

Food'sle



Fisheries
and Oceans

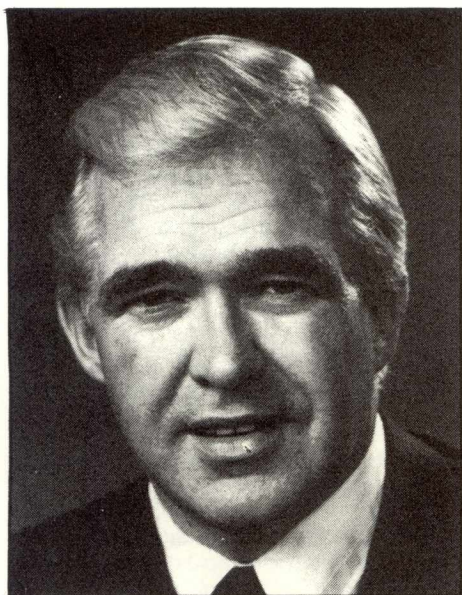
Pêches
et Océans

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Newfoundland Region
Region Terre-Neuve

The 1988 Groundfish Plan

Statement by the Minister



Hon. Tom Siddon

Fisheries and Oceans Minister Tom Siddon announced on Wednesday, Dec. 30, 1987, the details of the 1988 Atlantic Groundfish Management Plan.

The plan sets the total allowable catches (TACs) for groundfish stocks and is designed to conserve and restore fish stocks on the Atlantic coast. The plan also allocates quotas to various segments of the east coast fleet. Groundfish management plans have been implemented annually since Canada assumed control of the 200-mile exclusive fishing zone in 1977.

Groundfish are species such as cod, haddock, redfish, turbot and flounder, which feed on or near the ocean floor. They account for about two-thirds of all fish landed in Atlantic Canada and almost half the value. Some 35,000 fishermen are licensed to fish groundfish.

Effective Consultations

"We have consulted extensively again

this year through the Atlantic Groundfish Advisory Committee (AGAC) to arrive at a fair distribution of the stocks, and provides for appropriate growth of the stocks based on the biological advice available from departmental scientists, as well as the Task Group on Northern Cod. I also wish to thank my provincial colleagues for their co-operation and assistance in developing this plan, and the MPs who represent fishing ridings throughout the Atlantic region."

"Together we have once again arrived at a fair and equitable harvesting plan that will meet the industry's present needs and ensure long-term stability. There is some growth in Gulf redfish and southern Gulf cod," the Minister said. "As well, Grand Banks cod in 3NO has increased. I am also allowing a slight increase in Northern Cod. These increases will allow some flexibility

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The 'Alverson' Report

Comment from the Minister; summary and recommendations

Factors in the recent decline of Northern Cod Catches

- ☐ changes in availability resulting from predator-prey and or environmental relationships, coupled with a slower rebuilding of the major stocks
- ☐ uneven distribution of fishing on stocks or components of offshore stocks migrating to inshore fishing grounds
- ☐ potential over-fishing in the southern areas by the inshore fishermen of separate inshore stocks of cod
- ☐ redeployment of effort to other target species
- ☐ possible effects of fishing on recruitment
- ☐ a slower growth rate of individual cod

Fisheries and Oceans Minister, Tom Siddon, says that review of the Report submitted by the Task Group on the Newfoundland Inshore Fishery essentially confirmed the findings of his Departmental scientists.

"The Task Group's explanations of the recent decline of the inshore fishery confirms the view advanced earlier by Canadian scientists that the decline was due to a combination of factors, including cold water temperatures, redeployment of fish-

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Canada

Alverson

ing effort to other target species, and uneven distribution of fishing on the offshore banks. The one new possibility introduced in the Task Group's report is potential over-fishing of inshore stock components by inshore fishermen in southeastern Newfoundland," Mr. Siddon said Dec. 30, when releasing the annual Groundfish Plan.

The Task Group was established by Mr. Siddon last August to study the reported decline in cod catches in Newfoundland's inshore fishery. The international group of scientists was charged with investigating the reasons for the decline in inshore cod catches in eastern and northeastern Newfoundland, identifying whether the decline was owing to more than natural causes, and recommending management measures that could be implemented to control it.

"The Task Group has confirmed the evidence developed by DFO scientists that the northern cod stock has increased substantially in abundance since 1976," Mr. Siddon said.

The Task Group assessments and those of DFO scientists regarding the increase in stock size are very close. The Task Group estimated a 5-fold increase in stock size from 1976-86; departmental scientists had estimated a 5.5 fold increase over the same period.

Mr Siddon noted that Dr. Alverson, Chairman of the Task Group had described the findings of the Task Group and departmental scientists as "rather remarkable agreement between two sets of scientists".

"I was delighted to find that the Task Group's report confirmed the excellent quality of the research of our own scientists," Mr. Siddon said.

"The Task Group recommended a cautious approach to the setting of the 1988 T.A.C. in order to accelerate the growth of the northern cod stock and provide some buffering against the combination of factors which have contributed to the decline in the inshore fishery. I have taken this advice into account in establishing the T.A.C. for 1988 at 266,000 t," Mr. Siddon said.

Mr. Siddon noted that the Task Group had made certain recommendations respecting increased research on northern cod. "These recommendations support the initiatives I took in September of 1986 to strengthen our research capability," the Minister said.

"The Department of Fisheries and Oceans has a highly skilled, dedicated team of scientists in St. John's and across the country. Their efforts are being bolstered by the addition of five scientific personnel for northern cod, seven for an expanded fisheries ecology program and 10 for a new physical oceanography program directly related to fisheries scientific capability in Newfoundland", Mr. Siddon said.

Executive Summary from the Report of the Task Group on Newfoundland Inshore Fisheries, Nov. 19, 1987

The TGNIF was formed in mid-August, 1987 by the Honourable Tom Siddon in order to provide an independent analysis of the factors which have influenced the recent (1982-1987) declines in the catches of certain inshore fisheries. In the course of its work, the group reviewed about 150 Department of Fisheries and Oceans and other reports, documents, and other publications, dealing with catch statistics, population trends and environmental and biological factors influencing distribution abundance and availability of cod.

From these reports and other special data runs provided by the DFO research centre at St. John's, the group came to several conclusions regarding causative factors impacting inshore catch trends. These conclusions are as follows;

1. Although there is incomplete separation of stocks inhabiting the offshore grounds there is adequate evidence that differential mortalities imposed on offshore stocks in the various divisions can have an adverse impact on some inshore fisheries.
2. The possibility exists of semi-discrete populations inhabiting the bays and adjacent banks of southeast Newfoundland, and heavy fishing on these stocks by the inshore fishery may, in part, be responsible for the decline in inshore catches.
3. Estimates of the growth of the total stock may have been overly optimistic, and although we conclude that the total stock has increased since 1977, it has not reached the expected levels. Nevertheless, it currently appears to be increasing, but at a slow rate.
4. The average size of fish available to the inshore fishery has declined, but this change is not apparent in the offshore fish-

ery. This reduction of size of fish taken in the inshore fishery may in part reflect increasing recruitment and/or the lower average size (weight) of fish at age in the current stock(s).

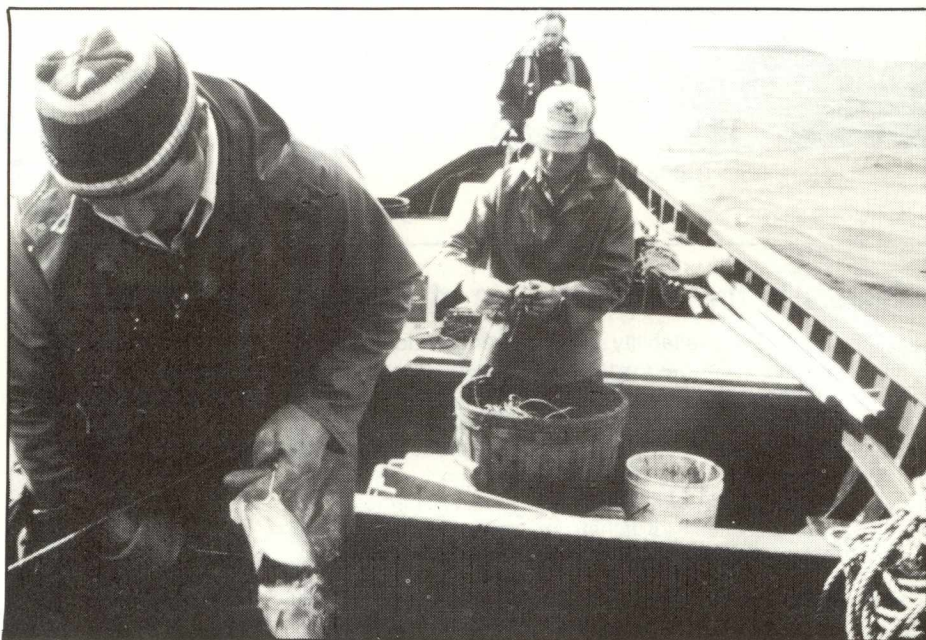
5. A great deal of data and literature suggests that the availability of cod to the inshore fishery is influenced by ocean climatic factors and predator-prey relations. Quantifications of these impacts, however, are only now starting to emerge. Recent studies indicate that cold water events could have accounted for much of the reduction in catch in 1984-1985, but not for the reduced catch in 1986.

6. There may have been redeployment of inshore fishing effort to alternative species during 1985-1986, but there is also accompanying data which also implies inshore CPUE has declined since 1982. We do not feel that reduction in inshore fishing effort can account for the catch declines in 1983 and 1984 but may have been a contributing factor in 1985-1986.

7. The efficiency of the offshore fleet probably has increased since the development of offshore fishing. However, most of this change occurred prior to 1982. Also, recent changes in mesh size and escape panels may have offset other improvements in catching efficiency. We do not attribute errors in estimating catchability related to changes in efficiency as having a significant impact on estimates of abundance.

8. The assessment methodologies employed by the fishery centre at St. John's should lead to reasonably accurate estimates of stock abundance. The CAFSAC estimates of fishing mortality in 1986 fall within the (0.2-0.4) range of estimates support-

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Groundfish

to reallocate species and stocks among fleet sectors to cushion the effects of declines in other stocks."

In 1987, the inshore and offshore sectors worked together, particularly in Scotia-Fundy, to ensure that quotas were utilized and that no fleet sector was unduly constrained. "I am hoping that the same co-operation can be shown in 1988 between the inshore and offshore sectors to make quota transfers to ensure full utilization of the resources in 1988."

Northern Cod

The Minister, in August, established a special Task Force of internationally renowned scientists to assess the reasons for the declining harvest in Newfoundland Inshore Fisheries since 1982.

"Their analysis and conclusions are essentially the same as those of my own departmental scientists, with several factors contributing to the decline," Mr. Siddon said. "They indicate that the stock is healthy and growing, but not increasing at the rate we once expected. If we want some assurance that it will grow faster and increase the likelihood of a successful inshore catch, then we will have to contribute more to the spawning biomass by keeping harvesting levels lower than our traditional $F_{0.1}$ level.

"After extensive consultations with the fishing industry and my provincial colleagues, I have decided to set the TAC at 266,000 t for 1988. This will provide some increase in catch and job opportunities next year. Many people are encouraging me to set the TAC much higher and will be disappointed by my decision. However, I feel it is the only responsible thing to do in light of the reduced inshore catches in recent years and the need to create a buffer to ensure their recovery. I will also be imposing the same regulations as in 1987 to spread the offshore effort over the zone and to have full observer coverage.

"There are many new proposals for access to Northern Cod based on the expectation of a much higher TAC. However, the increase in the TAC of 10,000 t will just allow me to reinstate the groups which suffered reductions in 1987 and whom I promised would be the first beneficiaries of any increase in Northern Cod.

"Beyond that, the only spare fish will be the 9,500 t repatriated from the EEC. My intention is to use as much of this as possible for the Newfoundland component of the Resource-Short Plant Program, given that it will go to the Newfoundland plants and communities which have suffered so dramatically from the reduction in inshore catches. Seven additional plants will be added to the program. These are LaScie, Charleston, Bonavista, Englee, Bide Arm, Twillingate and Triton.

"It will also be necessary to honour previ-

ous commitments to develop a Scandinavian Longliner fleet; it is even more important to pursue these alternative fishing technologies under current circumstances. I am also making an extra provision for the Midshore fleet (65'-100') in order to facilitate the introduction of Enterprise Allocations to that sector. Other proposals will have to be held in abeyance until the resource picture improves."

Separate Quotas for Small Inshore Vessels

"The picture in the Gulf of St. Lawrence is somewhat brighter this year with 4T cod in healthier condition and an increase of 6,000 t in Gulf redfish. For both stocks, industry and provinces have agreed to the principle of further refining quota management to provide for separate quotas for vessels less than 45' (generally multi-purpose boats) and over 45' (generally licensed for groundfish only). The opening date has been contentious again this year and I am setting it at April 22 to try to accommodate all parties. In order to achieve improved quality and a more orderly harvesting regime, we will be introducing regulations to manage by trip limits and impose gutting-at-sea in the Gulf. Considerable work and co-operation is required between federal and provincial governments to establish the regulatory framework for gutting-at-sea, and we hope to have it in place for the summer fishery."

"In Scotia-Fundy region, we will also be introducing separate quotas for mobile gear fleets under 45' in length and those in the 45'-65' category. The two sectors, while agreeing in principal to the need for separate allocations, were unable to agree on the quantities. Hence, my departmental officials in Scotia Fundy have tabled numbers which they felt to be fair. I have accepted their recommendation and have the full support of my Provincial colleagues.

"There has been some pressure to consider the introduction of allowances for fixed gear vessels under 45', but an analysis of the figures indicates that this would lead to an overrun of the quotas in stocks which are already declining."

Controls on Capacity

"I am becoming alarmed by the growing trend to replace vessels with new, larger, more expensive vessels. While this may make sense on an individual level, it makes no sense over-all. It simply means that for a fixed amount of fish, the cost structure of the whole industry goes up, profits go down and we are less competitive on world markets. The industry in Nova Scotia has been making some significant progress in developing alternatives to control the problem. As well, provincial colleagues and I have established a federal-provincial working group to look at new Atlantic-wide replacement guidelines which can be modified regionally to accommodate varying resource conditions.

"In the meantime, it is important that we closely adhere to current replacement policy. Any fisherman building a new vessel which is not in compliance with the existing guidelines, i.e., no more than 10% increase in hold capacity and remaining within the appropriate length category, will not be re-licensed. Fishermen must verify approval in writing with a fisheries officer before construction is started. Any disputes will be referred to the departmental appeal boards and at the final level to the Atlantic License Appeal Board."

Special Program for Gulf Plants

"There will be a 6,000 t increase in the TAC of Gulf redfish in 1988. This increase will be used to create a special program for Gulf-based groundfish plants which find themselves short of resources for processing, particularly in the fall months. I have directed my officials to immediately develop criteria to designate those Gulf plants which would be eligible for the program.

