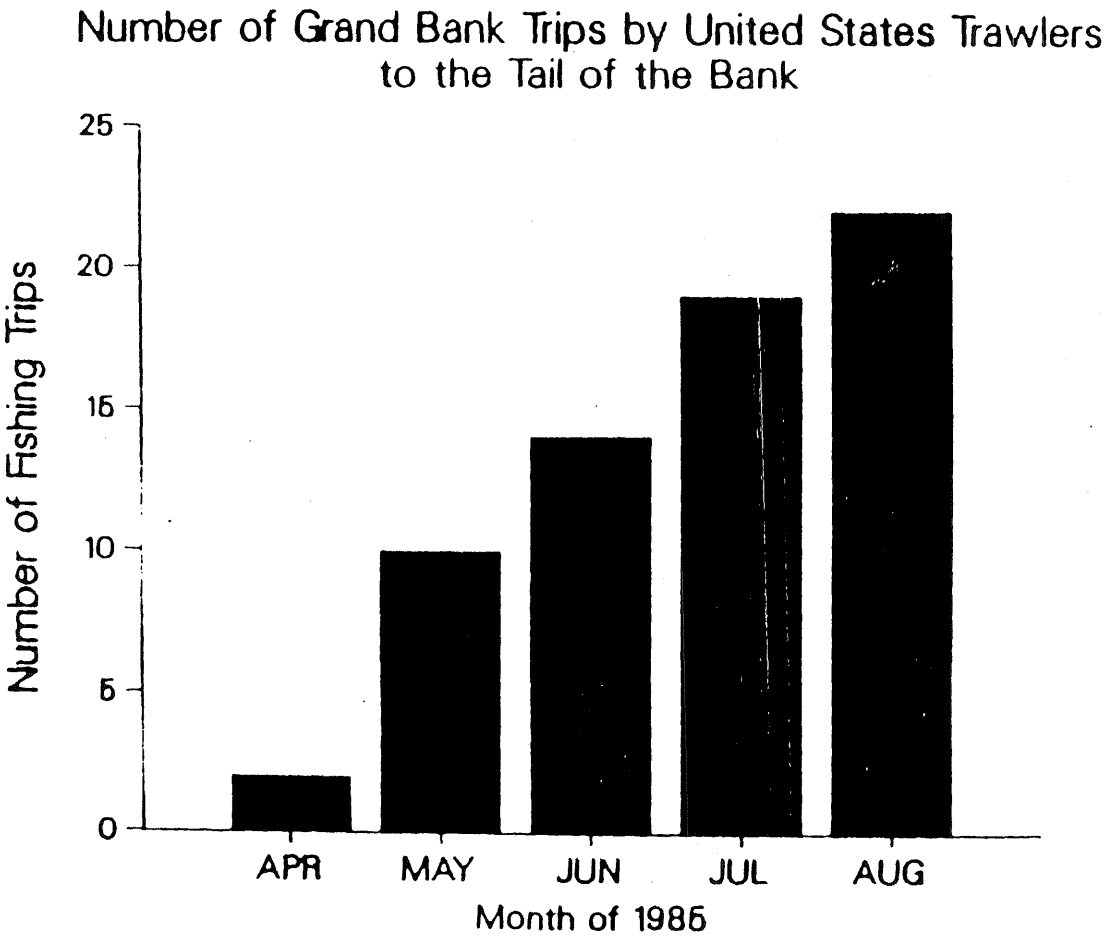

Figure 2. Monthly distribution of trips by United States trawlers to the "Tail of the Bank".