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2000 / 2001
CONSERVATION REQUIREMENTS
FOR GROUND FISH STOCKS
IN THE GULF OF
ST. LAWRENCE

REPORT TO THE MINISTER OF
FISHERIES AND OCEANS

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LETTER TO THE MINISTER

April 7, 2000

The Honourable Herb Dhaliwal, P.C., M.P.
Minister of Fisheries and Oceans
200 Kent Street
Ottawa, ON K1A 0E6

Dear Minister,

The Fisheries Resource Conservation Council (FRCC) herewith presents to you its report on 2000/2001 Conservation Requirements for Groundfish Stocks in the Gulf of St. Lawrence.

The advice which we provide is to maintain catch levels on many stocks: for some stocks this status quo represents an attempt to continue the rebuilding underway, such as for 4TVn cod, while for others, it reflects uncertainties about the condition of the stock.

Over the next year, the Council will undertake discussions with stakeholders in the fishing industry, with scientists and fisheries managers within your Department to begin the development of strategies, objectives and indicators for the stocks within the FRCC's mandate.

The process that led to the assessment of the 3Pn4RS cod stock troubles the Council: the exclusion of industry participants from the Regional Assessment Process meeting has led many stakeholders to question the assessment itself. It is the Council's view that these assessments are strengthened not only by understanding the process which led to them, but also by a clear understanding of the roles and responsibilities of the various groups involved, including scientists and industry stakeholders. The Council will work with these groups to ensure that these roles and processes are clear.

Once again, in this report, for many stocks, the Council has attempted to better reflect the rationale underlying its recommendations through both a change in format and a change in content. As I indicated to you in January 2000, it is our intent to continue this in future reports, in order to allow a more transparent view of our work.

Sincerely,



Fred Woodman
Chairman

INTRODUCTION

This is the second FRCC report dedicated to groundfish stocks in the Gulf of St.-Lawrence. In keeping with its mandate and philosophy, the FRCC is trying to make more explicit the ecosystemic approach stated in its terms of reference.

As indicated in the Council's report of January 2000, the Council is continuing to modify the format of its reports. Common conservation issues are grouped in a single section. As in previous reports, ecosystem issues are raised. For each stock, a general perspective describes an overview of the fish population, fishery and trends. Instead of separating scientific and fishing industry information from consultations and briefs in separate sections, we have incorporated these in a common text leading to specific recommendations. By incorporating recommendations into the text, we hope to make clearer why those recommendations are made.

This is another step in changing our reports. Several aspects have yet to be fine-tuned. In the future, stock-specific strategies and objectives will be developed and the structure of our reports will continue to evolve as this occurs. This implies the definition of objective, measurable indicators that we can follow. Such strategies, objectives and indicators have to be discussed with stakeholders generally, with industry, scientists and fisheries managers, before they can be adopted by the Council. It is the Council's intention to undertake such discussion in the next year.

GENERAL CONSERVATION MEASURES

The FRCC feels it is not necessary to reiterate every recommendation made in past reports. Unless clearly stated otherwise, those recommendations are still valid.

Several principles are valid for every stock and are explained in the Council's 1997 Groundfish Conservation Framework for Atlantic Canada (FRCC.97.R.3). As basic principles, the Council adopted the following:

- Recruitment fishing must be avoided; small fish are to be protected and by-catches of those fish should be kept at the lowest possible level;

- Significant removals of a single year-class must be avoided;
- Fishing on concentrations during peak spawning period should be minimised;
- Fishing activities should not be concentrated in one period and/or in one geographical area, in order to protect the diversity of stock components;
- In gillnet fisheries, gear must be tagged to identify its owner; gillnets must be regularly tended; other measures, as necessary, must be implemented to limit gear losses in order to prevent ghost fishing;
- Sentinel Fisheries Programs and joint Science-Industry Research Programs must be continued and expanded, even after fisheries re-open;
- DFO should implement Dockside Monitoring Programs and at-sea Observer Programs for every groundfish fishery, in order to get reliable estimates of total fish removals from every stock;
- Sentinel fisheries programs, joint Science-Industry Research Programs, Dockside Monitoring and Observer programs, and reporting systems must be consistent among areas and regions;
- Log-books be made compulsory for all groundfish fisheries and the data obtained should be processed in order to provide useful information on fishing activities and results;
- Discarding, especially in flatfish fisheries, must be minimized;
- For American plaice, witch flounder and white hake, these stocks are generally considered to overwinter outside the Gulf and, thus, the management units do not take into consideration the winter portion of the population; clarifications on the distribution range and migration patterns of those stocks are needed.

The FRCC is still concerned about the fishing capacity exerting heavy pressure on Gulf groundfish stocks, which for the most part, are in a precarious state.

RECOMMENDATIONS DEALING WITH THE ECOSYSTEM

Seals

The growing seal population appeared as a major concern during the public consultations held by the Council. The FRCC, along with the fishing industry, is concerned that the predation pressure exerted by seals could severely postpone any significant recovery of the cod stocks. The FRCC recognises that the ecosystem effects of predation by seals are complex in nature and that the short- and long-term effects of a reduction in seal herds on the recovery of cod are still being researched. The FRCC also recognises that seals constitute a renewable resource and that a significant effort has been made in recent years to establish the foundation of a viable industry around the harvest of seals. Nevertheless, the FRCC still believes that its report on this issue released in 1999 (FRCC.99.R4, p 120) contained recommendations that need to be included in a comprehensive seal-harvest management plan.

The FRCC recommends that the measures proposed in its report to reduce the seal population be included in a comprehensive seal-harvest management plan.

Oil and Gas Exploitation

During FRCC's consultations in the southern part of the Gulf, a major concern was expressed about the developing oil and gas exploration, leading to possible exploitation.

Several scientific works have described the detrimental effect of seismic blasting on every life stage of fish. It is also known that drilling releases toxic element in the environment. Oil and gas exploitation thereby becomes a conservation issue that the FRCC cannot ignore.

The Gulf of St. Lawrence is a semi-confined highly productive environment. Any activity that would have a negative impact on that productivity must be closely assessed and monitored.

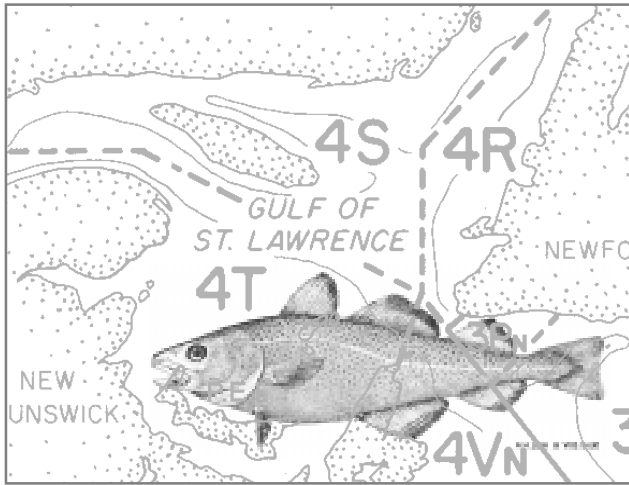
The FRCC recommends that any oil and gas production activities in the Gulf of St. Lawrence, from exploration to production phase, be postponed until a complete assessment, made through a transparent process, on the potential impact of those activities on the marine life is made.

Considering the fragility of the ecosystems involved and the numerous people dependent on these ecosystems, the FRCC believes that such an assessment justifies the cost of completing the study.

OCEANOGRAPHIC CONDITIONS

In 1999, the annual air temperature was warmer than normal in the Gulf of St. Lawrence. The average flow of the St. Lawrence River was lower than normal. The Cold Intermediate Layer was thinner and warmer than in 1998, but it remained below normal. In the Magdalen Shallows, the area with sub-zero bottom temperatures decreased. The bottom temperatures in the northern region were warmer than normal.

COD - 3PN4RS



PERSPECTIVE

The stock is located north of the Laurentian Channel, west of Newfoundland and on the lower north shore of the Gulf of St. Lawrence. It overwinters outside the Gulf, in the 3Pn area. Scientific evidence shows that it also appears further east, on the Burgeo Bank.

This cod stock was the most productive of the two Gulf cod stocks, with catches regularly above 50,000t until the late eighties, and some years above 100,000t.

Prior to 1994, this stock experienced the effects of poor fishing practices (harvesting of undersized fish, dumping, highgrading, misreporting, etc.). Overfishing combined with poor environmental conditions may explain the sharp decline observed in the early nineties, which led to the closure of the fishery in 1994. The fishery reopened in 1997.