"I expect that those plants will include those which are currently part of Marque Resources, Nova Nord and the Kings County consortium in P.E.I., as well as others. Meetings will be held early in the New Year with designated plants to assist with the formation of a Gulf-based consortium. Discussions will also involve possible access to other under-used quotas. Canadian vessels must be used to harvest the quotas for this program."

Enterprise Allocations for the Midshore Fleet

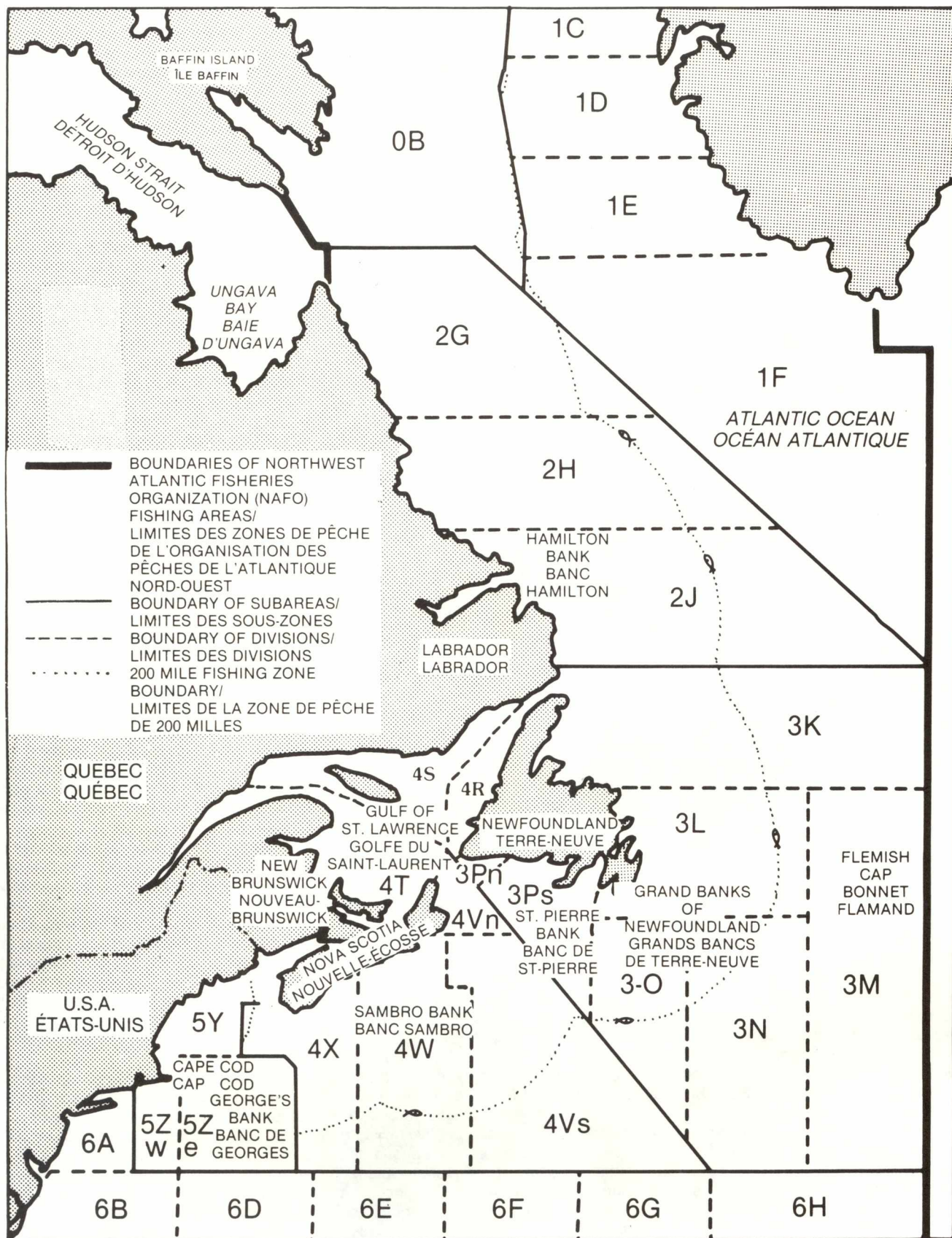
"Starting in 1988, the Midshore fleet (65'-100') will be operating on Enterprise Allocations. Negotiations have been long and arduous with the individuals involved and not everyone is pleased with the outcome. Nevertheless, the benefits from such a system are so clear that I feel we must proceed now.

"Enterprise Allocations were formally introduced to the offshore sector vessels over 100' in 1984, on the basis of a five-year pilot project. They are considered to be a major advancement by all involved. There is currently a review of the pilot project under way which will lead to modifications to commence in 1989. There will be a major seminar with industry in February 1988, to assess the system and get people's views on directions for the program beyond 1988."

Harvesting of Underutilized Species

"As last year, I am encouraging the development of underutilized species. A 36,000 t developmental quota of Silver Hake on the Scotian Shelf will be set aside for exploitation by Canadian vessels in 1988. Of this, there will be a 6,000 t competitive quota; the remaining 30,000 t will be divided into 5,000 t lots for special projects.

"As well, I have asked officials to consult with industry and develop plans to increase the exploitation of turbot, redfish and cod



COD/MORUE

Stock Area/ Zone du stock	TAC/ TPA	Reserve or NAFO Allocation Réserve ou Allocation de l'OPANO	Canadian Quota/ Contingent canadien	Vessels/Bateaux < 65' (19.8 m)		Vessels/Bateaux 65'-100' (19.8 m-30.5 m)		Vessels/ Bateaux > 100' (30.5 m)	RSPP/ PUCR
				fg/ef	mg/em	mg/em	fg/ef		
2GH	20,000	11,400 ^a	8,600	240	-	300	1,200	5,860 ^b	1,000
2J3KL	266,000	c	266,000	115,000 ^d	5,000 ^e	1,000	4,180	125,470 ^{fg}	15,350
3M	Moratorium on cod fishing in NAFO Division 3L outside Canadian waters is extended in 1988/Moratoire sur la pêche à la morue dans la division 3L de l'OPANO à l'extérieur des eaux canadiennes est continué en 1988.								
3NO	40,000	20,930	19,070	800	-	285	1,600	16,385 ^h	-
3Ps	41,000 ⁱ	6,400	34,600	27,100 ^j	1,700 ^k	-	700	5,100	-
4RS3Pn	-	-	73,900	34,760 ^l	30,990 ^m	2,665 ⁿ 400 ^o	-	5,085 ^p	-
4Vn (J-A)	7,125	-	7,125	700 ^q	695 ^r	90	90	5,550	-
4Vn(M-D)	7,500	-	7,500	4,880 ^s	1,882 ^t	142 ^u	71	525	-
4T	40,675	-	40,675	11,705 ^v	[----- 28,970 ^w -----]		-	-	-
4VsW	38,000	-	38,000	7,390 ^x	4,375 ^y	675	560	25,000	-
4X	14,000	-	14,000	7,915	4,340 ^z	185	90	1,470	-
5Y	-	-	1,500	700	700 ^{aa}	-	-	100 ^{bb}	-
5Z	-	-	12,500	3,740	1,710 ^{cc}	115 ^{dd}	115	6,820	-
Total	474,300	38,730	523,470	214,930	77,142	9,077	8,606	197,365	16,350

FOOTNOTES FOR COD STOCKS

a	For allocation under bilateral agreements		
b	Scandinavian longliners (fg over 100') 700t		
c	If it becomes necessary to create a reserve at some point during 1988, the quota for the reserve will come from the beneficiaries of the increase on a pro-rata basis		
d	Allowance		
e	Includes a 2,000 t quota for 2J and a 3,000 t quota for 3KL. Vessels based in 3KL 2,800t Vessels based in 3Ps 200t		
f	Scandinavian longliners (fg over 100') 4,270t		
g	Offshore quota for mg to be harvested proportionally in 2J,3K and 3L with full observer coverage during peak periods		
h	Scandinavian longliners (fg over 100') 450t		
i	Subject to increase in the context of French over-fishing		
j	Vessels based in 3KL 1,100t		
k	Groundfish fleet based in 3Ps 800t Groundfish fleet based in 3KL 700t Sector overlap quota - vessels based in 3Pn 200t		
l	January 1 to September 30 32,872t October 1 to December 31 1,880t		
m	Shrimp fleet based in 4S, 4T 1,450t Groundfish fleet based in 4S, 4T 4,210t January 1 to April 21 870t April 22 to July 31 2,220t August 1 to September 1 closed September 2 to December 31 1,120t Enterprise allocations 24,880t Sector overlap quota 3Ps, 4Vn 450t		
n	Shrimp fleet based in Gulf 1,332t Groundfish fleet based in Gulf 1,332t		
o	Non Gulf-based vessels 400t		
p	Gulf-based vessels 1,480t Non Gulf-based vessels 3,605t		
q	Vessels under 45' 548t Vessels between 45'-64' 152t		
r	Vessels under 45' 205t Vessels between 45'-64' 490t		
s	May 1 to October 31 3,300t November 1 to December 31 1,140t	under 45' 300t 45'-64' 140t	

NOTES POUR LES STOCKS DE MORUE

a	Pour allocation d'après engagements bilatéraux		
b	Palangriers scandinaves (ef de plus de 100') 700t		
c	S'il devient nécessaire de créer une réserve à un certain moment au cours de 1988, le contingent pour cette réserve proviendra des bénéficiaires de l'augmentation sur une base de pro-rata		
d	Affectation		
e	Comprend un contingent de 2,000t pour la zone 2J et un contingent de 3,000t pour la zone 3KL Bateaux basés dans 3KL 2,800t Bateaux basés dans 3Ps 200t		
f	Palangriers scandinaves (ef de plus de 100') 4,270t		
g	Contingent hauturier doit être capturé proportionnellement dans 2J,3K et 3L avec le placement d'observateurs sur tous les bateaux en haute saison		
h	Palangriers scandinaves (ef de plus de 100') 450t		
i	Sujet à être augmenté dans le contexte de la sur-pêche par la France		
j	Bateaux basés dans 3KL 1,100t		
k	Bateaux de pêche du poisson de fond basés dans 3Ps 800t Bateaux de pêche du poisson de fond basés dans 3KL 700t Secteur chevauchement - bateaux basés dans 3Pn 200t		
l	1 ^{er} janvier au 30 septembre 32,872t 1 ^{er} octobre au 31 décembre 1,880t		
m	Crevettiers basés dans 4S, 4T 1,450t Bateaux de pêche du poisson de fond basés dans 4S, 4T 4,210t 1 ^{er} janvier au 21 avril 870t 22 avril au 31 juillet 2,220t 1 ^{er} août au 1 ^{er} septembre fermée 2 septembre au 31 décembre 1,120t Allocation aux entreprises 24,880t Secteur chevauchement 3Ps, 4Vn 450t		
n	Crevettiers basés dans le Golfe 1,332t Bateaux de pêche du poisson de fond basés dans le Golfe 1,332t		
o	Bateaux non basés dans le Golfe 400t		
p	Bateaux basés dans le Golfe 1,480t Bateaux non basés dans le Golfe 3,605t		
q	Bateaux de moins de 45' 548t Bateaux entre 45'-64' 152t		
r	Bateaux de moins de 45' 205t Bateaux entre 45'-64' 490t		
s	1 ^{er} mai au 31 octobre 3,300t 1 ^{er} novembre au 31 décembre 1,140t	de moins de 45' 300t 45'-64' 140t	

FOOTNOTES FOR COD STOCKS

t	Sector overlap quota for vessels based in 4R3Pn	180t
	under 45'	45'-64'
	May 1 to June 15	476t
	June 16 to July 31	178t
	September 1 to October 31	179t
	November 1 to December 31	357t
u	Shrimp vessels	71t
	Groundfish vessels	71t
v	April 1 to June 10	3,465t
	June 11 to November 4	7,900t
	November 5 to December 31	340t
	under 45'	45'-64'
w	January 1 to April 21	200t
	April 22 to July 31	3,450t
	August 1 to September 1	150t
	(1,000t for by catch in plaice fishery)	
	September 2 to November 9	500t
	November 10 to December 31	200t
	Groundfish only	1,270t
	Crab vessels	290t
	Groundfish and Shrimp vessels	1,660t
	January 1 to December 31 Western Newfoundland EA vessels	875t
x	under 45'	45'-64'
	January 1 to May 31	570t
	June 1 to August 31	2,835t
	September 1 to December 31	1,840t
y	under 45'	45'-64'
	January 1 to April 30	330t
	May 1 to August 31	660t
	September 1 to December 31	325t
z	under 45'	45'-64'
	January 1 to April 30	700t
	May 1 to August 31	1,200t
	September 1 to December 31	500t
aa	Opening date June 1	under 45' 45'-64' 500t
bb	By-catch only	
cc	Opening date June 1	under 45' 45'-64' 770t 940t
dd	Opening date June 1	

NOTES POUR LES STOCKS DE MORUE

t	Secteur chevauchement - bateaux basés dans 4R3Pn	180t
	de moins de 45'	45'-64'
	1er mai au 15 juin	476t
	10 juin au 31 juillet	178t
	1er septembre au 31 octobre	179t
	1er novembre au 31 décembre	357t
u	Crevettiers	71t
	Bateaux de pêche du poisson de fond	71t
v	1er avril au 10 juin	3,465t
	11 juin au 4 novembre	7,900t
	5 novembre au 31 décembre	340t
	de moins de 45'	45'-64'
w	1er janvier au 21 avril	200t
	22 avril au 31 juillet	3,450t
	1er août au 1er septembre	150t
	(1,000t pour les prises accidentelles dans la pêche à la plie.)	
	2 septembre au 9 novembre	500t
	10 novembre au 31 décembre	200t
	Poisson de fond seulement	1,270t
	Bateaux de crabe	290t
	Bateaux de poisson de fond et crevette	1,660t
	1er janvier au 31 décembre bateaux côté-ouest de Terre-Neuve AE	875t
x	de moins de 45'	45'-64'
	1er janvier au 31 mai	570t
	1er juin au 31 août	2,835t
	1er septembre au 31 décembre	1,840t
y	de moins de 45'	45'-64'
	1 janvier au 30 avril	330t
	1er mai au 31 août	660t
	1er septembre au 31 décembre	325t
z	de moins de 45'	45'-64'
	1er janvier au 30 avril	700t
	1er mai au 31 août	1,200t
	1er septembre au 31 décembre	500t
aa	Date d'ouverture le 1er juin	de moins de 45' 45'-64' 200t 500t
bb	Prises accidentelles seulement	
cc	Date d'ouverture le 1er juin	de moins de 45' 45'-64' 770t 940t
dd	Date d'ouverture le 1er juin	

HADDOCK/AIGLEFIN

Stock Area/ Zone du stock	TAC/ TPA	Reserve or NAFO Allocation Réserve ou Allocation de l'OPANO	Canadian Quota/ Contingent canadien	Vessels/Bateaux < 65 (19.8 m)		Vessels/Bateaux 65'-100' (19.8 m-30.5 m)		Vessels/ Bateaux ≥ 100' (30.5 m)	RSPP/ PUCR
				fg/ef	mg/em	mg/em	fg/ef		
3LNO	4,100 ^a	-	4,100	-	-	100	-	4,000	-
3Ps	-	-	2,200 ^b	300	200	-	70	1,630	-
4VW	5% ^b	-	-	c	d	-	-	e	-
4X	12,400	-	12,400 ^f	4,140	7,440 ^g	80	80	660 ^h	-
5	-	-	8,300 ^f	695	1,485 ⁱ	77 ^j	78	5,965	-
Total	16,500	-	27,000	5,135	9,125	257	228	12,255	-

a Pre-emptive TAC only

b 5% by-catch only. Specific closures to be in effect for haddock nursery areas. Quota may be subject to adjustment pending mid-year review of fishing patterns

c 1,500 kg trip limit after March 1

d 1,500 kg trip limit for the period March 15 - August 15

e 10% bycatch to a maximum of 4,500 kg for the period July 1 - September 30

f Seasonal haddock closures will be in effect.

	under 45'	45'-64'
g January 1 - April 30	1,200t	1,000t
May 1 - August 31	1,800t	1,500t
September 1 - December 31	1,090t	850t

h The offshore quota will revert to its former 1984 proportional share of the TAC if and when the TAC increases to 25,000 t. As the TAC increases towards this level, the offshore quota will increase towards that proportional share

i Opening date June 1
Vessels under 45' - 595t
Vessels 45'-64' - 890t

j Opening date June 1

a TPA préventif seulement

b 5% de prises accidentelles seulement. Fermetures spécifiques à être mise en vigueur dans les régions pouponnières de l'aiglefin. Le contingent canadien pourrait être sujet à ajustement suite à la révision des patrons de pêches au milieu de l'année

c Limite de 1,500kg par voyage après le 1er mars

d Limite de 1,500kg par voyage pour la période 15 mars au 15 août

e Prises accidentelles de 10% jusqu'à un maximum de 4,500 kg pour la période 1er juillet au 30 septembre.

f Des interdictions de pêche de l'aiglefin seront en vigueur.

	de moins de 45'	45'-64'
g 1 ^{er} janvier au 30 avril	1,200t	1,000t
1 ^{er} mai au 31 août	1,800t	1,500t
1 ^{er} septembre au 31 décembre	1,090t	850t

h Le contingent hauturier sera ramené à la part proportionnelle de 1984 du TPA si le TPA augmente à 25,000 t. À mesure que le TPA augmentera vers ce niveau, le contingent hauturier se rapprochera de cette part proportionnelle

i Date d'ouverture le 1er juin
Bateaux moins de 45' - 595t
Bateaux 45'-64' - 890t

j Date d'ouverture le 1er juin

REDFISH/SÉBASTE

Stock Area/ Zone du stock	TAC/ TPA	Reserve or NAFO Allocation Réserve ou Allocation de l'OPANO	Canadian Quota/ Contingent canadien	Vessels/Bateaux < 65' (19.8 m)		Vessels/Bateaux 65'-100' (19.8 m-30.5 m)		Vessels/ Bateaux > 100' (30.5 m)	RSPP/ PUCR
				fg/ef	mg/em	mg/em	fg/ef		
2+3K	35,000	4,360	30,640	300	220	-	-	27,120	3,000
3M	20,000	19,500	500	-	-	-	-	500	-
3LN	25,000	14,350	10,650	320	-	-	-	10,330	-
3O	14,000	9,250	4,750	-	-	-	-	4,250	500
3P	15,000	1,650	13,350	200	1,200	-	-	11,150	800
4RST	56,000	-	56,000	500	[-----12,000 ^{ab} ----		-	43,500 ^c	-
4VWX	30,000	2,000	28,000	-	3,000 ^d	2,000	-	21,500	1,500
Total	195,000	51,110	143,890	1,320	16,420	2,000	-	118,350	5,800

a Groundfish vessels under 65' - 1,800t
Groundfish vessels 65' - 100' - 8,400t

b Bycatch of 1,800t for vessels under 100' fishing shrimp

c Gulf-based vessels - 22,750t; non-gulf based vessels - 14,750t; Gulf plant program - 6,000t

d Vessels under 45' - 1,200t
Vessels 45'-64' - 1,800t

a Bateaux de poisson de fond de moins de 65' - 1,800t
Bateaux de poisson de fond 65'-100' - 8,400t

b Prises accidentelles de 1,800t pour les bateaux de moins de 100' pêchant la crevette

c Bateaux basés dans le Golfe - 22,750t; bateaux non basés dans le golfe - 14,750t; usines du golfe - 6,000t

d Bateaux de moins de 45' - 1,200t
Bateaux 45'-64' - 1,800t

POLLOCK/GOBERGE

Stock Area Zone du stock	TAC/ TPA	Reserve or NAFO Allocation Réserve ou Allocation de l'OPANO	Canadian Quota/ Contingent canadien	Vessels/Bateaux 65' (19.8 m)		Vessels/Bateaux 65'-100' (19.8 m-30.5 m)		Vessels/ Bateaux 100' (30.5 m)	RSPP/ PUCR
				fg/ef	mg/em	mg/em	fg/ef		
4VWX, 5	-	-	43,000	11,825 ^a	9,400 ^b	275	-	21,500	-
3Ps	-	-	5,400	1,000	2,000	-	70	2,330	-
Total	-	-	48,400	12,825	11,400	275	70	23,830	-

a Vessels under 45' 11,525t
Vessels 45' - 64' 300t
under 45' 45'-64'
1,165t 1,750t
2,070t 3,100t
525t 790t

b January 1 - April 30
May 1 - August 31
September 1 - December 31

a Bateaux de moins de 45' 11,525t
Bateaux 45'-64' 300t
de moins de 45' 45'-64'
1,165t 1,750t
2,070t 3,100t
525t 790t

b 1er janvier au 30 avril
1er mai au 31 août
1er septembre au 31 décembre

FLOUNDERS/FLETS

Stock Area/ Zone du stock	TAC/ TPA	Reserve or NAFO Allocation Réserve ou Allocation de l'OPANO	Canadian Quota/ Contingent canadien	Vessels/Bateaux < 65' (19.8 m)		Vessels/Bateaux 65'-100' (19.8 m-30.5 m)		Vessels/ Bateaux > 100' (30.5 m)	RSPP/ PUCR
				fq/ef	mq/em	mq/em	fq/ef		
American Plaice - Plie canadienne									
2+3K	10,000	-	10,000	2,300	200	-	-	7,500	-
3LNO	40,000 ^a	585	39,415	3,550	80	235	80	35,470	-
3M	2,000	1,850	150	-	-	-	-	150	-
3Ps	5,000	550	4,450	700	300	-	-	3,450	-
4T	10,000	-	10,000	1,500	8,000 ^b	500	-	-	-
Yellowtail - Limande à queue jaune									
3LNO	15,000	370	14,630	-	-	-	-	14,630	-
5	-	-	3,000	-	-	-	-	3,000	-
Witch - Plie grise									
2J3KL	5,000	1,665	3,335	330	80	80	80	2,765	-
3NO	5,000	2,000	3,000	-	-	100	-	2,900	-
3Ps	1,000	140	860	40	150	40	-	630	-
4RS	3,500	-	3,500	115	1,415	115	-	1,855	-
Flounders - Flets ^c									
4VWX	14,000	250	13,750	750 ^d	4,450 ^e	200	-	8,350	-
Total	110,500	7,410	106,090	9,285	14,675	1,270	160	80,700	-

^a Scientific advice subject to review during 1988

^a Conseil scientifique sujet à révision en 1988

^b Vessels under 45' - 4,200t; Vessels 45'-64' - 3,800t

^b Bateaux de moins de 45' - 4,200t; Bateaux 45'-64' - 3,800t

^c Includes American Plaice, Yellowtail and Witch

^c Comprend le plie canadienne, la limande à queue jaune et la plie grise

^d Vessels under 45' - 640t; Vessels 45'-64' - 110t

^d Bateaux de moins de 45' - 640t; Bateaux 45'-64' - 110t

^e Vessels under 45' - 2,505t; Vessels 45'-64' - 1,945t

^e Bateaux de moins de 45' - 2,505t; Bateaux 45'-64' - 1,945t

OTHERS/AUTRES

Stock Area/ Zone du stock	TAC/ TPA	Reserve or NAFO Allocation Réserve ou Allocation de l'OPANO	Canadian Quota/ Contingent canadien	Vessels/Bateaux < 65' (19.8 m)		Vessels/Bateaux 65'-100' (19.8 m-30.5 m)		Vessels/ Bateaux > 100' (30.5 m)	RSPP/ PUCR
				fg/ef	mq/em	mq/em	fg/ef		
Greenland Halibut - Turbot du Groenland									
0	12,500 ^a	9,400	3,100	100	-	-	-	1,000	2,000
2GH	35,000	20,000	15,000	-	-	-	-	13,000	2,000
2J3KL	65,000	5,700	59,300	34,000	1,000	200	1,500	19,700 ^b	4,000
4RST	10,500	-	10,500	8,000	1,500	900	-	100 ^c	-
Atlantic Halibut - Flétan de l'Atlantique									
3NOPs,4VWX+5	3,200 ^d	-	3,200	1,947 ^e	94 ^f	8 ^g	481 ^h	670 ⁱ	-
4RST	300 ^d	-	300	207	339	12	12 ^j	36 ⁱ	-
Total	126,500	35,100	91,400	44,254	2,627	1,120	1,993	34,506	8,000
Grenadier									
0	4,000 ^a	3,500	500	-	-	-	-	500	-
2+3	11,000	10,500	500	-	-	-	-	500	-
Silver Hake - Merlu argenté									
4VWX	120,000	84,000	36,000	-	2,000	2,000	-	2,000	30,000 ^k
White Hake - Merluce (blanche)									
4T	5,500	-	5,500 ^l	-	-	-	-	-	-
Argentine - Argentines									
4VWX	10,000	7,500	2,500	-	-	-	-	-	-
Squid - Calmar									
3+4	150,000	41,000	109,000			65,000		44,000 ^m	

a 50% of assumed TAC in areas 0+1.

b Includes 2,000t for Scandinavian longliners and 1,100t as an enterprise allocation to northern shrimp licence holders currently without groundfish allocations

c Bycatch all companies

d Precautionary TAC only

e Distribution 3NO - 177t
3Ps - 80t
4VWX, 5 - 1,690t

f Bycatch only 3Ps - 10t
4VWX, 5 - 84t

g Bycatch only

h Where EAs have been established, sufficient quantities of bycatch must be set aside to sustain a directed halibut fishery

i For mobile gear vessels bycatch is 5% up to 4,500 kg per fishing trip

j Cod bycatch will not be regulated but will be monitored

k Developmental reserve

l All gear under 50' - 4,950t
All gear 50-64' - 500t
All gear over 65' - 50t (no directed fishery)

m Includes reserve of 34,000t

a 50% du TPA présumé dans les zones 0+1

b Comprend 2,000t pour les palangriers scandinaves ainsi que 1,100t pour les détenteurs de permis de la pêche de la crevette du nord qui n'ont pas d'allocation de poisson de fond à titre d'allocation aux entreprises

c Prises accidentelles pour toutes les compagnies

d TPA préventif seulement

e Répartition 3NO - 177t
3Ps - 80t
4VWX, 5 - 1,690t

f Prises accidentelles seulement 3Ps - 10t
4VWX, 5 - 84t

g Prises accidentelles seulement

h Dans les cas où des allocations aux entreprises ont été établis, des quantités suffisantes devront être mises de côté pour les prises accidentelles afin de permettre une pêche dirigée du flétan

i Pour bateaux pêchant avec engins mobiles le niveau de prises accidentelles est de 5% jusqu'à un maximum de 4,500 kg par voyage

j Les prises accidentelles de morue ne seront pas réglementées mais seront plutôt contrôlées

k Réserve de développement

l Tous les engins de moins de 50' - 4,950t
Tous les engins 50-64' - 500t
Tous les engins de plus de 65' - 50t (aucune pêche dirigée)

m Inclus une réserve de 34,000t

HISTORICAL TACS, FOREIGN AND CANADIAN GROUND FISH ALLOCATIONS 1986-88
 TPA HISTORIQUES, ALLOCATIONS ÉTRANGÈRES ET CANADIENNES DE POISSON DE FOND
 1986-88

SPECIES/ ESPECE	STOCK	1988				1987				1986			
		TAC/ TPA	NAFO Allocation de l'OPANO	Foreign Reserve/ Reserve Etrangere	Canadian Allocation canadienne	TAC/ TPA	NAFO Allocation de l'OPANO	Foreign Reserve/ Reserve Etrangere	Canadian Allocation canadienne	TAC/ TPA	NAFO Allocation de l'OPANO	Foreign Reserve/ Reserve Etranger	Canadian Allocation canadienne
COD/MORUE	2GH	20,000		11,400	8,600	20,000		12,000	8,000	20,000		13,000	7,000
	2J,3KL	266,000			266,000	256,000		9,500	246,500	266,000		16,300	249,700
	3M					12,965	12,865		100	12,965	12,865		100
	3NO	40,000	20,930		19,070	33,000	17,045		15,955	33,000	17,045		15,955
	3Ps	41,000		6,400	34,600	41,000		6,400	34,600	41,000		6,400	34,600
	4RS, 3Pn				73,900				78,000			13,500	78,600
	4T, 4Vn (J-A)				47,800				44,000			7,000	53,000
	4Vn (M-D)	7,500			7,500	9,000		100	8,900	12,000		100	11,900
	4VsW	38,000			38,000	44,000			44,000	48,000		1,130	46,870
	4X	14,000			14,000	17,500			17,500	20,000			20,000
	5Y				1,500				1,500				1,500
	5Z				12,500				12,500				11,000
COD/MORUE	TOTAL	426,500	20,930	17,800	523,470	433,465	29,910	28,000	511,555	605,065	29,910	57,430	530,225
HADDOCK/AIGLEFIN	3NO	4,100			4,100	4,000			4,000				
	3PS				2,200				150				
	4VM	5%				5%				17,000			17,000
	4X	12,400			12,400	15,000			15,000	15,000			15,000
	5Z				8,300				8,300				5,100
HADDOCK/AIGLEFIN	TOTAL	16,500			27,000	19,000			27,450	32,000			37,100
REDFISH/SEBASTE	2,3K	35,000		4,360	30,640	35,000		6,360	28,640	35,000		6,780	28,220
	3M	20,000	19,500		500	20,000	19,500		500	20,000	19,500		500
	3LN	25,000	14,350		10,650	25,000	14,350		10,650	25,000	14,350		10,650
	3O	14,000		9,250	4,750	20,000		10,400	9,600	20,000		12,500	7,500
	3P	15,000		1,650	13,350	18,000		2,000	16,000	18,000		2,000	16,000
	4RST	56,000			56,000				50,000	55,600		600	55,000
	4VMX	30,000		2,000	28,000	30,000		2,000	28,000	30,000		2,000	28,000
REDFISH/SEBASTE	TOTAL	195,000	33,850	17,260	143,890	148,000	33,850	20,760	143,390	203,600	33,850	23,880	145,870
AM PLAICE/PLIE CAN	2,3K	10,000			10,000	10,000			10,000	10,000			10,000
	3LNO	40,000	585		39,415	48,000	700		47,300	55,000	800		54,200
	3M	2,000	1,850		150	2,000	1,850		150	2,000	1,850		150
	3Ps	5,000		550	4,450	5,000		550	4,450	5,000		550	4,450
	4T	10,000			10,000	10,000			10,000	10,000			10,000
AM PLAICE/PLIE CAN	TOTAL	67,000	2,435	550	64,015	75,000	2,550	550	71,900	82,000	2,650	550	78,800