ANALYSIS

The analytical model applied by scientists in February 2000 shows a more negative outlook than the 1999 assessment. The Stock Status Report (SSR) shows a higher than anticipated fishing mortality in 1999, exceeding $F_{0.1}$. According to the model used, the 1999 catches induced an exploitation rate of 26% for fully recruited cod (*i.e.* ages 7 and older). A decline in age of maturity and seal consumption on the order of 10-30 thousand tonnes in 1999 were also reported. Despite the low catches, compared to historical levels, the age structure of the population is not improving, which is usually a sign of high mortality rates.

The 2000 SSR states that in order to achieve an expected 10% growth in the adult biomass it would be

necessary to reinstitute a moratorium on fishing in 2000. The SSR also reports that a TAC of 7500 t in 2000 (*status quo*) could prevent growth of the adult segment of the stock.

Abundance indices used in the population analysis were reduced from 8 indices in 1999 to the 5 indices used in the 2000 assessment of the stock status. The methodology for incorporating seal consumption of cod and the different treatment of certain strata in the research vessel survey was different in 2000 than in 1999. The FRCC notes, once again, that the year-over-year change in the formulation of the population analysis model causes problems in interpreting the results of this analysis.

In 1999, based on the assessment provided in the DFO SSR, and also based on the views of stakeholders, the FRCC recommended a TAC of 7500t. The information contained in the 1999 assessment indicated a probability of some growth in spawning stock biomass from fishing at that level. Given the significant differences between the 1999 and 2000 assessments outlined above, it is difficult to ascertain whether or not this growth occurred. The current Stock Status Report estimates that the spawning stock biomass in 2000 is approximately 62,000t compared to 55,000t estimated for the 1999 SSB from the 1999 SSR, but the direct comparison of these numbers is virtually impossible given the different methodologies used to obtain them.

Fishermen again present a different perspective on stock status and continue to report improved catch rates, especially in 4R, and an increase in cod size and condition. Longline sentinel fishermen recorded their highest catch rates in the series in 1999. In addition, environmental conditions were more favourable in the area. The growth rate appears to be good and there are also reports of improved fish fecundity at age. The 1993, 1995 and 1996 year classes are relatively high and will contribute to stock recovery. Early indications are that the 1997 year class is the highest in the last decade. The observed decline in the mobile sentinel fishery catch rates may be explained by gear interference from the ongoing commercial fishery.

Many stakeholders recommended a minimum of *status quo* fishing levels (7500t) for 2000/2001, and one industry group recommended an increase in TAC to 8500t in 2000/2001.

The FRCC recommends that the 2000/2001 TAC for 3Pn4RS cod be set at 7000t.

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC	100	92.1	80.3	73.9	76.5	58	35	35	18	Moratorium			6	3	7.5
Catch	87.3	82	66.5	43.7	44.8	37.5	31.8	30.6	17.7	0.5	0.09	0.03	4.3	3.1	7.02

*Catch as of Dec. 23/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

This recommendation signals the Council’s concern with the view expressed in the SSR while taking into account the more optimistic view of stock status reported by industry. Once again, the Council has difficulty in balancing the conflicting views presented in the SSR and those presented by industry. The Council also is reluctant to recommend major year-over-year fluctuations in TACs in response to biomass estimates which vary significantly on an annual basis due primarily to revised formulations of the Virtual Population Analysis (VPA).

To address this recurring problem, the FRCC commits to establishing in 2000/2001 a process designed to engage the appropriate parties in discussions with a view to developing a long-term rebuilding strategy for this stock. In the absence of

such a rebuilding strategy, the FRCC is providing notice to all stakeholders that no major increases in the TAC are likely to occur in the near future. It is the view of the Council that selected TAC levels

SOURCES

DFO SCIENCE

SSR A4 - 1 (2000) Northern Gulf of St. Lawrence Cod (3Pn, 4Rs)

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in:

Port-aux-Choix (March 13)

Port-aux-Basques (March 14)

Blanc Sablon (March 15)

WRITTEN BRIEFS

Fisheries Association of Newfoundland and Labrador Limited – Alastair O’Rielly

Regroupement of Fishermen’s Associations of the Lower North Shore – Paul Nadeau

Eric King Fisheries Ltd. – Roland King, John Osmond

Fish, Food and Allied Workers – David Decker

COUNCIL’S VIEW OF STOCK STATUS

Overall stock indicators: Stock at low level, very slow improvement

Overall biomass: Improved since 1994, remained stable in 1999

Spawning biomass: Improved since 1994, important decrease in maturity at age in 1999

Recruitment: 1993 yearclass entered the fishery in 1999, yearclasses 1995 and 1996 are the best of the last decade, however below historical long term average

Growth and condition: Important improvement; back to historical highs.

Age structure: Still narrow, few fish older than 9 years.

Recent exploitation rate: Very high in 1999 (26% of ages 7 and older), according to scientific assessment; even if possibly overestimated by the analytical model (as per industry’s perception), current exploitation level likely to be high.

should remain stable until such time as a significant increase in the stock has occurred and an increase in TAC is warranted. Should a significant decline in SSB (not related to another change in the VPA) occur in the next assessment of this stock when conducted in early 2001, the Council's recommendation for a TAC in 2001/2002 may be significantly reduced.

The FRCC is concerned by the newly emerging gap between science and industry. This gap was reduced in recent years but the latest assessment, and the process that led to it, represents a major step back.

Scientists must define a consistent approach in the assessment of the 3Pn4RS cod stock in order to give stakeholders a coherent view of stock biomass and trends. The fishing industry should be involved, wherever possible, in this approach.

Further to the objective of minimising fishing on spawning concentrations during peak spawning periods,

The FRCC recommends that DFO, in consultation with industry, identify the location and timing of major spawning concentrations of cod (e.g. St. Georges' Bay) and take effective measures (including fishing closures) to protect those spawning concentrations from fishing.

The FRCC recommends that the winter fishing closure (November 15 to April 15) on Burgeo Bank be continued to protect the 3Pn4RS stock components.

A total of 35,000 cod were tagged from which only 934 were recovered in the area: this is inconsistent with the calculated exploitation rate. Even if the tagging program was not design to assess stock biomass and exploitation levels, the small rate of tag recovery is regularly raised in the consultations.

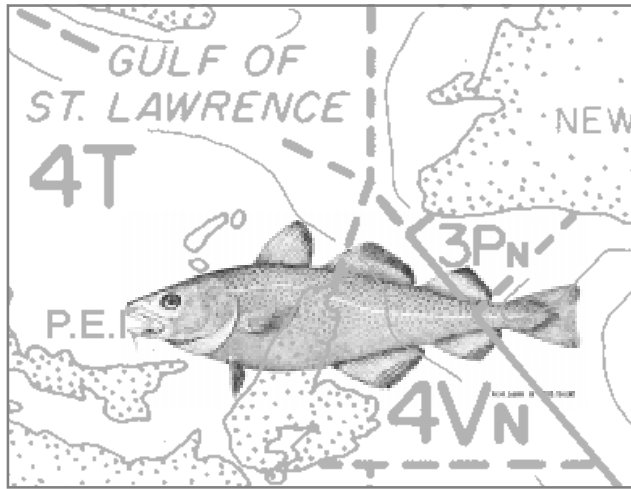
The FRCC recommends that studies be undertaken to clarify why the tagging program provided so little tag returns.

Concerns were raised by the industry about the effect of increasing mesh size from 5½ inches to 6 inches in 2000. That increase was intended by the FRCC to take place in 1999 and was postponed to 2000. New information provided by scientists shows that it would increase the exploitation rate on the 1993 yearclass which the FRCC recommended to protect. The FRCC recognises those possible detrimental effects, created by the timing of the change. The Council considers, however, that the measure would have a positive impact on the poorer incoming yearclasses, allowing

them to reproduce before being fully exploited. This increase will have long-term benefits.

The FRCC recommends that the mesh size for cod be increased to 6" in 2000.

COD - 4TVN



PERSPECTIVE

Cod in the southern Gulf of St. Lawrence have been exploited for over three centuries. After averaging 30,000t early in the last century, landings rose to peak at more than 100,000t in 1958. Landings remained in the 60,000t range after the mid-1960's, with a brief decline in the early 1970's. The fishery declined rapidly in the early 1990's before closing in September 1993, and was reopened for limited commercial effort in 1999.

Landings prior to 1950 were exclusively hook and line, with mobile gears and gillnets being introduced in later years. At the time of closure, mobile gears predominated, with fixed gears accounting for about 1/3 of all removals. In modern times, this fishery has supported a substantial harvesting and processing industry in communities in the southern Gulf and the Cabot Strait area where the stock overwinters.

ANALYSIS

The most recent DFO Stock Status Report for this stock indicates that the stock continues to rebuild slowly after reaching a record low spawning stock biomass in 1994, due to the combination of low production, poor recruitment and high fishing and non-fishing mortalities. After a number of successive low years in the late 1980's and early 1990's, recruitment in subsequent years has been modestly stronger, though still below the long-term average. The Council has observed that successive recent assessments of this stock track closely from one year to the next, and notes

that, for example, the results of this year's assessment are close to those predicted by the 1999 evaluation.

At recent industry consultations, the Council heard calls for TACs ranging from the status quo of 6000t to a high of 9000t. The views of the southern Gulf industry and the scientists regarding the status of the stock in 2000 appear to be more consensual than in any recent year.

In its 1999 report, the FRCC recommended an increase in the TAC to 6,000t for this stock, with the knowledge that the assessment indicated this would result in little or no growth of the stock. At that time the Council indicated that no further major changes in the TAC would be likely in the near future. The Council notes that the 2000 assessment for this stock indicates that maintaining the TAC at the current level of 6,000t should result in an increase in the spawning biomass of approximately 5% in the coming year.

The FRCC recognises that the biomass remains at a low level and that its increasing rate remains low, due to the current low productivity of the stock. The Council feels that the status quo remains acceptable, as it allows an increase in the spawning stock biomass, according to the scientific assessment, while allowing the prosecution of a commercial fishery. Considering the depressed level of the stock, and the possibility of decline, the FRCC feels that no major changes of the TAC are likely to occur in the near future.

The FRCC recommends that the 2000/2001 TAC for 4TVn cod be maintained at 6000t.

The Council feels that this approach, in light of the modestly improved strength in the most recent year classes, should enhance the prospects for biomass growth in coming seasons.

The Council observes that the Department of Fisheries and Oceans and the fishing industry achieved an accommodation for the 1999 winter season to curtail the traditional fishery for cod and other species while they are congregated and possibly mixed in the Cabot Strait over-wintering area. The Council believes that such restrictions are warranted while the status of these migratory stocks continues to be reduced from historic levels and particularly until the resident stock in that same area recovers from its currently collapsed condition.

The Council recommends that any fishing on 4TVn

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC	67	60	45.2	54	54	53	48	43		Moratorium			2	3	6
Catch	64	68.7	54.6	47.9	42.7	40.2	31.5	28.3	4.01	0.9	0.3	0.4	1.4	2.5	5.99

*Catch as of Dec. 23/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

cod during its over-wintering in the 4Vn area should only take place to the extent that there is a high confidence that catch of 4Vn resident stock be minimal. The Department of Fisheries and Oceans is encouraged to research the conditions by which this might be achieved.

SOURCES

DFO SCIENCE

SSR A3 - 1 (2000) Cod in the Southern Gulf of St. Lawrence

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in :

Gaspé (March 13)

Moncton (March 15)

Port Hawkesbury (March 16)

WRITTEN BRIEFS

Mobilisation régionale pour l'urgence de l'emploi (MORUE)

L'association des pêcheurs de poisson de fond acadiens - Alyre Gauvin

Bay St. Lawrence Fishing Vessels Association – Hector MacKinnon

Northern Cape Breton Fishing Vessels Association – Clifford Aucoin

South Inverness Mobile Fishermen's Association – Eugene Beaton/Carl Cameron

Dale Williams, Bay St. Lawrence fisherman

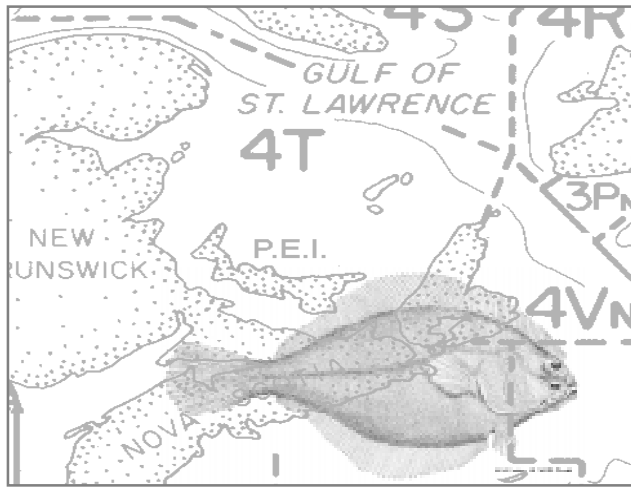
Federation of Gulf Nova Scotia Groundfishermen (Fixed/Mobile <45' Competitive) – Percy Hayne

John A. Buchanan, Bay St. Lawrence fisherman

COUNCIL'S VIEW OF STOCK STATUS

Overall indicator:	Slowly improving from a very low level
Overall biomass:	Improving slowly, but below the LTA
Spawning Biomass:	Improving slowly, but below the LTA.
Recruitment:	Improved since 1995, but below the LTA
Growth and condition:	Stable at an intermediate level
Age Structure:	Widening due to low exploitation and improved recruitment
Distribution:	Increasingly restricted to the eastern portions of the summer range. Unknown in winter
Recent exploitation rate:	Fishery resumed at low level in 1999

AMERICAN PLAICE - 4T



PERSPECTIVE

American plaice used to be the most abundant groundfish after cod, in the southern Gulf of St. Lawrence. The females are distinguished by a faster growth and reach larger sizes than males. They reach sexual maturity at between 7 and 15 years old while males reach maturity between 5 and 7 years old. Spawning occurs in late spring and early summer. Results based on research surveys indicate that the stock is at its lowest historical level. Total biomass estimated at 300,000t at the end of the 1970's decreased to approximately 30,000t in 1999. Age classes between 4 and 7 years are stable at a low level. Recent RV survey catches were more abundant in the eastern part of 4T. The commercial catches showed the same pattern which suggest a shift of distribution of the stock in recent years.

The landings in the 4T fishery, which is managed by quota since 1977, ranged between 5000t and 10000t until 1992. From 1993 to 1999, lower catches in the range of 1300t to 2400t did not allow for a recovery of the stock, according to the scientific assessment.

ANALYSIS

The most recent DFO Stock Status Report describes a stock which has been in decline since 1980 and is now at its lowest level in the 1971-1999 survey period. Recruitment is stable at a low level, and the resultant yearclasses are much smaller than have been earlier observed. In addition, this stock has been increasingly concentrated in the eastern part of 4T in recent years. Scientists consider that American plaice in 4T are

vulnerable to overexploitation, and suggest that catches should be well below 2000t in order to promote conservation.

The views of the fishing industry are influenced by the shifted distribution of the stock. Fishers based in the western portion of the stock area report that plaice are not as abundant as they were previously. In the eastern area, where most remaining plaice fishing occurs, fishers report that catches have maintained or even improved in recent times. The pattern of these observations correlates with the results of the survey, although fishers continue to believe that the DFO survey vessel *Alfred Needler* is inadequately equipped and operated to catch flatfish species generally, and cannot be trusted to monitor the true abundance of flatfish stocks. During recent consultations, eastern-based fishers recommended a TAC of 2500t for 2000. Western-based fishers provided no direction to Council on this stock.

Until recent times, it was widely known that poor conservation practices, notably excessive catches of small fish and significant unaccounted discards, were characteristic of the fishery on this stock, and this likely contributed to stock declines. In the last five to seven years, the mobile fleets which prosecute the bulk of this fishery have made significant strides in addressing these problems, and recent evidence indicates that the capture of small plaice in the plaice-directed fishery is no longer a serious conservation concern. In reducing the TAC to the 2,000t level and holding it in that general range since 1996, the Council has hoped to facilitate these changes and is seeking a signal that rebuilding has begun.

Considering the stock area as a whole, and the continuing good catch rates of fishers in the south-eastern Gulf notwithstanding, the Council observes that stock rebuilding has not yet been reported in this stock and that indeed overall stock abundance continues to erode slowly. The Council is aware that, on the basis of improved monitoring of catches and landings, further gear modifications to reduce small plaice by-catches and more consistent deployment of enforcement and monitoring efforts are being introduced for the coming season. The Council continues to support these efforts.