HISTORICAL TACS, FOREIGN AND CANADIAN GROUND FISH ALLOCATIONS 1986-88
 TPA HISTORIQUES, ALLOCATIONS ÉTRANGÈRES ET CANADIENNES DE POISSON DE FOND
 1986-88

SPECIES/ ESPECE	STOCK	1988				1987				1986			
		TAC/ TPA	NAFO Allocation de l'OPANO	Foreign Reserve/ Etrangere	Canadian Allocation canadienne	TAC/ TPA	NAFO Allocation de l'OPANO	Foreign Reserve/ Etrangere	Canadian Allocation canadienne	TAC/ TPA	NAFO Allocation de l'OPANO	Foreign Reserve/ Etranger	Canadian Allocation canadienne
YELLOWTAIL/LIM JAUNE	3LNO 5	15,000	370		14,630 3,000	15,000	370		14,630 3,000	15,000	370		14,630 3,000
YELLOWTAIL/LIM JAUNE	TOTAL	15,000	370		17,630	15,000	370		17,630	15,000	370		17,630
WITCH/PLIE GRISE	2J,3KL	5,000		1,665	3,335	6,000		2,000	4,000	8,000		4,000	4,000
	3NO	5,000	2,000		3,000	5,000	2,000		3,000	5,000	2,000		3,000
	3Ps	1,000		140	860	3,000		410	2,590	3,000		410	2,590
	4RS	3,500			3,500				3,200	3,500		300	3,200
WITCH/PLIE GRISE	TOTAL	14,500	2,000	1,805	10,695	14,000	2,000	2,410	12,790	19,500	2,000	4,710	12,790
FLOUNDER/FLETS	4VMX	14,000		250	14,000	14,000		250	13,750	14,000		250	13,750
GR HALIBUT/FL GROEN	0	12,500		9,400	3,100	12,500		9,500	3,000	12,500		9,500	3,000
	2GH	35,000		20,000	15,000	35,000		20,000	15,000	35,000		20,000	15,000
	2J,3KL	65,000		5,700	59,300	65,000		7,700	57,300	65,000		7,700	57,300
	4RST	10,500			10,500	7,500			7,500	5,000			5,000
GR HALIBUT/FL GROEN	TOTAL	123,000		35,100	87,900	120,000		37,200	82,800	117,500		37,200	80,300
POLLOCK/GOBERGE	3PS				5,400				1,500				
	4VMX,5				43,000				43,000				40,000
POLLOCK/GOBERGE	TOTAL				48,400				44,500				40,000
GRENADIER	0	4,000		3,500	500	4,000		3,500	500	4,000		3,500	500
	2+3	11,000		10,500	500	11,000		10,500	500	11,000		10,500	500
GRENADIER	TOTAL	15,000		14,000	1,000	15,000		14,000	1,000	15,000		14,000	1,000
SILVER HAKE/ MERLUCE ARGENTE	4VMX	120,000		84,000	36,000	100,000		70,000	30,000	100,000		99,000	1,000
WHITE HAKE/ MERLUCE BLANCHE	4T	5,500			5,500	9,400			9,400	12,000			12,000
ARGENTINE	4VMX	10,000		7,500	2,500	10,000		7,500	2,500	10,000		7,500	2,500
TOTAL ALL SPECIES		1,022,000	59,585	178,265	982,000	972,865	68,680	180,670	968,665	1,225,665	68,780	244,520	972,965

Plan

in the far north. I am encouraging the current offshore sector to increase its exploitation of these stocks which will, to some extent, take pressure off some stocks of traditional species and stocks. However, I will also consider reallocations and new underutilized species licenses if that is what it takes to exploit these species. For instance, the new Northern Shrimp licencees are requesting access to these stocks which would allow them to round out their fishing plans. Several other companies have requested licenses to harvest these underutilized stocks. Officials will be holding meetings in late January to explain criteria and implementation procedures for the domestic silver hake fishery, and to consult on measures to increase the harvest of underutilized northern resources.

"The future of the fishing industry in Canada depends upon responsible resource management. If we are to maintain our position as the world's largest fish exporters, we must be committed to principles of conservation and protection of our stocks. We must also be committed to their full utilization. The jobs and incomes of thousands of Atlantic Canadians depend on the strength of that commitment."

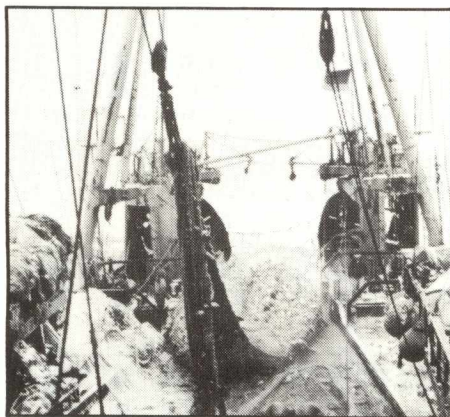
BASIC PRINCIPLES

- i) Conservation and restoration of the fisheries resources.
- ii) Access to all groundfish stocks will be regulated by seasons, quotas, vessel size and gear types.
- iii) Allocation of fishery resources will be on the basis of equity taking into account adjacency to the resource, the relative dependence of coastal communities and the various fleet sectors upon a given resource, and economic efficiency and fleet mobility.
- iv) Small vessels will be limited to area of operation as specified in the Sector Management Plan.
- v) Coordination of the deployment of fishing fleets over the fishing grounds and the length of the operating season.
- vi) Utilization of the fishery resources over the calendar year to the degree possible.
- vii) All gear will be subject to quota management, except as noted.
- viii) (a) Inshore Transfers:
When a gear sector quota is sub-allocated within the fishing year to facilitate orderly harvesting, there shall be no reallocation of such sub-allocations to other gear sectors in cases of declining stocks without the consent of the gear sector in question. In cases where the quota is not going to be caught and the stock is not declining, this principle may not apply.
- (b) Offshore/Inshore Transfers:
The utilization of enterprise allocations

and inshore quotas for specific stocks will be reviewed twice yearly at the end of June and September over the fishing year by a sub-committee of AGAC (chaired by the Working Group Chairman) and, by consensus decisions, any surplus identified could be temporarily transferred to another gear sector as required. If no consensus is achieved, the reallocation decision(s) will be at the discretion of the Minister of Fisheries and Oceans or his designate.

xi) Rule for Setting TAC

1. If the stock assessment provides evidence of levels of spawning stock biomass likely to endanger recruitment, fishing effort (and thus fishing mortality) in the coming year be reduced to allow immediate growth in spawning stock biomass.



2. Where the Fo.1 level for the next year differs by + or - 10% or + or - 10,000t from the current year TAC then the following formula would apply.

a) If the spawning stock biomass is high enough as not to be of concern, the fishing mortality in the coming year of the plan would be set at a value half way between the current fishing mortality and Fo.1 according to:

$$F_{\text{next}} = F_{\text{current}} - (F_{\text{current}} - F_{\text{Fo.1}})$$

Where the F_{next} is higher than twice Fo.1, F_{next} is set to twice Fo.1 to prevent growth overfishing. The twice Fo.1 level is proposed as an approximation to F_{max} due to difficulties in reliably estimating the latter.

- x) TAC's will only be adjusted during the season as a consequence of major changes in the scientific advice (of at least a 10% change in TAC) and following consultations with those involved in the fishery. No adjustments will be made to the TAC in cases where the existing TAC is above the current

Fo.1 value.

- xi) Adjustments in the inshore/offshore ratio for particular stocks may be considered by the Minister when: a) the TAC changes by 15% or more in any year or cumulatively by more than 15% over a series of years during the 1984-88 period, or b) as a result of international events or negotiations, the Canadian share of the TAC changes by 15% or more from the level previously in force.
- xii) There will be an allocation made for a Resource Short Plant Program (RSP) in specified stock areas which will be taken from the Canadian Quota before historical inshore-offshore sharing arrangements are made.

REGULATORY MEASURES

- i) Observers, where practical and possible, must be carried at the request of the Department.
- ii) All vessels greater than 27.4 metres (90') LOA must report their position and catch on a daily basis to their company. This report must be forwarded daily by each company to the DFO Director General for the Region from which the license was issued.
- iii) In accordance with Section 48 of the Fisheries Act, maintenance of accurate log records will be strictly enforced.
- iv) Violations of any part of this Management Plan may result in suspensions upon conviction.
- v) Unless otherwise stated all fisheries will open January 1, 1988.
- vi) Unless otherwise noted, by-catches in all fisheries will not exceed 10%.
- vii) Unless otherwise noted all TACs, quotas, and allocations are specified in metric tonnes.

Glossary of Terms Used in the 1988 Management Plan

Fixed gear (fg)	- Traps Weirs Gill Nets Longlines Hand-lines
Mobile gear(mg)	- All Otter Trawls Danish/Scottish Seines
Vessel Size	- LOA
TAC	- Total Allowable Catch
Quota	- Regulated portion of TAC
Allowance	- Non-regulated portion of TAC
Gulf Based Vessels greater than 30.5 metres (100')	- The Gulf Based Vessels are: (1) Cap-aux-Meules (2) Havre-Aubert (3) G.C. Bassin (4) Fatima (5) Grande-Entree (6) Winchester (7) Ralli II

Summary

ed by the data, but at the lower end of the range accepted by the Task Group and estimates made between 1976 and 1986 proved to be too low. Our selection of VPA methodology which leads to a less optimistic growth of the stock(s) reflects (1) our concern over the NAFO consistent underestimation of F , and (2) our judgement as to the methodology which is not only consistent with the available data but which takes into account the underlying uncertainties and risk associated with such estimates.

9. Recruitment to the stock has declined appreciably since the 1960's. The year-classes currently in the fishery are no more than half the average value before 1960. This decline is associated with a decline in the abundance of adult stock and subsequently recruitment following development of the large scale offshore foreign fisheries.

10. The reduction in the inshore catches since 1982 cannot, in the Task Group's view, be totally explainable by natural factors but such factors may have played a significant role in the declines observed in 1984 and 1985.

In formulating proposals for the future management of the stock, the group felt that these should account for the failure over the past decade, to achieve the declared target of $F_{0.1}$, and of the uncertainties and risks associated with all estimates.

In the absence of a specific policy of allocation among gear types which harvest cod, the Task Group found it difficult to formulate precise advice on measures needed to reverse the decline in the inshore fisheries. **The following recommendations presume that there is an implicit priority to reestablish the viability of the inshore fishery.**

1. The Task Group encourages the Minister to take management measures designed to accelerate the growth of the overall population of cod in areas 2J3KL. We feel higher stock levels will provide some buffering of the effects of the environment on the availability of fish to the inshore fishery, could increase overall recruitment, and in several years lead to greater catches for both inshore and offshore fishermen. This could be achieved by holding actual fishing mortality to previously stated goals.

Partitioning the TAC between gear types, as well as the specific level of TAC that should be imposed, were perceived as policy matters to be determined by the government. We suggest however, that at a minimum the 1988 TAC not be higher than the 1987 TAC.

2. The government should move to codify the use of large mesh size and square webbing currently being deployed in the offshore fishery. Selectivity of inshore traps and gillnets should also be examined with

the intent of improving the yield in inshore catches.

3. Careful study should be made of the potential existence of semi-detached inshore stock(s) or stock component(s) (age group) largely harvested by the inshore fishery. If such stock units exist, and are being heavily fished, then drastic measures aimed specifically at the inshore fishery may be required.

4. The current trend in diversification of the fishery in Newfoundland should be encouraged so as to broaden the overall exploitable resource base.

5. Immediate steps should be taken to improve the quality of statistical information from the inshore fishery, in particular, the effort by gear types. This information should be assembled in a manner that allows one to differentiate geographically between inshore and offshore effort rather than data collected only by vessel size.

6. Scientific studies are recommended to improve the understanding of environmental impacts on the fishery and to enable better forecasting of abundance trends.

The above recommendations deal with the short term abundance of the stocks and reversing the recent declines in the inshore fishery. They do not deal with the underlying problem of an open-ended fishery in which participation is linked with an unemployment insurance scheme. In this respect, the short and long term social and economic goals for the fisheries of Newfoundland should be reexamined. Unless participation in the inshore fishery is restricted and reduced, the problems of the past will be revisited in the future.

RECOMMENDATIONS

In considering recommendations, the Task Group assumed its charge included advice concerned with scientific and management needs. Recommendations of the TGNIF have been grouped into three topical areas — research, statistics and management.

Research

1. The Task Group felt that the DFO should consider small fish surveys and/or other studies aimed at improving understanding of recruitment trends and processes.

2. There is a need to better quantify the biological and environmental impacts on the availability of cod to the inshore and offshore fisheries.

3. DFO is encouraged to examine means to reduce the catch of small cod in traps as well as studies directed at understanding the effects of square mesh, used by the offshore trawlers on discards.

4. The stock structure and consequence of offshore fishing in the various divisions on the inshore fishery should be closely examined.

5. The St. John's DFO research centre should reexamine the stock recruitment relationship of cod.

6. Further studies to develop indices of

abundance independent of commercial data and other stock assessment parameters are encouraged.

7. Careful study should be made of the potential existence of semi-discrete inshore stock(s) or stock component(s) (age group) largely harvested by the inshore fishery.

Statistics

The definition of "inshore" in fishery statistics should be clarified so that the actual catch taken close inshore (for example, within three miles of the coast) can be known. For this purpose, the catch records should be summarized by fishing area rather than (or as well as) by gear type and vessel size.

More should be done to collect information that provides some measures of the actual amount of fishing done in the inshore fisheries. Collection of this data — e.g. on the number of times traps were visited, the time spent handling, etc. — may be laborious, but need not be done for the whole fishery. Sample observations at representative communities along the coast should be sufficient.