The FRCC recommends that the 2000/2001 TAC for 4T American plaice be maintained at 2000t.

The Council is increasingly concerned that this stock continues to decline and, in view of the observed rebuilding getting underway in Atlantic cod, wishes to forestall the potential of having incompatible TAC's in

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC	10	10	10	10	10	10	10	10	5	5	5	2	2.5	1.5	2
Catch	10.5	7.7	8.4	6.8	4.8	4.4	5.04	4.9	1.6	2.4	2.3	1.4	1.7	1.1	1.42

*Catch as of Dec. 23/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

the mixed fishery for these two species at some future point. For those reasons, the Council will have to consider another approach to the management and conservation of this stock unless rebuilding is observed in the very near future.

Addressing the diverging views of the scientists and the industry with regard to the *Needler* survey began with the Southern Gulf Survey Workshop held to assess the flat fish catchability of the *Needler's* survey.

The FRCC commends this approach and recommends that DFO and industry follow-up on the recommendations of the Southern Gulf Survey Workshop.

SOURCES

DFO SCIENCE

SSR A3 - 36 (2000) Updates on Selected Gulf of St. Lawrence Groundfish Stocks

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in :

Moncton (March 15)

Port Hawkesbury (March 16)

WRITTEN BRIEFS

L'association des pêcheurs de poisson de fond acadiens - Alyre Gauvin

Bay St. Lawrence Fishing Vessels Association – Hector MacKinnon

Northern Cape Breton Fishing Vessels Association – Clifford Aucoin

South Inverness Mobile Fishermen's Association – Eugene Beaton/Carl Cameron

Federation of Gulf Nova Scotia Groundfishermen (Fixed/Mobile <45' Competitive) – Percy Hayne

COUNCIL'S VIEW OF STOCK STATUS

Overall stock indicator: The stock abundance is at its lowest level in 1999

Total biomass: After its initial decrease in early 1980's, it attains its lowest level of all historical RV surveys (1971-1999)

Spawning biomass: Unknown

Recruitment: Stable at low level

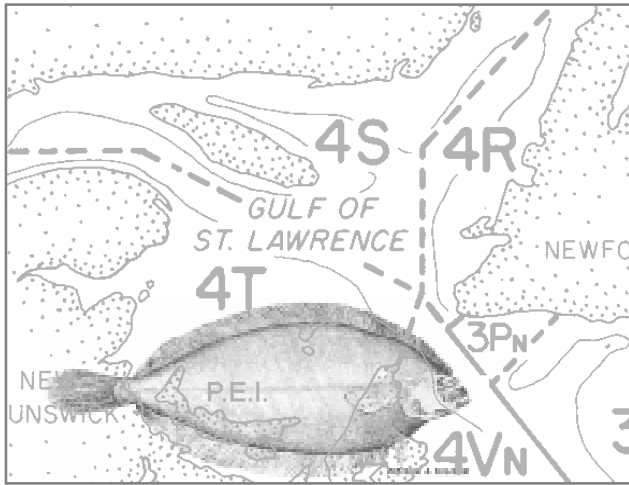
Growth and condition: Unknown

Age structure: Unknown

Distribution: Abundance stable at low levels concentrated on the eastern part of the distribution. Continued decline on the western portion

Recent exploitation rate: 1537 t of 2000 t were landed in 1999

WITCH FLOUNDER - 4RST



PERSPECTIVE

The commercial fishery for witch flounder developed in Newfoundland in the 1940's with the introduction of the otter trawler. The fishery in the Gulf of St. Lawrence began when the stocks in Fortune Bay declined, moving the vessels into Bay St. Georges (Newfoundland) in the 1950's.

Winter catches of witch gained in importance in the offshore, as by-catch in the cod and redfish directed fisheries. The fishery further expanded in the Gulf during the 1970's to the Esquiman Channel and the Northern shore of Cape Breton Island.

Witch flounder came under quota management in 1977, with a precautionary quota of 3500t for northern Gulf of St. Lawrence (4RS). The first detailed assessment of 4RS was conducted in 1978 and continued until 1981. During the 1980's, landings in 4T increasingly dominated Gulf witch landings, however the management unit remained as 4RS. The TAC was increased to 5000t in 1979 in 4RS, to remove an old and slow growing component of the stock. This measure reduced the age composition of the stock and landings declined, and by 1982 the TAC was reduced to 3500t. Stock assessments resumed in 1991, and following the recommendations of the Fisheries Resource Conservation Council in 1994, the management unit was extended to 4RST in 1995.

ANALYSIS

The 2000 update to the DFO Stock Status Report gives a mixed picture of the 4RST witch flounder population. The biomass appeared to increase sharply in 1999

compared to the low level from 1993 to 1998. This increase is mainly due, however, to very large catches at two sites in the Cape Breton Trough. Catch rates of witch also tended to be moderately high in parts of the Gaspé Peninsula, Laurentian Channel, St. Lawrence River and the eastern slope of the Esquiman Channel. Witch flounder were also found to be more widely dispersed throughout the relatively deep waters of the Northern Gulf but were rare on the Magdalen Shallows. Several uncertainties have to be taken into account: we do not know if the abundance observed in the Cape Breton Trough is a beginning of a trend, an anomaly, or an overflow from the Scotian Shelf population. We do not have any indication of the stock structure.

The industry view on witch flounder is marginally better. Catches are increasing and more widespread in the 4T area, and fishers report higher catch rates in Bay St. Georges (Newfoundland). This has happened while the mesh size has increased since 1995, meaning larger and fewer fish caught per year. Industry views these signs and considers that a small increase would be acceptable. Fishers also argue that several efforts have been made to improve fishing practices.

The FRCC acknowledges fishers' views and accepts the proposed modest increase. However, the recommended TAC should remain stable until such time as a significant increase in the stock has occurred and a further increase in TAC is warranted.

The FRCC recommends that the 2000/2001 TAC for 4RST witch flounder be set at 1000t.

On the science report on dumping and discarding, it was noted that there could be highgrading in this stock on under 14 inch fish, to keep in line with market fish size. Scientists and fishers recognise that the witch flounder fishery is mainly a recruitment fishery, which is detrimental to stock recovery. The industry appears to be ready to move to correct this situation.

The FRCC recommends that this fishery should be monitored closely and if highgrading proves to be occurring, it should be corrected.

The FRCC recommends that measures be taken, such as the definition of an appropriate mesh size, to minimise the catches of immature witch flounder.

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC	3.5	3.5	--	3.5	3.5	3.5	3.5	3.5	3.5	1	1	1	1	0.8	0.8
Catch	0.7	0.8	0.3	0.16	1.20	0.7	0.5	0.4	0.5	0.1	0.3	0.5	0.6	0.89	0.69

*Catch as of Nov. 19/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

SOURCES

DFO SCIENCE

SSR A3 - 36 (2000) Updates on Selected Gulf of St. Lawrence Groundfish Stocks

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in :

Moncton (March 15)

Port Hawkesbury (March 16)

WRITTEN BRIEFS

L'association des pêcheurs de poisson de fond acadiens - Alyre Gauvin

Bay St. Lawrence Fishing Vessels Association – Hector MacKinnon

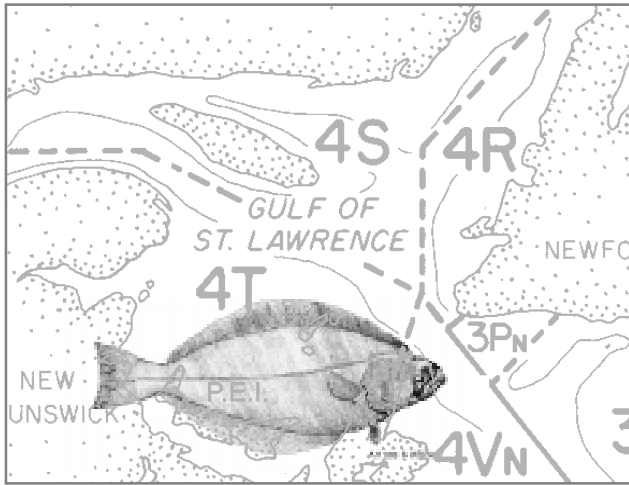
Northern Cape Breton Fishing Vessels Association – Clifford Aucoin

Federation of Gulf Nova Scotia Groundfishermen (Fixed/Mobile <45' Competitive) – Percy Hayne

COUNCIL'S VIEW OF STOCK STATUS

Overall indicator:	Population still at low level, slightly improving, in size and in distribution.
Total Biomass:	Stable at low level in the Western Gulf, some improvement in the East, however causes are uncertain
Spawning Biomass:	Unknown
Recruitment:	Stable during the 90's, but higher than in the late 80's
Growth and condition:	No information
Age structure:	No information
Distribution:	Expanding on the edge of the channels; more abundant on the north-west side of Cape Breton.
Recent exploitation rate:	Low landings due to low TAC.