Management

1. The Task Group encourages the Minister to take management measures designed to accelerate the growth of the overall population of cod in areas 2J, 3K, L. We feel higher stock levels will provide some buffering of the effects of the environment on the availability of fish to the inshore fishery, increase overall recruitment, and in several years lead to greater catches for both inshore and offshore fishermen.

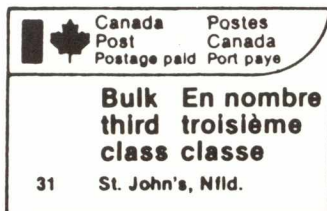
Partitioning the TAC between gear types, as well as the specific level of TAC that should be imposed, were perceived as policy matters to be determined by the government. We suggest, however, that at a minimum the 1988 TAC not be higher than the 1987 TAC.

2. The government should move to codify the use of large mesh size and square webbing currently being deployed in the offshore fishery. Selectivity in inshore traps and gillnets should also be examined with the intent of improving the yield in inshore catches.

3. If semi-discrete inshore stocks exist, and are being heavily fished, then drastic measures aimed specifically at the inshore fishery may be required.

4. The current trend in species diversification of the fishery in Newfoundland should be encouraged so as to broaden the overall exploitable resource base.

5. Every effort should be made to distribute fishing effort on offshore spawning grounds relative to their biomass.



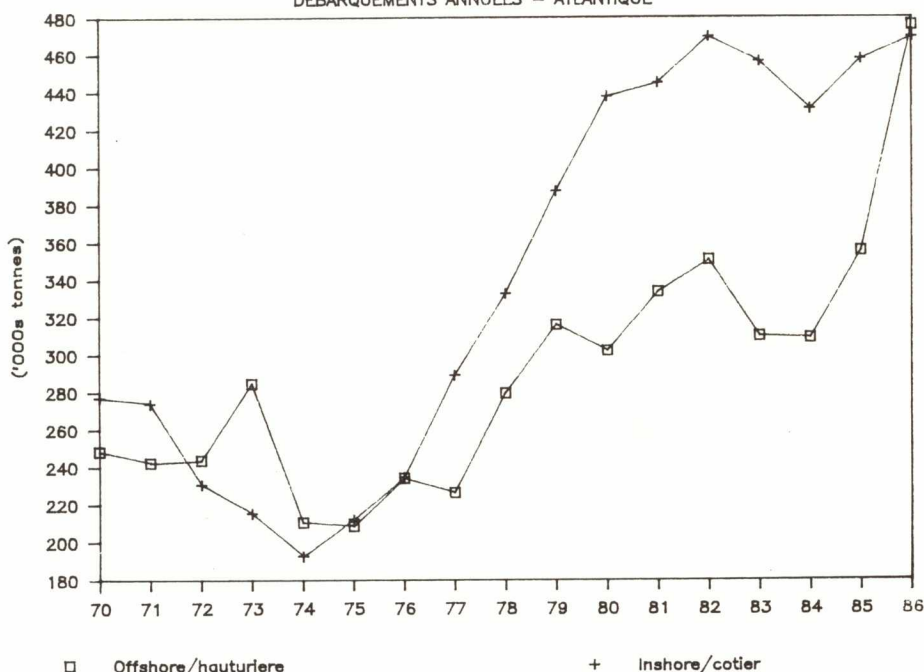
The "Fo'c'sle" is a quarterly publication of the Department of Fisheries and Oceans, Newfoundland Region. It is designed to inform fishermen and others of the Department's policies and programs, and to improve communications generally between Government and the industry. Readers are invited to respond to any of the articles contained herein, and to submit suggestions for future articles. The "Fo'c'sle" is distributed to fulltime fishermen, other industry representatives and Department of Fisheries and Oceans personnel throughout Newfoundland and Labrador. Please address all correspondence to:

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FRANCAIS SUR DEMANDE.

ANNUAL LANDINGS — ATLANTIC

DEBARQUEMENTS ANNUELS — ATLANTIQUE

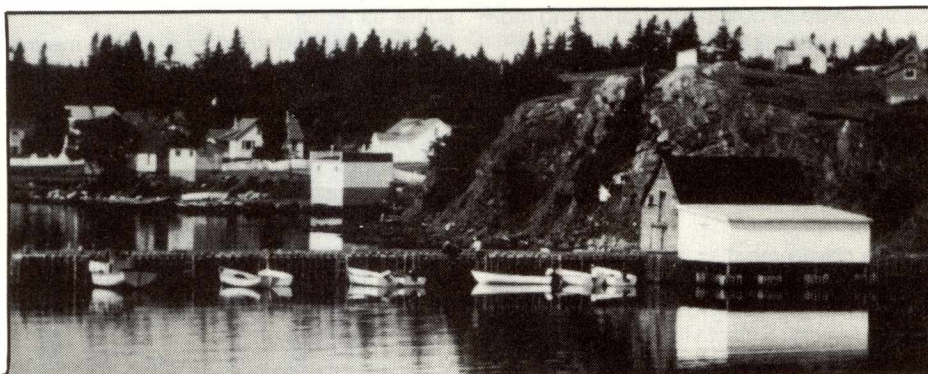


ANNUAL LANDINGS - ATLANTIC

DEBARQUEMENTS ANNUELS - ATLANTIQUE

Annual Atlantic Groundfish Landings (1970-1986) for vessels over and under 100'
Débarquements annuels de poisson de fond de l'Atlantique (1970-1986) par les bateaux de moins et de plus de 100'

Year	100 ft. & over/ 100 pi. et plus	Under 100 ft./ moins de 100 pi.	Total
1970	248,490	277,060	525,550
1971	242,335	273,863	516,198
1972	243,645	230,695	474,340
1973	284,587	215,404	499,991
1974	210,467	192,646	403,113
1975	208,490	212,402	420,892
1976	234,122	234,544	468,666
1977	226,303	289,051	515,354
1978	279,410	332,642	612,052
1979	315,950	387,409	703,359
1980	302,021	437,774	739,795
1981	333,559	445,177	778,736
1982	350,697	469,633	820,330
1983	309,842	456,291	766,133
1984	308,684	430,822	739,506
1985	355,216	457,344	812,560
1986	475,431	469,181	944,612





Fo'c'sle

Vol. 8, No. 3
March 1989

A Special Edition on the Newfoundland
Inshore Fisheries Development Agreement

The Canada/Newfoundland Inshore Fisheries Development (Subsidiary) Agreement Development Programs Begin

Implementation of the Canada/Newfoundland Inshore Fisheries Development Subsidiary Agreement is now fully under way.

The five-year, \$60 million agreement is one of several developed under the federal/provincial Economic Regional Development Agreement (ERDA). It was officially signed and announced on Feb. 22, 1988, by Fisheries and Oceans Minister Tom Siddon; then provincial Fisheries Minister Tom Rideout; former Premier Brian Peckford, then federal Transport Minister John Crosbie; and then provincial Intergovernmental Affairs Minister Ron Dawe.

Since then, officials of DFO and Provincial Fisheries, the two lead agencies in



Fisheries and Oceans minister Tom Siddon and Premier Tom Rideout (then the province's Minister of Fisheries) shake hands after the signing of the inshore fisheries development agreement.

delivering programs under the Agreement have established a joint Management Committee, and the Management Committee has developed detailed criteria for programs and projects.

Expenditures under the Agreement will be concentrated in four areas: Harvesting, Processing, Resource Development and Program Administration.

Harvesting: (Planned expenditure \$30 million)

- ☐ Fleet Revitalization (\$8.5 million)
 - vessel upgrading (quality/productivity/safety)
 - training and technical advice
- ☐ Harvesting Infrastructure (\$20 million)
 - Marine Service Centre upgrading and expansion
 - Bait facility upgrading
 - Fish Unloading and Handling
- ☐ Assessment of inshore fishing effort and fleet performance (\$1.5 million)

Processing: (planned expenditure \$16.3 million)

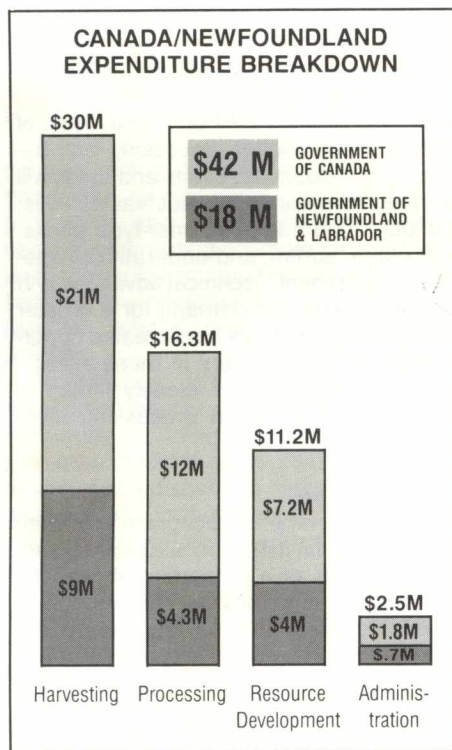
- ☐ Processing Infrastructure (\$9.8 million)
 - Nain and Makkovik plants
 - upgrade ice-making facilities
- ☐ Processing Technology (\$6.5 million)
 - Value-added processing/new product development
 - in plant quality control/enhancement
 - plant productivity

Resource Development: (planned expenditure \$11.2 million)

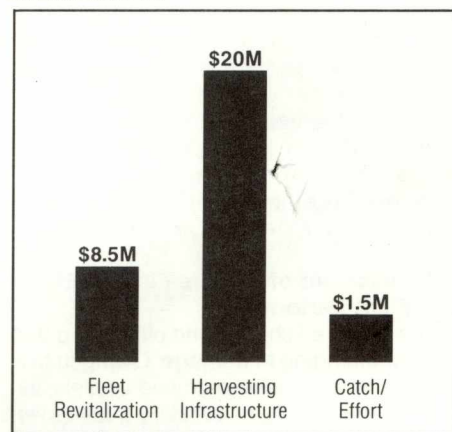
- ☐ Resource Utilization (\$3.7 million)
 - under-utilized/non-utilized species
 - by-product development
- ☐ Aquaculture (\$4.5 million)
 - scientific/technical support
 - commercial support
- ☐ Market Development (\$2 million)
 - new products
- ☐ Inland fisheries (\$1 million)
 - small-scale river enhancement

Program Administration (planned expenditure \$2.5 million)

- Administration and financial control
- Public Information and Communication
- Program Evaluation



HARVESTING



Fisheries
and Oceans

Pêches
et Océans

Canada

Fleet Revitalization

The fleet revitalization program directly addresses the problems of low incomes and high operating costs for vessel owners in the inshore fishery and also improves fish quality. This will be achieved through technical advice and partial funding to upgrade vessels in the existing fleet, and by initiating a vessel design program that will feature fish-handling and storage (quality) improvements, cost effectiveness, operational effectiveness and longevity of replacement vessels. The program is not aimed at increasing harvesting capacity.

Harvesting

Marine Service Centres are critical elements of the inshore fishery infrastructure. The centres contribute to improved maintenance, reduced downtime and enhanced vessel cost-efficiency and lifespan. In addition, they facilitate a longer fishing season for inshore fishermen and encourage the development and transfer of new fishing and vessel technology. A total of \$17 million is being spent by the two governments (55% federal, 45% provincial) on Marine Service Centres.

Four new service centres are being constructed. In addition, improvements to a number of marine service centres throughout the province will be made. These improvements will consist mainly of paving, facility expansion and general upgrading.

Improvements to bait facilities will be provided at Port aux Basques, Rose Blanche and Burgeo. The modernization of these facilities will support the winter groundfish fishery and will result in reduced overall operating costs. This will involve the expenditure of \$1.5 million of Agreement funds.

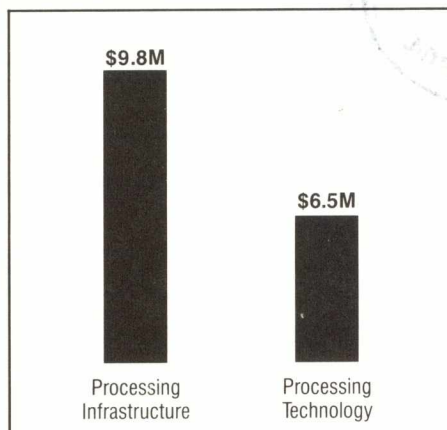
New fish offloading systems will be put in place where landings have increased significantly. There are a number of areas in Newfoundland where fish offloading and handling facilities are practically non-existent. As a result, fishermen spend too much time in manual handling of fish. The time lost results in a reduction of income for fishermen, and the excessive handling downgrades the quality of the fish. The program will allow industry and government to work together to overcome this particular problem through the provision of modern facilities. Government will spend another \$1.5 million on these improvements.

Assessment of Inshore Fishing Effort and Fleet Performance

The inshore fishery is the oldest and the most challenging to manage. Owing to the large number of fishermen and vessels, as well as the variety of vessels, gear types and fish species involved, it has been very difficult to accurately determine the level of the inshore fishing effort, and the relationship between effort and enterprise performance. To overcome this, a program will be

implemented to gather the data required to more effectively manage this particular fishery.

PROCESSING



Processing Infrastructure

Processing infrastructure will involve upgrading of plants in Nain and Makkovik in Labrador, to improve their viability and contribute to community development.

Ice-making facilities will be provided to fill existing gaps in ice availability throughout the province. Existing ice facilities have demonstrated their importance in contributing to the production of high quality fish products.

Processing Technology

The viability of inshore fish processing enterprises will be improved through programs in value-added processing, in-plant quality control and increased productivity, and by providing assistance to small and medium-sized firms in upgrading their processing technology and management skills, and in acquiring productivity and quality enhancing equipment. It will also contribute significantly to the development of the northern Labrador communities which lack the basic infrastructure to attract sufficient private investment to take full advantage of fish resources in adjacent waters.

Processing technology programs will offer assistance in the form of incentives to processors towards development and testing of new technology, and for product development, management assistance and technical expertise.

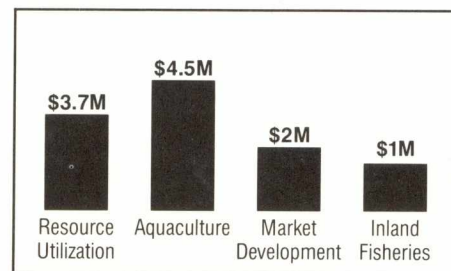
Research and development of new fish products will be undertaken. This work will be coordinated with similar activities in other government departments and agencies, private research and development firms and educational institutions such as the Newfoundland and Labrador Institute of Fisheries and Marine Technology.

Direct financial assistance will be provided to encourage industry participation in production research and start-up production. This will be in a two-phase approach: phase one will be directed towards initial

production costs for products already researched and developed; phase two will provide assistance toward marketing and promotion activities.

Technical assistance and advice on the various aspects of secondary processing and product development will be provided. Information will be made available on established processes, products and equipment requirements.

RESOURCE DEVELOPMENT



Resource Utilization

Programs under the Resource Development Sector are intended to develop a broader economic base for inshore fishermen through resource utilization currently hampered by a lack of scientific and technical information, or by inappropriate technology and lack of market acceptance.

The Newfoundland inshore fishing industry has concentrated on relatively narrow product lines. A large proportion of the total volume of fish caught is discarded; 50 per cent of capelin landings are dumped, and approximately 50 per cent of groundfish landings (organs, meat left on frames after filleting, etc.) are discarded.

For the industry to maximize its level of activity in secondary processing and by-product development, efforts and funds will be directed toward areas such as fish oils; roe utilization into consumer-type packs; fish silage; surimi; and underutilized species development. Technical advances and recent increases in demand for a greater variety of fish products have created opportunities for development in these areas.

These initiatives are closely linked to those described under processing technology.

Aquaculture

Both governments recognize that both shellfish and fin fish aquaculture are steadily increasing as a proportion of the total worldwide marine harvest. They recognize also the opportunities for aquaculture development in Newfoundland and Labrador, and the need to work toward solving problems caused by the province's unique environmental conditions.

The aquaculture program will serve to identify the latest scientific and technological developments in the aquaculture industry and apply them to those species which may be cultured in Newfoundland's ocean

environment. The focus will be on shellfish and fin fish aquaculture research and development.

Sites will be identified and baseline data will be acquired for the commercial culture of native and non-native shellfish species, including blue mussels, giant scallops, European oysters, American lobster and Atlantic snowcrab.

Incentives will be provided to potential growers, and the environmental criteria for specific species along the Newfoundland marine coast will be assessed. Acquisition of current technology related to aquaculture harvesting and processing will also be funded. Demonstration projects such as pilot-scale farms will be financed as a means of furnishing the necessary data and expertise for eventual development of commercial operations.

Support in aquaculture feed manufacture, design and construction of sea cages for use in ice-bound conditions, and ice removal techniques is also required to en-

sure successful development.

Market Development

Marketing of underutilized species and new products involves assessment and identification of potential markets for these. Supplies of more commonly fished species such as cod and flatfishes are limited, and the industry is engaging in more effective utilization of species such as male capelin, mackerel and herring.

The transition to better utilization of the total fish resource poses marketing challenges to government and industry. Much of the information on new products and new markets for underutilized species is obscure and scattered.

Small companies lack finances and expertise to develop new markets and implement new marketing strategies. The fisheries marketing program will provide a sophisticated market intelligence network capable of collecting, analyzing and disseminating specific market information for

new products and underutilized species.

Inland Fisheries

The inland fisheries program will be delivered in co-operation with various development-oriented sports and environment enhancement associations. The work will be directed primarily at small-scale salmon enhancement projects. The purpose is to provide an avenue for public education and practical involvement in habitat issues, while at the same time contributing to the stability of the Atlantic salmonid resource.

PROGRAM ADMINISTRATION

Implementation of programs under the agreement will involve the awarding of contracts, site inspections, financial control, information dissemination, and program review and evaluation. This administrative work is expected to cost a total of \$2.5 million over the five-year life of the agreement.

Better boats for better fishing

One of the most important programs under the Agreement is aimed at the improvement of the fisherman's most important asset — his fishing vessel.

The two governments are expected to spend a total of approximately \$5.5 million on a **Vessel Upgrading Program**. This investment will stimulate an estimated additional expenditure of \$10 million in private sector funds, for a total investment of \$15.5 million.

"These funds are further proof of the commitment of both the federal and the provincial governments to develop a productive and vibrant inshore fishery capable of providing optimum employment and income to communities relying on this sector of the industry," International Trade Minister John Crosbie said about the program.

Program funding will be made available to full-time inshore fishermen who own vessels under 65' in length. Financial incentives covering 30 to 40 per cent of costs will be provided to fishermen making additions or alterations to their vessels, where this work improves vessel performance capabilities.

The maximum levels of assistance will be: \$5,000 for vessels under 35'; \$15,000 for vessels 35' to 45'; \$30,000 for vessels 45' to 65'.

Priority in funding will be given to upgrading projects that result in increased productivity, improved fish quality and additional resource utilization capability.

Many fishermen have already submitted applications for upgrading assistance and have had their projects approved. For those

who are not yet fully aware of the program, details and application criteria are given below.

VESSEL UPGRADING

Program Objective

The overall objective of the Vessel Upgrading Program is to strengthen the financial position of the inshore fishing fleet by reducing fleet operational costs and long-term capital costs, and by increasing fleet revenues through vessel improvements in harvesting, holding, handling and fish quality capabilities.

Who is eligible for funding?

Program funding will be made available to full-time inshore fishermen who own vessels under 65' LOA.

What is eligible for funding?

Projects eligible for funding are equipment additions or vessel alterations that improve a vessel's capabilities in the areas noted above.

Some examples are: installation of fish hold lining or containerization units; provision of on-deck fish handling equipment; structural changes that will increase operational flexibility or safety, or will lengthen the vessel's fishing season or its useful lifespan (eg. shelter decks, raised bows, bulwarks); provision of navigation and fish finding equipment and certain deck equipment.

What is NOT eligible for funding?

Expenditures in the following categories are not eligible for funding under this

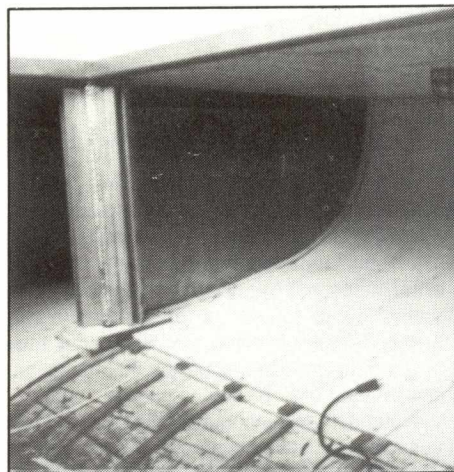
program:

- annual maintenance work or refits
- fishing gear purchases
- expenses covered under the Fisheries Loan Board Vessel Rebuilding and Repairs Program
- Replacement of worn out equipment with equipment of the same kind or the same operational capability.
- **applicants are particularly advised that any expenditures undertaken before an application is approved will NOT be eligible for funding.**

Levels of Assistance

Assistance under this program will be paid at two levels:

- For off-the-shelf equipment additions (eg.



Installing fish hold liner in a longliner, an example of vessel upgrading work.

electronics equipment), the maximum program contribution will be 30 per cent of cost.

- For vessel alterations or the purchase of custom-made equipment, the maximum program contribution will be 40 per cent of cost.

Both of these levels of contribution are subject to maximum amounts of funding for three different sizes of vessels:

- for vessels under 35' \$ 5,000
- for vessels 35' to 44' \$15,000
- for vessels 45' to 64' \$30,000

The 'primary' vessel

Assistance will be provided only for alterations or additions to the fisherman's primary vessel.

The 'primary' vessel is the one from which the fisherman earns the greatest portion of his fishing income. In most cases a fisherman will decide that the boat he has used most for fishing in recent years will continue to be his primary vessel, and he will seek to have that one upgraded.

However, a fisherman may have another boat which he has used less but which he would now like to make his main fishing boat, or primary vessel, by having it upgraded. The Vessel Upgrading initiative has sufficient flexibility to allow for this kind of choice.

Every fisherman who owns more than one fishing boat should give careful thought to the question of which boat he wishes to have upgraded. Only one vessel can be declared a 'primary' vessel eligible for upgrading assistance.

Plan for the future

Vessel Upgrading is a five-year program. A fisherman may request assistance for more than one upgrading project during the life of the program — **providing that the total amount of assistance applied for is not greater than the maximum allowed for the vessel that he is upgrading.**

For example, a fisherman upgrading a 50' longliner may receive \$10,000 assistance (for new equipment, say) early in the program, \$15,000 for alterations or other additions in another year, and \$5,000 for more improvements still later (for a total of the \$30,000 allowable for a vessel of that size).

When considering their upgrading needs, fishermen are advised to look at the future and try to predict where their fishing enterprises will be, operationally and financially, five or ten years from now. On that basis, fishermen are urged to assess their upgrading needs carefully and plan accordingly.

A fisherman who wishes to carry out his vessel upgrading work in phases over a number of years, should, if possible, include all of the separate requests for assistance in his initial application. The application would state the cost of each

phase of the upgrading, and when each phase would be carried out.

This approach would greatly assist the program managers in overall administration of the program.

New designs and better techniques

The Agreement's Vessel Upgrading Program will enable fishermen to improve and modernize their present boats and equipment. This work is being done under the Fleet Revitalization component of the Agreement's Harvesting sector.

The second part of the Fleet Revitalization component consists of two initiatives: **Vessel Design and Technology Transfer.**

The aim of the vessel design initiative is to find or develop designs for more economically viable vessels for the fixed-gear (groundfish) longliner fleet. A total of approximately \$750,000 will be spent.

VESSEL DESIGN

Currently the fixed-gear longliner fleet operates on only a seasonal basis. A number of European countries have developed designs for similar-sized vessels which allow them to fish year-round and produce top quality fish. Funds provided under the Agreement will allow fishermen to investigate new designs used in Europe and elsewhere in North America through exploratory visits, and will provide cost-sharing for fishing and training time aboard these vessels.

In addition, funds will be used to acquire existing designs or develop new designs for vessels and to assist in the construction of one or more prototype vessels.

Boat builders and designers will also be involved to ensure that new designs become available locally, and to improve services to inshore fixed-gear fishermen.

Major emphasis will be placed on improved design of a standard vessel for use in the inshore fixed gear fishery. Priority in design will be as follows:

- Capability of operating effectively off the coast of Newfoundland for at least nine months of the year.
- Vessel layout and equipment to facilitate landing of top quality fish.
- Safety of vessel and crew.
- Optimization in areas which influence economic performance.

Program Eligibility

1. This program is available to active builders, designers and full-time fishermen within the province.
2. Projects must address the design/development needs of the fixed gear (groundfish) longliner fleet.

Funding Levels

1. All design/technology transfer initiatives sponsored by the fishing industry are eligible for funding assistance up to 75 per cent of the total project cost.

Application forms are in federal and provincial fisheries offices throughout the province, and are also available from the Inshore Fisheries Development office at St. John's.

2. Total direct assistance to industry from all Government programs is not to exceed 80 per cent of total project cost.

TECHNOLOGY TRANSFER

The objective of the technology transfer initiative is to increase the level of technical awareness and financial return to fishermen through exposure to new and improved equipment, fishing techniques and vessel operating procedures.

Program priorities

It is envisaged that the initiative will comprise two distinct components, consisting of a Technical Advisory Service and a direct Technology Transfer Service. The Technology Transfer/Technical Advisory Program will provide a service to fishermen in the following priority areas.

- Use and operation of alternative fishing gear technology.
- Introduction of and exposure to different/new harvesting strategies/facilities and the use of innovative vessels and gear.
- Maintenance of fish quality through use of boxing, icing and desired maintenance of fish hold and use of fish handling systems.
- Vessel safety: special emphasis will be placed on vessels in the 35' - 65' category that are becoming more mobile and spending more time at sea.
- Efficiency of vessel operations with emphasis on propulsion systems and operating procedures.

New fish plants for Northern Labrador

Under the Agreement's \$9.8 million Processing Infrastructure Program, the northern Labrador communities of Nain and Makkovik will get new fish processing plants.

The facilities will replace smaller and now outmoded plants built in 1970 (Nain) and 1969 (Makkovik).

Contracts for preliminary engineering work were awarded in 1988.

Construction will begin this summer. The work will take two construction seasons to complete. Both new plants are scheduled to be ready to process fish in the 1991 season.

The two plants are expected to cost a total of approximately \$7.3 million.

More and better Marine Service Centres

The construction of four new Marine Service Centres was announced during the first year of the Agreement.

A new service centre at Fortune will serve Burin Peninsula fishermen. Centre facilities will include two finger piers, a marine straddle crane, an outside storage area, and a shed provided with tools and equipment for use in vessel repair.

Similar centres will be built at Fermeuse, at Hodge's Cove on the western shore of Trinity Bay, and at Makkovik, Labrador.

In addition, substantial improvements will be made to more than half the province's present Marine Service Centres. These improvements will include paving, facility expansion and general upgrading. Slated for improvement are centres at the following locations.

Harbour Grace	Wesleyville	Admiral's Beach
Port Saunders	Burgeo	Cartwright
Old Perican	Twillingate	Flowers Cove
Bonne Bay	(Durrell)	L'Anse-au-Diable
Bonavista	Harbour Breton	Piccadilly
Isle aux Morts	La Scie	

Engineering design work is now underway on the proposed new service centres and on improvements to a number of the present centres. Most of the construction and upgrading work is scheduled to start this spring.

A total of approximately \$17 million will be spent on this major expansion and improvement of the province's network of Marine Service Centres.

The work is part of the \$20 million Harvesting Infrastructure Program under the Agreement's \$30 million Harvesting component.

Major expansion to Punch Bowl

A major facilities upgrading additional to the ones listed above is a half-million dollar expansion of the Fisheries Service Centre at Punch Bowl, Labrador.

The Punch Bowl Service Centre facilities currently include a retail outlet for fishermen and their families, laundry and washroom facilities, a fresh water supply, a saltfish processing plant and landing and unloading facilities. The centre was built under the 1981-86 Coastal Labrador Development program. The centre serves both coastal Labrador fishermen and Newfoundland fishermen who sail north in the summer to fish in Labrador waters. The success of this service centre has exceeded all expectations, and demand for its services has already outstripped the centre's capacity to meet fishermen's needs in certain areas. The expansion initiative will upgrade service facilities.

A Fishermen's Service Unit expansion will provide new facilities for use in repairing fishing gear and other equipment such as engines and deck equipment. Washroom and laundry facilities will be expanded. A Food Service Unit designed to accommodate additional workers and to provide improved food service to fishermen and their families will be constructed.

"The upgrading of facilities at Punch Bowl demonstrates government's continued support of the inshore fishery in both Labrador and the island portion of the province," International Trade Minister John Crosbie stated, when announcing the project.



Marine Service Centre straddle cranes make light work of moving longliners into and out of the water.

Initiatives for better quality: offloading and washdown

The continued improvement of fish product quality is an on-going major objective of both the federal and the provincial governments.

Two relatively small but vital initiatives under the Agreement call for the installation throughout the province of additional, modern **Fish Offloading Systems** and **Dockside Washdown Facilities**. A total of approximately \$1.7 million will be spent on these initiatives.

The Washdown Facilities initiative will be funded on a 50/50 cost-shared arrangement with industry; a maximum of \$450,000 will come from Agreement funds. The Offloading Systems initiative will be wholly financed from the federal portion of Agreement funds. Both initiatives are part of the Agreement's \$20 million Harvesting Infrastructure program.