GREENLAND HALIBUT - 4RST



PERSPECTIVE

In the Gulf of St. Lawrence, there are two main fishing areas for this stock: a western area, in the St. Lawrence estuary and the Anticosti Island area, which represents generally more than 80% of the catches, and an eastern area, in the Esquiman Channel.

The development of the fishery is recent. Long term average landings are in the range of 4000t. Very high catches, above 8000t, were experienced in the past and were followed by sharp declines. Male and female halibut have different growth rates, with females reaching maturity at a larger size. A concentration of the fishery on the larger females could have a negative impact on the stock's reproductive capacity.

ANALYSIS

According to the most recent DFO Stock Status Report, the Greenland halibut population in the Gulf of St. Lawrence continues to show positive signs: this is the benefit of conservation measures implemented in the recent past.

The fishery is mainly prosecuted with gillnets. Conservation measures implemented recently, by regulation and by industry initiatives (i.e. mesh size, reduction of fishing effort, sorting grids in the shrimp fishery) have led to a recovery of the stock. The mean term prospect is positive as good new year classes are observed in the surveys.

The biomass index derived from the scientific survey in 1999 is the highest observed in the time series, and has been increasing steadily since 1993. Recent poor

recruitment has led to a slight decline in the 1999 commercial catch rates, as well as a higher relative fishing mortality (catches vs. survey biomass). The situation is likely to be similar in the year 2000. Stakeholders seem to be in general agreement with the Stock Status Report, with one group advocating an increase in the TAC of 500t (i.e. a TAC of 5000t) for the year 2000, while another noting that in their view the stock could sustain catches as high as 6000t.

Due to the limited recruitment that will occur again in 2000, the FRCC feels that a safe approach should be not to increase the current exploitation rate in order to maintain the spawning stock biomass and to improve survival of yearclasses in the fishery. As in its 1999 Report, the FRCC notes that the current catch level is at, or close to, the long term average which means that any TAC increase should be considered with caution and, unless major changes in the stock status are noticed, the TAC should not change significantly in the near future.

The FRCC recommends that the 2000/2001 TAC for 4RST Greenland halibut be maintained at 4500t.

Two good year classes are seen in both the DFO Research vessel and sentinel surveys. These year classes will begin to appear in the commercial fishery in 2001 and will contribute more significantly to commercial catches in 2002. It is to be expected that, due to the strong incoming recruitment, catches of small fish will be a problem in the next years.

The FRCC recommends that measures be implemented to limit catches of undersized Greenland halibut.

Fishers have expressed concerns about the effect of the 6 inch (15.2 cm) mesh size which, in their views, will destroy a fair amount of large good spawners. They feel that the use of 5½ inch (14 cm) mesh should be considered for the year 2001.

The FRCC cannot accept a decrease in the mesh size, knowing that more fish (50% more according to scientists) will be killed. The Council reiterates its principle to protect young, immature fish and it feels that short-term benefits should not be allowed to overtake long-term objectives. A properly set TAC should allow sufficient mature biomass to survive fishing in order to preserve the reproductive capacity of the stock.

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC	5	5	8.7	10.5	10.5	10.5	10.5	10.5	4	4	4	2	3	4	4.5
Catch	2.3	6.5	10.9	7.5	5	2.3	2	3.5	2.5	3.5	2.4	1.9	2.6	3.9	3.2

*Catch as of Dec. 23/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

The fishing of Greenland Halibut in the Cabot Strait remains a concern for fishers. The FRCC feels that a better understanding of stock migration is required.

The FRCC recommends that studies on stock definition, through tagging programs and other scientific work, be continued and expanded.

SOURCES

DFO SCIENCE

SSR A4 - 03 (2000) Gulf of St. Lawrence (4RST) Greenland Halibut

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in :

Gaspé (March 13)

Moncton (March 15)

Blanc Sablon (March 15)

WRITTEN BRIEFS

L'association des pêcheurs de poisson de fond acadiens - Alyre Gauvin

Association Québécoise de l'industrie de la pêche – Jean-Paul Gagné

Regroupement of Fishermen's Associations of the Lower North Shore – Paul Nadeau

COUNCIL'S VIEW OF STOCK STATUS

Overall stock indicator: Stock still rebuilding

Overall biomass: Consistently increasing since 1993

Spawning Biomass: Unknown

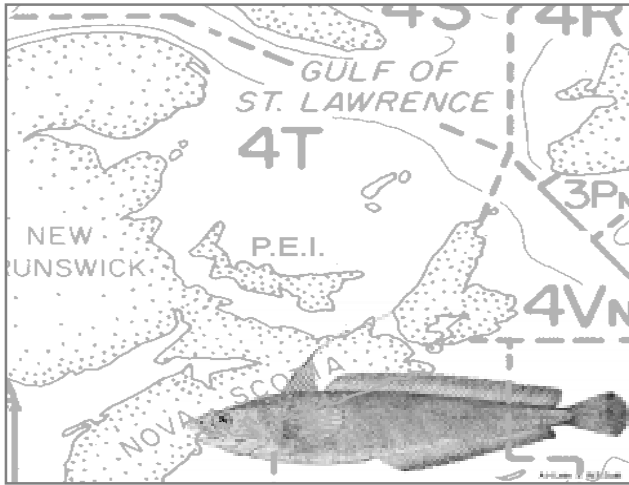
Recruitment: 1997 and possibly 1998 year classes above average.

Age structure: Improving

Recent exploitation rate: Relative fishing mortality increased in 1999 due to poor recruitment

Geographical distribution: Expanding south of Anticosti Island.

WHITE HAKE - 4T



PERSPECTIVE

The white hake fishery has been conducted in the southern Gulf of St. Lawrence since the early 1960's. Traditionally, this stock has been harvested with both mobile and fixed gear primarily in the inshore fishery. Although this fishery did not rate as the most important groundfish fishery, with the exception of several localised areas, it nevertheless played a vital role in the historical landings and revenues of the inshore fleet. Annual landings in this southern Gulf groundfish fishery have averaged 5675t from the early 1960's to 1994.

Catch rates continued to decline in the early 1990's until the fishery closed in 1995. The overall range and distribution of this stock remains concentrated in St. George's Bay. Limited removals have continued since the moratorium for the purposes of sentinel surveys and by-catch for other fisheries.

ANALYSIS

Although the abundance of commercial-sized fish remains low, there are very good indications of 20-35cm hake that should recruit to the fishery over the next two years. Continued efforts of industry (i.e., mesh size increases and other conservation measures) should ensure a continued rebuilding of this stock to previous historic levels.

The general consensus is that the stock remains very low and in a precarious state. The outlook for the future is better as new year classes are observed and should be protected.

The FRCC reiterates its previous recommendations for this stock:

The FRCC recommends that there be no directed fishery for 4T white hake in 2000/2001.

The FRCC recommends that there be a restrictive by-catch fishery only and that measures be implemented to minimise by-catches of this stock in all fisheries directed towards other species. In addition, consideration should be given by DFO, in consultation with industry, to the establishment of incremental conservation measures, including closed areas where higher by-catches are encountered, closed seasons when higher by-catches are encountered.

The FRCC recommends that the substantive by-catch in other fisheries occurring in St. George's Bay (Nova Scotia), which may result in significant white hake mortality, be avoided.