Improved offloading systems will save fishermen time and effort in landing their catch, and together with washdown facilities they further contribute to the important fish quality upgrading efforts government has undertaken in recent years.

The fish offloading systems initiative was developed through careful study and consultation with the fishing industry to determine where significantly increased landings and the changing needs of the fishery have created requirements for modern, efficient fish landing facilities.

This new initiative will complement and upgrade the existing network of offloading systems put in place during the past several years. A number of sites have been identified to receive new offloading systems. At other locations, existing systems will be modified and improved.

The major component of an offloading system is a mechanized dockside hoist. The system enables rapid unloading of fishing vessels, using containers, and efficient movement of the fish into nearby processing plants or into insulated containers for transportation to more distant plants.

Handling of the catch is minimized, as is exposure to the sun, and a better quality product is assured.

The dockside washdown facilities are also aimed at product quality improvement.

The facilities include water supplies and hoses, installed at dockside, which fishermen, plant owners and fish transporters can use to thoroughly clean vessels, fish containers, other handling facilities and

dockside fish landing areas generally. Washdown systems will use only water sources approved by DFO's Fisheries Inspection Service.

Under the washdown facilities initiative, fish processors and other fishing industry representatives are invited to apply for the installation of facilities in fish landing locations. Each approved installation will receive Development Agreement funding assistance equal to 50 per cent of cost, up to a maximum of \$10,000, with the applicant investing an equal amount.

The following criteria will be used in implementing projects under these initiatives.

FISH UNLOADING

Implementation Procedure

Implementation will be coordinated by DFO. Unloading systems will be similar to those presently installed and maintained by DFO.

Fish unloading systems will be installed on Federal Government wharves. Areas requiring fish unloading systems will be assessed on the following:

- (1) Suitable lease arrangement with private sector or otherwise.
- (2) Fish landings as follows:

200,000 - 2 million pounds of fish	— 1 system
2 million - 5 million pounds of fish	— 2 systems
over 5 million	— 3 systems

Consultation Process

The Department of Fisheries and Oceans will consult with fishermen, plant operators, fish buyers, fisheries commit-

tees and any others having a vested interest in the program.

HANDLING (WASHDOWN)

Who is eligible for funding?

- Registered fish processing companies
- Licenced fish buyers
- Crown corporations
- Development associations
- Harbour authorities

What is eligible?

- Sites with no washdown facilities where fish is handled
- Expansion of existing facilities
- Facilities designed to enclose pumps, etc.

Contribution Levels

Funding will be based on a 50-50% cost shared arrangement.

Maximum Contribution Per Project

Any single project — \$10,000.

Northern Peninsula pilot project introduces training program

Participation in a modern fishery requires a wide range of non-traditional skills, such as keeping good business records and using and maintaining sophisticated electronic equipment and mechanical gear.

A training pilot project is being put in place for inshore fishermen on the Great Northern Peninsula that will let fishermen themselves participate in deciding on the kinds of training needed and in teaching the actual courses. Approximately \$77,000 of Agreement funding will support the project, which is being carried out under a Training section of the Fleet Revitalization Program.

The project is a joint effort of the Institute of Fisheries and Marine Technology (Marine Institute) and Western Community College. Groups such as the Great Northern Peninsula Development Association and local fishermen's committees are invited to participate.

"We are committed to helping fishermen and women improve their productivity and profits by designing for them the training programs that best suit their

needs," Marine Institute president David Vardy said in commenting on the project. He noted that the community college will play an important role in the project by offering the training courses at times and locations convenient to fishing communities.

The pilot project has two primary objectives. One is to determine the effectiveness of community-based training for fishermen. The other is to teach fishermen, in their own communities, the skills that they themselves feel they need.

The first stage of the project is to identify through a needs assessment survey the specific or unique training needs of people engaged in the inshore fishery on the Northern Peninsula. Courses will be designed on the basis of identified needs. These courses will be taught by local fishermen selected to serve as instructors in the project.

If the pilot project proves successful, a program will be developed to provide similar training courses, also based on local needs, in other parts of the province.

New bait facilities for the southwest coast

The construction of a new million-dollar bait facility at Port aux Basques was announced in October, 1988.

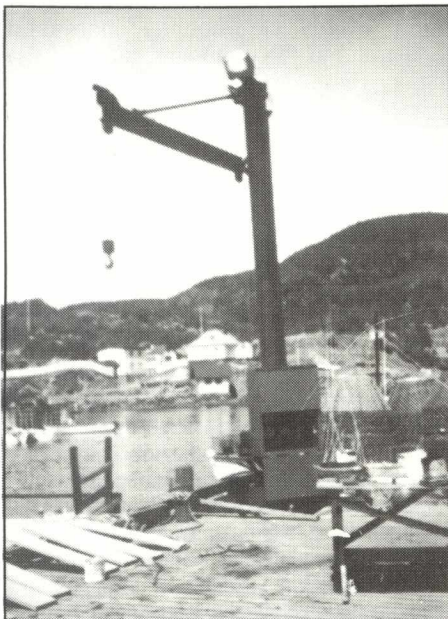
The new depot will replace an existing 50-year-old facility. It will provide cold storage for up to one million pounds of bait.

Design work on the depot is being done by New Plan Consultants of St. John's. The facility will ensure a more consistent supply and distribution of bait to southwest coast fishermen.

The new depot will employ the latest in refrigeration and handling technology designed to ensure maximum efficiency, which will reduce operation costs. It will be operated by DFO's Newfoundland Bait Program, a unit of the Newfoundland Region's Harbours and Infrastructure Branch.

Major improvements will also be made to bait facilities in Rose Blanche, and a new facility will be constructed at Burgeo.

These Bait Program improvements are part of the Agreement's \$20 million Harvesting Infrastructure program.



This electrically powered hoist is typical of the dockside offloading systems that have been installed around the province in recent years; more will be added under the Agreement.



The old Port aux Basques bait depot is to be replaced with a modern facility.

Programs to make better use of underutilized resources

Under the agreement, a total of \$11.2 million is to be spent on resource development. Of this amount, \$3.7 million will be spent on efforts to harvest fish currently left in the water, and to make better use of raw material currently being thrown away.

Approximately \$1.7 million will be spent on an **Underutilized Species Program**. A **Fish Discards Utilization Program** will absorb \$2 million.

The purpose of both programs is to provide a broader economic base for inshore fishermen and processors through utilization of resources not currently harvested or, in many cases, harvested but largely unused.

A 1986 DFO study (Underutilized Resources in Atlantic Canada) showed that many fish species and stocks in Newfoundland are not fully utilized. They include around 100 000 t of redfish and turbot which remain uncaught each year, as well as other groundfish species. When this is compared to the 115 000 t cod allowance for inshore fixed gear fishermen in NAFO Division 2J3KL, the size of the underutilized resource is impressive.

Besides groundfish, there are other species and stocks which are underutilized or not harvested at all. These include mackerel, herring, eels, scallops, sea urchins, whelks, sea cucumbers and sand lance.

Through a broader and more thorough utilization of the resource base, fishermen will become less dependent on a single species. This in turn will help lessen the cyclical, 'boom and bust' nature of the inshore fishery. Utilizing a broader resource base, fishermen will have different species to rely on when one particular fishery fails or market problems occur.

On the processing side, for many species currently harvested the utilization rate is low. In the capelin fishery, for example, only the females are kept for the Japanese market and most of the males are dumped. For cod, the average yield after filletting is about 20 per cent of live weight. The roe, liver and other organs, and the significant amount of flesh left on the skeletal frame, are either discarded or used in low-return activities such as the production of fish meal and fish oils.

Current underutilization of resources has a number of causes, including inadequate or inappropriate harvesting and processing technology and a lack of scientific, technical or marketing information.

The types of projects for which financial assistance will be available under the programs include feasibility studies, commer-

cial surveys and pilot projects. As well, financial and technical assistance will be made available for fishing gear and equipment upgrading, adaptation, development and demonstration, and for research and development activities required to develop new equipment, new commercial uses for fish by-products, and the products to meet these uses.

Funding is available to any fisherman in Newfoundland licensed to operate a ves-



Capelin is a perfect example of an underutilized resource; most of the males, approximately fifty per cent of the annual harvest, are discarded.

sel less than 65 feet in length. In addition, any licensed processing operation in the province which depends on inshore resources for more than 50 per cent of its production is eligible, as are companies or individuals outside Newfoundland who have a joint venture proposal with a local company.

Under the Underutilized Species Program, projects can be funded up to 60 per cent of the total cost, to a maximum contribution of \$100,000 per project. Dual-purpose equipment — that is, equipment which is specifically designed for harvesting underutilized species but can also be used in traditional operations — can be funded to a maximum of 40 per cent of the project cost.

Following are program details and criteria for participation.

UNDERUTILIZED SPECIES PROGRAM

Who is Eligible for Funding?

Program funding will be made available to:

- fishing enterprises in the province licensed to operate vessels less than 65 feet in length
- licenced processing operations in the province which depend on inshore resources for more than 50 per cent of their production
- companies or individuals outside the province who have a joint venture with a Newfoundland company.
- private institutions, associations or companies, as well as either department of government party to the Agreement, which can demonstrate a potential to expand the resource base available to the inshore fleet.

What is Eligible for Funding?

Projects eligible for funding include initiatives to improve the utilization of currently underutilized species.

Some examples are: modification of fishing gear and equipment; adaptation and development of processing equipment; feasibility studies, including commercial surveys and pilot projects for species of interest, or studies to address difficulties in particular geographic areas; research and development required to develop equipment that does not currently exist.

What is NOT Eligible for Funding?

Projects not eligible for funding under this Program include studies, processing equipment and fishing gear that falls within the scope of Atlantic Canada Opportunities Agency (ACOA) programs or the Processing Technology Program of this Agreement (NIFDA).

Levels of Assistance

Assistance under this Program will be paid as follows:

- for projects initiated by private individuals or companies, funding will be up to a maximum of 60 per cent of the total project cost
- for dual purpose equipment, that is, equipment which can also be used in traditional operations, funding will be up to a maximum of 40 per cent of the total project cost

- for projects initiated by the respective government departments party to this Agreement or their agents, funding can be to 100 per cent

The maximum contribution from this program for any one project shall not exceed \$100,000.

UTILIZATION OF FISH DISCARDS PROGRAM

Who is Eligible for Funding?

Program funding will be made available to:

- inshore processing companies within Newfoundland.
- other private companies, groups, associations or individuals located within Newfoundland.
- companies or individuals outside the Province who have a joint venture with a Newfoundland company.

What is Eligible for Funding?

Projects eligible for funding include initiatives concerned with developing, adapting and demonstrating by-product utilization, as well as research and development into new uses for fish by-products and development of products to meet such uses.

Levels of Assistance

Assistance under this Program will be paid as follows:

- for projects initiated by private enterprises, funding can be provided for up to 60 per cent of the total cost
- for projects initiated by federal or provincial government departments or agencies, funding can be provided for up to 100 per cent of the total cost.

The maximum contribution from this program for any one project shall not exceed \$50,000.

Making more ice

In the fishing industry, quality is a key to success and ice is a key to quality.

Under the Agreement's \$16.3 million Processing sector, \$2.5 million have been allocated to provide ice-making facilities to fill existing gaps in ice availability throughout the province.

The initiative will allow fish processors and other operators in the industry to acquire ice making equipment and construct ice storage facilities. The Agreement will fund 70 per cent of the purchase/construction costs for any installation, up to a maximum of \$200,000. Private sector applicants will provide the remainder of the funding.

The initiative will make ice available to operators in all sectors of the fishing industry, including fishermen, processors and fish transporters.

Together with improved dockside offloading systems and washdown facilities, the initiative will significantly improve the level of consistency of fish quality in the inshore fishery, and will give that sector of the industry a better competitive edge.

Criteria for project application under the ice-making initiative are listed below.

ICE-MAKING/STORAGE

Who is eligible for funding?

Given the conditions that ice acquired

under this program be used in the harvesting, transportation, storage and processing of fresh fish in the Province of Newfoundland and Labrador, eligible recipients will include:

- Federally registered fish processors
- Development associations
- Crown corporations
- Harbour authorities
- Provincial government
- Federal government

Eligible Projects

- Ice making machines: maximum daily production — 30 tonnes
- Ice storage three times production capacity
- Ice discharge system with new installation
- Mobile ice making machines

Contribution Levels

Funding will be based on a 70-30 per cent cost shared arrangement.

Maximum contribution per project

Single project — \$200,000

What is not eligible?

- Funding to replace existing operational equipment
- Funding to replace facilities normally covered by insurance
- Funding for projects already commenced.

Measuring the inshore effort

Annual fish stock assessment reports by the Canadian Atlantic Fisheries Scientific Advisory Council (CAFSAC) have strongly recommended the collection of more catch and effort information on the inshore small-boat fishery. The fisheries scientists' advice has been reinforced by similar recommendations in such important studies as the Kirby Task Force Report and the Alverson Report.

With funding from the Agreement, the department now has the necessary resources to undertake this vital work. Under the Harvesting sector of the Agreement, \$1.5 million has been provided for Assessment of Inshore Effort and Fleet Performance.

This is primarily a fisheries science-related initiative. The information collected

will become part of the overall data base available to DFO's regional Science Branch for fish stock assessment.

The actual collection of the information will be carried out by the Newfoundland Region's Fisheries Statistics and Systems Branch, using contracted personnel.

During each year of a four-year period, approximately 20 per cent of fishermen who have a fixed-gear groundfish licence on a vessel under 35' LOA will be surveyed for information. Participants in the survey will be randomly selected. This means that every eligible fisherman will have the same chance of being part of the survey.

The project is now getting underway; 1500 fishermen have been selected to participate in the first year. These are now being contacted by the contract personnel to



Hand-lining in an open boat, one of the many vessel/gear combinations that make the inshore fishery so complex, an Agreement program will assess the total effort of the inshore small-boat fishery.

make arrangements about how and when information will be collected.

The survey process will cover a period of approximately 30 weeks each year. Participants will be asked to provide information on daily catch and effort during that period. The information will be recorded in a logbook by the contractor.

These are the items of information that will be collected and recorded.

1. The calendar date on which the vessel sailed.
2. The local time at which the vessel sailed.
3. The local time at which the vessel landed.
4. The type of fishing gear used to catch the fish.
5. The quantity of gear hauled, i.e. the number of traps, nets or pots hauled or the number of hooks for line gear.
6. The area fishing activity took place — be as specific as possible.
7. The main species for which the vessel was fishing. This may not always be the main species caught.
8. The estimated catches for each species caught categorized by gear used and by kept and discarded weights.
9. The port at which the catch was put ashore.
10. The name of the fish buyer.
11. Any comments of special interest such as gear losses, tag numbers taken, reasons for not fishing such as weather, moving gear, illness, etc., the reasons for discards/quantities let go or any other items of interest affecting fishing activity.

The collection of information by contractors will be arranged so that fishermen's work schedules will not be disrupted unnecessarily. At the end of each annual survey period a summary report and a copy of all daily entries will be provided to each participant.

The information collected in the survey will be kept confidential, the data will not be disclosed to any other government department or parties.

Besides its utilization in stock assessment research by fisheries scientists, the information will be put to a number of other important uses: to determine seasonal and annual variations in inshore effort and to assess how these variations affect catches; to provide data to complement ongoing activities such as the inshore/nearshore fisheries Cost and Earnings Survey produced annually by DFO's regional Program Coordination and Economics Branch, and; to provide input for planning other activities such as harbour developments and fisheries management programs.

Bringing fish processing to the leading edge

A key element in the Agreement is the modernization of existing inshore processing operations. This will be accomplished through a \$6.5 million **Processing Technology Program**.

The purpose of the program is to enhance the viability of inshore processing enterprises through three program components: increased value-added processing and new product development; improved in-plant quality control and quality enhancement; and increased plant productivity. Key program elements include technology transfer, management information, and research and development.

The program is part of the \$16.3 million Processing sector of the Development Agreement. The processing initiatives will expand the production capacity of the processing sector of the province's inshore fishing industry, and is the key to maximizing the benefits of the Agreement's Har-

vesting and Resource Development sectors.

In order to improve the operational efficiency of Newfoundland inshore plants, efforts will focus on engineering studies, new technology demonstrations and information transfer and exchange. New initiatives will be directed towards the development, implementation and demonstration of management information systems with regard to in-plant quality, productivity and production planning, and financial management.

The main thrust under the research and development element is to encourage and promote the further value-added processing or primary fish products into consumer and institutional packs. Also, efforts will focus on the design of new fish processing equipment to address specific problem areas in the industry. Activities will be coordinated with other government depart-



One of the major programs under the Agreement will modernize the processing technologies of inshore plants.

ments and agencies, private research and development firms, and educational institutions such as the Marine Institute.

Product research and start-up production assistance will be provided in a two-phase approach — phase one will be directed towards initial production costs for products already researched and developed; phase two will provide assistance toward marketing and promotion activities.

Technical assistance and advice on the various aspects of secondary processing and product development will be provided. Information will be made available on established processes, products and equipment requirements.

Application for assistance under this program will be accepted from Newfoundland-based inshore plants as well as training and educational institutions and other government-related agencies. Projects initiated by government departments and public institutions will be funded up to 100 per cent of cost; projects initiated by private enterprise, associations, community groups, etc., will be funded on a cost-shared basis up to a maximum contribution of 60 per cent. In either case the maximum amount of funding from the agreement will be \$100,000.

Priority in funding will be given to initiatives involving innovative approaches to enhancing plant productivity, quality and value-added processing. The result of this program will be a more modern inshore processing industry capable of meeting world market demands for new, high-value seafood products.

Other program details, and criteria for funding applications, are listed below.

PROCESSING TECHNOLOGY

What is Eligible for Funding?

- Initiatives involving innovative approaches to enhancement of productivity, quality and value-added processing.
- Technology development and transfer, including the design and demonstration of new processing equipment and processes.
- Development of new secondary fish products.
- Design, demonstration and implementation of management information systems and training/skills development programs to improve the work performance of managers and plant workers.

What is Not Eligible for Funding?

- Projects suited for funding under other existing programs.
- Projects that are not processing-related.
- Normal maintenance expenditures.
- General expansion/equipment purchase.
- Projects by companies in default of debts to DFO and/or DOF.

Which Projects/Companies are Eligible?

Projects on behalf of or for benefit of

Newfoundland based inshore fish plants with raw material supplied primarily by vessels less than 100 feet LOA (other than RSPF and Middle Distance). In order to be eligible, companies must meet both federal and provincial licensing policies and requirements.

Development for the marketplace

Catching fish and processing them into fish products is all very well, but these products then have to be sold in the national and international marketplace.

There are well-established markets for the well-established products we currently produce, but to promote further growth in the industry, there is a need for new products and new market opportunities to sell them.

Approximately \$2 million of Agreement funds will be spent on a **Marketing Program** for underutilized species and new secondary fish products.

The purpose of the program is to contribute toward increased economic viability of the inshore fish processing industry through the provision of marketing assistance. Projects will be funded for the research and development of markets for underutilized species and new products (value-added and secondary projects), and the promotion of these in the marketplace. The key program elements are market research and identification, market promotion and development and market intelligence and information exchange.

Major emphasis will be on improving the marketing efforts and effectiveness of Newfoundland inshore processors. Initiatives will include market identification and assessment as well as strategic approaches for new market entry. The main thrusts under the market promotion and development element will be on assistance in the preparation of comprehensive strategic marketing plans, and attendance at international trade shows. Particular emphasis will be placed on market development in Asia and Europe, especially the 'Pacific Rim' and 'East Bloc' countries. As well, efforts will focus on establishing and maintaining a marketing intelligence data base with key data to be made available to industry on a timely basis.

Applications for assistance under this program will be accepted from Newfoundland-based inshore fish processors and from government-related agencies such as development associations. Projects initiated by private enterprise, associations, community groups, etc., will be funded on a cost-shared basis (60% Agreement, 40% applicant), to a maximum contribution of \$40,000 per project. Priority in funding will be given to projects designed to improve

Contribution level

Sixty per cent contribution for projects sponsored by private enterprise, associations and community groups to a total of \$100,000 per project. (However, it may be possible to receive larger contributions under special circumstances subject to approval of management committee.)

the marketability of underutilized species.

The market development program is part of the Inshore Fishery Development Agreement's \$11.2 million Resource Development component.

More markets and higher incomes from more seafood products is the ultimate aim of the entire Agreement. The market development program is designed to provide the income-earning outlet for the increased fishing industry production that will flow from the harvesting, processing and resource development components of the Agreement.

The following are program details and participation criteria for prospective applicants.

MARKET DEVELOPMENT

What is Eligible for Funding?

- Initiatives related to market promotion and development for underutilized species, as well as new value-added products or by-products
- Development of new international market opportunities, particularly in European, East European, Asian and 'Pacific Rim' countries and other non-traditional market areas.
- Planning, preparation and implementation of strategic marketing plans for underutilized species and new products.

What is Not Eligible for Funding?

- Volume-oriented price support programs or subsidies
- Projects suited for funding under existing government programs
- Projects that are not marketing related
- Aquaculture products which have not been processed into a secondary form
- Products which are not either underutilized species or newly developed products
- Projects by companies in default of debts to Department of Fisheries and/or Department of Fisheries and Oceans.
- Projects involving large scale advertising campaigns for volume production.

Which Projects/Companies are Eligible?

- Projects on behalf of or for benefit of Newfoundland-based inshore fish plants

with primary source of raw material by vessels less than 100 feet LOA (other than RSP and Middle Distance)

- In order to be eligible, companies must meet both federal and provincial licensing policies and requirements.

- For the purpose of the Program, underutilized species are those that are not fully exploited due primarily to marketing constraints. These include species for which less than 50% of the estimated available resource is harvested.

Contribution Level

Sixty per cent contribution for projects sponsored by private enterprise, associations and community groups to a total of \$40,000. (It may be possible to receive larger contributions under special circumstances subject to approval of Management Committee.)

Some approvals

Many projects have been approved and funded under various programs of the Agreement. The following are some typical examples.

Under the Aquaculture Program, the Port au Port Development Association has received \$60,000 for the development of a scallop spat (seed) production unit which will provide juvenile scallops for sale to local and other provincial aquaculture enterprises to begin scallop farming.

Funding of \$12,526 has been made available for a study to establish a scallop broodstock population in Charles Arm, Notre Dame Bay. Approximately 300,000 scallop spat from our aquaculture operation in Port au Port Bay will be released at a selected site in Charles Arm to complete growth and development.

Under the Marketing Program, Bay-side Seafoods of Pasadena will receive \$14,200 funding assistance to undertake in-store demonstration of a new line of shrimp and sole-based seafood dishes throughout the Maritime Provinces.

Barry Fisheries Ltd. of Curling received \$40,000 to investigate international markets for pelagic fish species. A market specialist will assess international trends in harvesting and processing mackerel, herring and capelin, and identify opportunities for Newfoundland processors to broaden their markets for these species.

Under the Processing Technology Program, Green Seafoods Ltd. of Winterton has been granted \$35,000 to design and construct an innovative seafood products packaging line that will increase productivity and improve quality in their processing operation.

The Aquaculture Program

Aquaculture is in its infancy in Newfoundland and Labrador, but has the potential to become one of the more important sectors of our total fishing industry.

Under the Agreement's \$11.2 million Resource Development sector, approximately \$4.5 million will be devoted to an **Aquaculture Program** of research and development designed to boost this growing industry in the province.

The Aquaculture Program is designed to generate applied research and development initiatives that will foster accelerated development of the industry in the province in the shortest time possible. Funding is available for various types of aquaculture development initiatives — eg. development of new types of equipment or new rearing processes. However, the program is not intended to fund start-up of individual aquaculture enterprises or to cover operational costs of existing enterprises.

The program will provide funding to cover 75 per cent of project cost up to \$100,000 per individual project. Funding is available to any person, company, research institute, government department or other agency with interest and capability in the development of the aquaculture industry in the province.

An Aquaculture Industry Study is underway that will identify and delineate those species, locations and techniques that present the most attractive commercial aquaculture opportunities in the province. While the province has promising ventures in both salmon and mussels, the aquaculture industry must look towards other species which could be cultivated. The study will enable all participants to view the province's aquaculture potential in an objective manner, allowing all sectors to target resources to meet the future demands of the industry.

The study will review the environmental, biological and economic requirements for a minimum of 10 target species, and will provide an analysis of the biological and economic feasibility of each. Recommendations will be made for both public and private sector roles in developing aquaculture to its maximum potential. The estimated cost of the study is \$150,000. The study is not an Agreement-funded initiative, but it will enable the development of projects that may be funded under the Agreement.

Another initiative provides Agreement funding for the federal Environmental Protection Service to acquire personnel to survey existing mussel aquaculture sites to ensure compliance with new water quality standards. There has been a rapid increase in the numbers of individuals involved in the cultivation of blue mussels in Newfoundland. This effort provides the resources required to survey mussel producing sites in the province in order to enable people



Blue mussel spat (seed) growing on rope collectors; the Agreement will fund aquaculture research and development activities in a wide range of species.

to harvest and market their product in 1989.

Another effort involves the setting up of a Fish Health Diagnostics Program for the province's finfish growers.

For salmon and trout growers, the initiative will support a comprehensive fish health testing and diagnostics service for their fish stocks. This initiative will allow all finfish growers to receive regular testing and diagnosis of their stocks of fish, and to receive expert advice on the treatment and prevention of diseases.

The following are the criteria for approval of aquaculture project funding.

AQUACULTURE PROGRAM

What is Eligible for Funding?

Projects which have a significant research/development component related to bio-technical issues in aquaculture development.

What is Not Eligible for Funding?

- Start up of aquaculture enterprises.
- Regular operating costs of existing enterprises.
- Expenditures that are not research or development oriented.
- Expenditures funded under other federal or provincial government programs.
- Expenditures undertaken prior to project approval.

Who is Eligible?

Any person, company, research institute, government department or other agency with interest and capability in the development of the aquaculture industry in Newfoundland and Labrador.

Contribution Level

Seventy-five per cent of project costs to a maximum of \$100,000 per individual project.



The "Fo'c'sle" is a quarterly publication of the Department of Fisheries and Oceans, Newfoundland Region. It is designed to inform fishermen and others of the Department's policies and programs, and to improve communications generally between Government and the industry. Readers are invited to respond to any of the articles contained herein, and to submit suggestions for future articles. The "Fo'c'sle" is distributed to fulltime fishermen, other industry representatives and Department of Fisheries and Oceans personnel throughout Newfoundland and Labrador. Please address all correspondence to:

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LES TEXTES SONT DISPONIBLES EN
FRANCAIS SUR DEMANDE.

Inland fisheries development

The Inshore Fisheries Development Agreement includes a \$1 million program for inland fisheries development, a part of the Agreement's Resource Development sector.

This is partly because the Atlantic salmon, a species that divides its life cycle between fresh water and salt, is important to commercial inshore fishermen as well as to tourists and recreational fishermen generally.

Also, Arctic char, another sea-going freshwater species, is an important food and commercial fish in Labrador, and other inland species generate millions of dollars of revenue annually from the recreational fishery and tourist trade.

The aim of the **Inland Fisheries Development Program** is to restore and enhance the habitat of salmon and trout species through improvements to small rivers and streams throughout the province.

The program will fund projects such as fishway construction, spawning channel operation, removal of in-stream barriers such as impassable waterfalls, and general fish habitat restoration and improvement.

During the past decade various salmon enhancement activities have been undertaken by local conservation associations, development associations, municipal councils and Indian bands. Most of these were relatively large scale projects. The Inland Fisheries Program offers an opportunity to undertake smaller stream enhancement and improvement projects involving a wider range of people with an interest in the province's inland fish stocks and fish habitat.

Target groups for project sponsorship include development-oriented conservation and enhancement associations and any other interested community groups. The program is also designed to provide a public education element through the practical involvement of people of all ages in habitat issues, while at the same time contributing to the growth of the province's salmon and trout resources. The public education aspect of the program is particularly important, since it complements the Department of Fisheries and Oceans mandate for conservation, protection and enhancement of fisheries resources.

Many fish habitat restoration opportunities exist throughout the province where formerly productive fish habitat has been damaged or destroyed by urban development and resource extraction activities. In addition, there are many sites where fish populations can be increased by enhancing already productive areas, or by opening up potentially productive watersheds which currently have natural barriers to the movement of fish.

The program will provide funding to a maximum of \$25,000 per project. Projects which have a significant volunteer component and which are also financially supported from other sources, and which have a sound technical basis, will be given preference.

Details of the program, and the criteria for project application, are outlined below.

INLAND FISHERIES DEVELOPMENT PROGRAM

Who is Eligible for Funding?

All non-profit conservation or enhancement organizations and similar community groups within the province.

What is Eligible for Funding?

Projects eligible for funding are salmonid enhancement projects, habitat improvement projects, and public information/education projects related to salmonid enhancement and habitat improvement.

What is Enhancement?

Enhancement includes those activities which increase the number of adult fish in a stream by technical measures. Methods and techniques used in salmonid enhancement work may include fishway construction, fish stocking, semi-natural rearing, adult transfers, spawning channel operation, barrier removal and habitat improvement.

Habitat improvement includes restoration of streams and other aquatic environments to their original state, or improvement of the existing habitat to better support salmon and trout species.

Levels of Assistance

Assistance under this program will be limited to a maximum of \$25,000 per project.

Projects with a significant volunteer component, which are also financially supported by other sources, and which have a sound technical basis will be given preference.



A small fish ladder on a Newfoundland river; this type of enhancement project may be possible under the Agreement's Inland Fisheries Program.