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC	12	12	9.4	5.5	5.5	5.5	5.5	5.5	3.6	2	Moratorium				
Catch	6.7	4.9	5.9	3.7	4.9	4.2	3.7	3.9	1.2	0.9	0.06	0.04	0.1	0.13	0.11

*Catch as of Dec. 23/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

SOURCES

DFO SCIENCE

SSR A3 - 36 (2000) Updates on Selected Gulf of St. Lawrence Groundfish Stocks

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in :

Moncton (March 15)

Port Hawkesbury (March 16)

WRITTEN BRIEFS

Federation of Gulf Nova Scotia Groundfishermen (Fixed/Mobile <45' Competitive) – Percy Hayne

Gulf Nova Scotia Fleet Planning Board – Percy Hayne

COUNCIL'S VIEW OF STOCK STATUS

Overall stock indicator: Stock abundance remains lower than the long term average. Future prospect looks better due to incoming recruitment

Total biomass: Lower than the long term average, however biomass index is the highest since 1992

Spawning biomass: Unknown

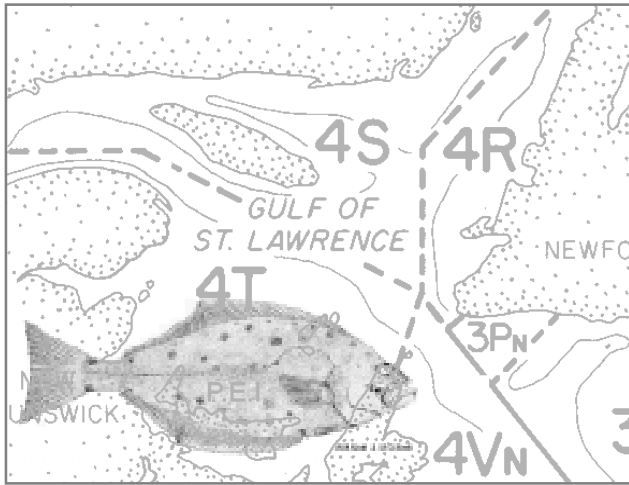
Recruitment: Abundance of small fish is increasing

Growth and condition: No information

Age structure: Fish larger than 40cm less abundant than long term average; increasing abundance of fish in the 20-35cm range

Distribution: Still mainly concentrated in Western Cape Breton area (St. George's Bay)

ATLANTIC HALIBUT - 4RST



PERSPECTIVE

The Atlantic halibut is widely distributed in the deep channels of the Gulf of St. Lawrence. It is thought that it overwinters outside the Gulf, in the 3Pn and 4Vn areas.

The fishery is generally prosecuted with long lines. Over the past 20 years, the average landings are in the range of 300-400t with peaks as high as 800t. Historical data indicate that catches may have been above 1000t.

ANALYSIS

The implementation of a minimum legal size and the mandatory release of undersized halibut has translated into a significant decrease in the landings of small fish. The wide size range of fish caught is a positive sign of stock health. However, questions about the actual size at maturity for females, which might be much higher than the present minimum legal size, raise the issue of stock reproductive capacity under the current management regime.

According to the most recent DFO Stock Status Report, the current situation is the same as it was in 1999: wide size ranges and decreasing catches of small fish, which both can be interpreted as positive signs. No reliable biomass index is available. Despite the fact that catches are capped by a TAC, it seems clear that the actual potential catches are lower than historical catches (which were in the range of 1000t) and would indicate that the stock continues to be depressed from historical levels. The fishing industry seems to agree with the stock status described by scientists.

The FRCC recommends that the 2000/2001 TAC for 4RST Atlantic halibut be maintained at 350t.

The FRCC recommends that the release of fish smaller than 81cm be maintained, and enforced.

The minimum legal size is an issue raised by scientists. The present size of 81cm may be well below the size at maturity for females, which could be above 100cm. If a size of 100 cm at maturity is confirmed, the current regulation does not protect the stock's reproductive capacity.

The FRCC recommends, as a scientific priority, that studies be undertaken to determine the size at maturity of Atlantic halibut.

Stock unit and possible mixing with stocks outside the Gulf remains an issue.

The FRCC recommends that the Atlantic halibut tagging program be continued and expanded.

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC	--	--	--	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.45
Catch	0.19	0.27	0.27	0.19	0.22	0.42	0.34	0.14	0.11	0.12	0.07	0.23	0.28	0.3	0.26

*Catch as of Dec. 23/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

SOURCES

DFO SCIENCE

SSR A4 - 02 (1999) Atlantic halibut of the Gulf of St. Lawrence (4RST)

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in :

Port Hawkesbury (March 16)

WRITTEN BRIEFS

Dale Williams, Bay St. Lawrence fisherman

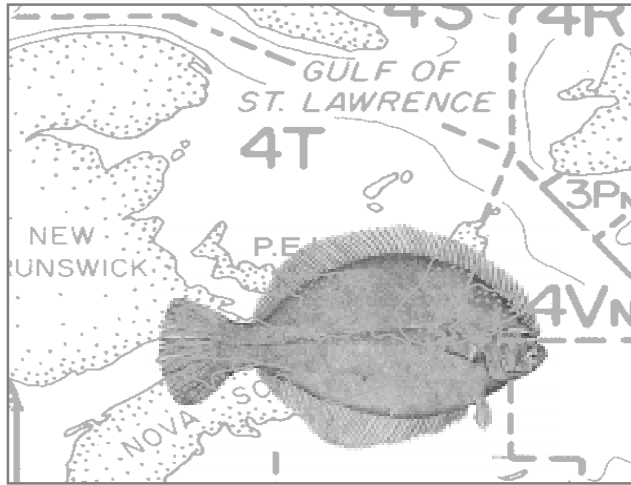
Federation of Gulf Nova Scotia Groundfishermen (Fixed/Mobile <45' Competitive) – Percy Hayne

John A. Buchanan, Bay St. Lawrence fisherman

COUNCIL'S VIEW OF STOCK STATUS

Overall stock indicators:	Stock at low level
Overall biomass:	Unknown but likely to be at low level
Spawning biomass:	Unknown
Recruitment:	Unknown
Growth and condition:	Not available
Age structure:	No reliable indicator, wide size range present
Recent exploitation rate:	TAC increased to 350 t in 1999. By-catch of small fish in mobile and gillnet fisheries is still a concern

WINTER FLOUNDER - 4T



PERSPECTIVE

In the southern Gulf of St. Lawrence (4T), winter flounder are limited to the Magdalen Islands and to southern parts of 4T. Growth rates vary widely between regions, with females reaching sexual maturity at about 25 cm and with males maturing at about 20 cm. The historical landings in the 4T winter flounder fishery varied widely between a few tons and 4500t. Those large fluctuations may be partially due to misreporting or to landings of “unspecified” flatfishes. Lower landings could have also been affected by the use of larger mesh sizes, which have increased considerably since 1960. The catches were limited by a precautionary TAC of 1000t since 1996. Landings declined sharply after 1997.

ANALYSIS

The updated DFO Stock Status Report for 4T winter flounder confirms trends observed in the past years. Biomass indexes are declining, being now at their lowest level. Winter flounder has a tendency to be smaller in size and weight since 1971. Trends in survey biomass suggest that the stock for the whole of 4T, is presently below the average abundance for the past three decades. These are warning signals. Uncertainties exist however. The survey only covers a small part of the overall distribution of the species and is recognised not to assess the recruitment effectively. The stock is certainly made up of several components.

Little discussion occurred on the state of the stock during consultations. The scientific view contrasts with the active fishers, who in interviews over the past five

years say that the abundance of the resource is increasing. Considering the limited extent of scientific knowledge on the dynamics of this stock, they recommend *status quo* on the 2000 TAC.

The FRCC recommends that the 2000/2001 TAC for 4T winter flounder be maintained at 1000t.

The last winter flounder assessment indicated that the data used to evaluate local abundance, recruitment and stock identification should be improved. Initiatives were put in place in recent years (industry survey on Magdalen Island, logbooks in the southern Gulf and tagging study) to help improve the data in order to determine whether local management measures would be applicable.

The FRCC recommends that the tagging program be continued in order to provide a more realistic view of the state of the stock and its migration.

Dumping and discarding of primarily undersized American plaice, as well as winter flounder, remains a major concern and must be resolved.

The FRCC recommends that the mesh size should be increased appropriately and consistently for each area and for both gillnet and mobile gear vessels, and that steps be taken to ensure that all fishing mortality is reported.

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC												1	1	1	1.2
Catch	1.2	2	1.8	1.4	2.1	2.1	2.5	1.9	1.2	0	0	0	1.08	0.59	0.56

*Catch as of Dec. 23/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

SOURCES

DFO SCIENCE

SSR A3 - 36 (2000) Updates on Selected Gulf of St. Lawrence Groundfish Stocks

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in :

Moncton (March 15)

Port Hawkesbury (March 16)

WRITTEN BRIEFS

Federation of Gulf Nova Scotia Groundfishermen (Fixed/Mobile <45' Competitive) – Percy Hayne

L'association des pêcheurs de poisson de fond acadiens - Alyre Gauvin

COUNCIL'S VIEW OF STOCK STATUS

Overall stock indicator: The stock abundance lower than the long term average.

Total biomass: Lower than the long term average.

Spawning biomass: Unknown

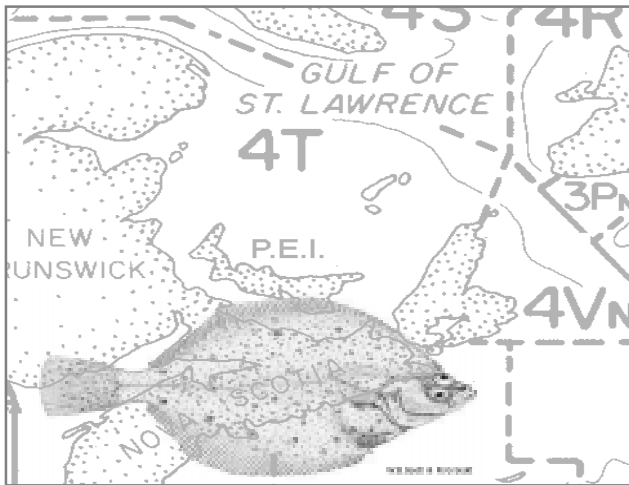
Recruitment: Unknown

Growth and condition: Mean size and weight at lowest historical levels.

Age structure: Unknown

Distribution: There is probably several local components of this stock.

YELLOWTAIL FLOUNDER - 4T



PERSPECTIVE

Yellowtail flounder in the Gulf of St. Lawrence are primarily concentrated around the Magdalen Islands where they have supported a bait fishery for the local lobster fishery. Other than the localised fishery around the Magdalen Islands, yellowtail flounder is harvested as a by-catch in other fisheries. The Magdalen Island fishery is mainly carried out using mobile gear.

A one-time overseas market developed during 1997 resulted in over 800t being harvested. Quotas were established for this stock in 1998 for the first time at a level of 300t. Due to poor markets and an establishment of a quota, harvesting effort has been dramatically reduced since 1998. A localised bait fishery continues to be prosecuted.

ANALYSIS

The FRCC considers that the outlook of the stock has not changed since its 1999 report and that there are no reasons to modify its precedent recommendations.

The FRCC recommends that a 2000/2001 quota of 300t be maintained for 4T yellowtail flounder in the Magdalen Islands area.

The FRCC recommends that in other areas, catches should not exceed those required for the normal conduct of fisheries directed toward other species.

Figures are in 000t

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999*
TAC											0.43	0.43	0.8	0.3	0.375
Catch					0	0	0	0.12	0.12	0.06	0.2	0.21	0.8	0.19	0.29

*Catch as of Dec. 23/99

1. Figures are from the Integrated Fisheries Management Plan Atlantic Groundfish

SOURCES

DFO SCIENCE

SSR A3 - 36 (2000) Updates on Selected Gulf of St. Lawrence Groundfish Stocks

FRCC CONSULTATIONS

The FRCC held consultations on this stock in 2000 in:

Moncton (March 15)

Port Hawkesbury (March 16)

WRITTEN BRIEFS

L'association des pêcheurs de poisson de fond acadiens - Alyre Gauvin

COUNCIL'S VIEW OF STOCK STATUS

Overall indicator:	Population stable; slight improvement in 1999
Total Biomass:	Biomass index increased in the past 3 years
Spawning Biomass:	Unknown
Recruitment:	The decrease in the modal size in the survey may indicate some recruitment
Growth and condition:	No information
Age structure:	Decrease in the abundance of large fish
Distribution:	Fish localised around Magdalen Islands and along Prince Edward Island; the existence of sub-components is debated
Recent exploitation rate:	Low landings due to low TAC

APPENDICES

FRCC TERMS OF REFERENCE

1. INTRODUCTION

The Government of Canada is committed to a more comprehensive approach to the conservation and management of our fisheries resource. This approach demands a better understanding of complex fisheries ecosystems - the interaction of fish with other species, predator-prey relationships, and also changes in the marine environment like ocean currents, water temperatures and salinity.

The Government of Canada is also committed to a more effective role in decision-making for those with practical experience and knowledge in the fishery.

The Minister of Fisheries and Oceans has established the Fisheries Resource Conservation Council (FRCC) as a partnership between government, the scientific community and the direct stakeholders in the fishery. Its mission is to contribute to the management of the Atlantic fisheries on a 'sustainable' basis by ensuring that stock assessments are conducted in a multi-disciplined and integrated fashion and that appropriate methodologies and approaches are employed; by reviewing these assessments together with other relevant information and recommending to the Minister total allowable catches (TACs) and other conservation measures, including some idea of the level of risk and uncertainty associated with these recommendations; and by advising on the appropriate priorities for science.

2. DEFINITION OF CONSERVATION

Fisheries conservation is that aspect of the management of the fisheries resource which ensures that its use is sustainable and which safeguards its ecological processes and genetic diversity for the maintenance of the resource. Fisheries conservation ensures that the fullest sustainable advantage is derived from the resource and that the resource base is maintained.

3. COUNCIL OBJECTIVES

- 3.1 To help the government achieve its conservation, economic and social objectives for the fishery. The conservation objectives include, but are not restricted to:
 - 3.1.1 *rebuilding stocks to their 'optimum' levels and thereafter maintaining them at or near these levels, subject to natural fluctuations, and with 'sufficient' spawning biomass to allow a continuing strong production of young fish; and,*
 - 3.1.2 *managing the pattern of fishing over the sizes and ages present in fish stocks and catching fish of optimal size.*
- 3.2 To develop a more profound understanding of fish-producing ecosystems including the inter-relationships between species and the effects of changes in the marine environment on stocks.
- 3.3 To review scientific research, resource assessments and conservation proposals, including, where appropriate, through a process of public hearings.
- 3.4 To ensure that the operational and economic realities of the fishery, in addition to scientific stock assessments, are taken into account in recommending measures to achieve the conservation objectives.
- 3.5 To better integrate scientific expertise with the knowledge and experience of all sectors of the industry and thus develop a strong working partnership.
- 3.6 To provide a mechanism for public and industry advice and review of stock assessment information.
- 3.7 To make public recommendations to the Minister.

4. MANDATE AND SCOPE

- 4.1 The Fisheries Resource Conservation Council will address these objectives by bringing together industry, DFO science and fisheries management, and external scientific and economic expertise in one body.
- 4.2 The Council will:
- 4.2.1 *advise the Minister on research and assessment priorities;*
 - 4.2.2 *review DFO data and advise on methodologies;*
 - 4.2.3 *consider conservation measures that may be required to protect fish stocks;*
 - 4.2.4 *review stock assessment information and conservation proposals, including through public hearings, where appropriate; and,*
 - 4.2.5 *make written public recommendations to the Minister on TACs and other conservation measures.*
- 4.3 The Council may recommend any measures considered necessary and appropriate for conservation purposes such as TACs, closure of areas to fishing during specific periods, approaches to avoid catching sub-optimal sized fish or unwanted species, and restrictions on the characteristics or use of fishing gears.
- 4.4 The Council's scope includes Canadian fish stocks of the Atlantic and Eastern Arctic Oceans. In the first instance, the Council will address groundfish, and then subsequently take on responsibility for pelagic and shellfish species.
- 4.5 The Council may also advise the Minister on Canada's position with respect to straddling and transboundary stocks under the jurisdiction of international bodies such as the Northwest Atlantic Fisheries Organization (NAFO).

5. SIZE, STRUCTURE AND MAKE-UP

- 5.1 The Council will consist of not more than 14 members with an appropriate balance between 'science' and 'industry'.
- 5.2 Members are chosen on merit and standing in the community, and not as representatives of organizations, areas or interests.
- 5.3 'Science' members, are drawn from government departments, universities or international posts, and are of an appropriate mix of disciplines, including fisheries management and economics.
- 5.4 'Industry' members are knowledgeable of fishing and the fishing industry and understand the operational and economic impacts of conservation decisions.
- 5.5 All members of the Council are appointed by the Minister.
- 5.6 All members, including the Chairperson, are appointed for a three year term; terms can be renewed.
- 5.7 Members appointed from DFO serve 'ex officio'.
- 5.8 Members have to disclose any interest in the Atlantic or Eastern Arctic fishery and take appropriate measures so as to avoid potential or real conflict of interest situations during the term of appointment.
- 5.9 The four Atlantic Provinces, Quebec and the Northwest Territories may each nominate one delegate to the Council. These delegates have access to the Council's information, and may participate fully in meetings, but will not be asked to officially endorse the formal recommendations to the Minister.
- 5.10 The Council is supported by a small Secretariat, to be located in Ottawa. The Secretariat will:
- 5.10.1 *provide administrative support for the functioning of the Council;*
 - 5.10.2 *provide a technical science and fisheries management support;*

5.10.3 organize Council meetings;

5.10.4 record decisions of the Council;

5.10.5 undertake a professional communications function for the Council, providing a central point for communications to and from the Council; and

5.10.6 undertake such other matters as from time to time might be appropriate.

5.11 The Chairman may appoint an Executive Committee, consisting of the Chairman, Vice-Chairman, and three other Members.

5.12 In addition, the Chairman may, from time to time, strike an 'ad hoc' committee to deal with a specific issue.

6. ACTIVITIES:

6.1 Reviews appropriate DFO science research programs and recommends priorities, objectives and resource requirements.

6.2 Considers scientific information - including biology, and physical and chemical oceanography, taking into account fisheries management, fishing practices, economics and enforcement information.

6.3 Conducts public hearings wherein scientific information is presented and/or proposed conservation measures/options are reviewed and discussed.

6.4 Recommends TACs and other conservation measures.

6.5 Prepares a comprehensive, long-term plan and a work plan for the Council which are reviewed annually at a workshop with international scientists and appropriate industry representatives.

6.6 Ensures an open and effective exchange of information with the fishing industry and contributes to a better public understanding of the conservation and management of Canada's fisheries resource.

FRCC MEMBERSHIP:

MEMBERS:

Fred Woodman, Chairman
Jean-Claude Brêthes, Vice-Chair
Osborne Burke
Bill Broderick
Bruce Chapman
Ernest Després
Jean Guy d'Entremont
Gabe Gregory
Frank Hennessey
Dan Lane
Edward McAlduff
John Pope
George Rose
Louis Schofield
Maureen Yeadon

PROVINCIAL DELEGATES:

Ray Andrews, Nunavut
Yvon Chiasson, New Brunswick
David Gillis, Prince Edward Island
Dario Lemelin, Québec
Tom Dooley, Newfoundland and Labrador
Clary Reardon, Nova Scotia

EX OFFICIO:

Guy Beaupré
Barry Rashotte
Denis Rivard

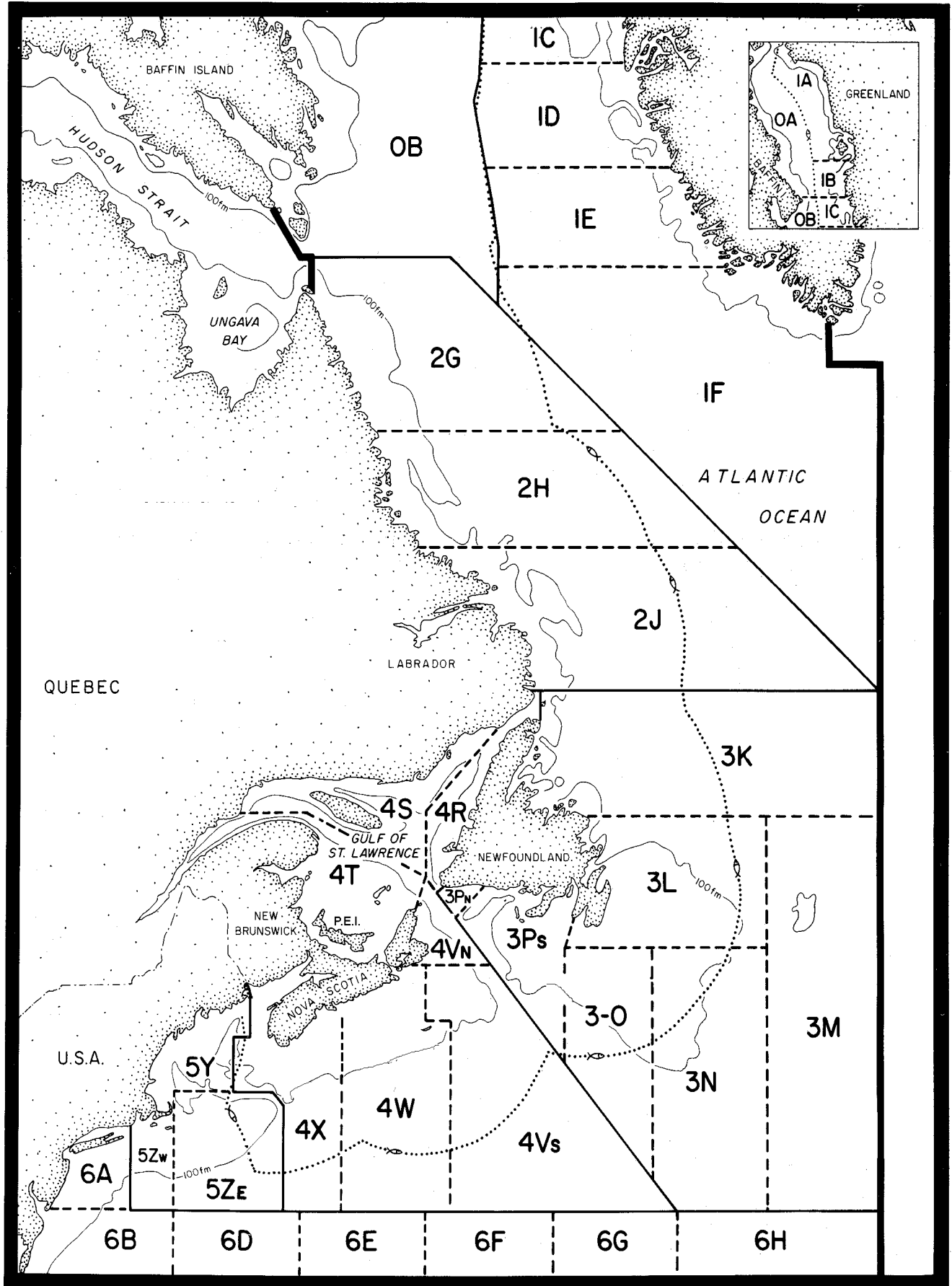
SECRETARIAT:

Michel G. Vermette, Executive Director
Tracey Sheehan
Helena DaCosta
Debra Côté
Marny Brown

WRITTEN BRIEFS RECEIVED BY THE FRCC

FRCC.2000.GR.QC.1	Mobilisation régionale pour l'urgence de l'emploi (MORUE)
FRCC.2000.GR.NB.2	L'association des pêcheurs de poisson de fond acadiens - Alyre Gauvin
FRCC.2000.GR.NS.3	Bay St. Lawrence Fishing Vessels Association – Hector MacKinnon
FRCC.2000.GR.NS.4	Northern Cape Breton Fishing Vessels Association – Clifford Aucoin
FRCC.2000.GR.NS.5	South Inverness Mobile Fishermen's Association – Eugene Beaton/Carl Cameron
FRCC.2000.GR.NS.6	Dale Williams, Bay St. Lawrence fisherman
FRCC.2000.GR.NS.7	Federation of Gulf Nova Scotia Groundfishermen (Fixed/Mobile <45' Competitive) – Percy Hayne
FRCC.2000.GR.NS.8	John M. May
FRCC.2000.GR.NS.9	Save our Seas and Shores Coalition – Mary J. Gorman
FRCC.2000.GR.NS.10	Municipality of Pictou County
FRCC.2000.GR.NS.11	Gulf Nova Scotia Fleet Planning Board – Percy Hayne
FRCC.2000.GR.NS.12	John A. Buchanan, Bay St. Lawrence fisherman
FRCC.2000.GR.QC.13	Association Québécoise de l'industrie de la pêche – Jean-Paul Gagné
FRCC.2000.GR.NF.14	Fisheries Association of Newfoundland and Labrador Limited – Alastair O'Rielly
FRCC.2000.GR.QC.15	Regroupement of Fishermen's Associations of the Lower North Shore – Paul Nadeau
FRCC.2000.GR.NF.16	Eric King Fisheries Ltd. – Roland King, John Osmond
FRCC.2000.GR.NF.17	Fish, Food and Allied Workers – David Decker

200 MILE FISHING ZONE AND NAFO FISHING BOUNDARIES



Canada[!]