

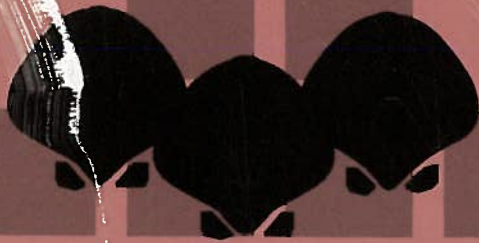


DFO - Library / MPO - Bibliothèque



12011813

# ATLANTIC SHELLFISH FISHERIES AN OVERVIEW



Scientific Excellence • Resource Protection & Conservation • Benefits for Canadians



Fisheries  
and Oceans

Pêches  
et Océans

Canada

SM  
367  
.03  
534

cat no  
165484

Department of Fisheries  
& Oceans  
FEB 11 1994  
Ministère des Pêches et des  
Océans  
OTTAWA

SHELLFISH  
FISHERIES

# TABLE OF CONTENTS

	<u>Page</u>
Foreword .....	i
 <u>Lobster</u>	
The Fishery .....	2
Resource Management .....	3
Lobster Fishery Profile .....	6
Markets .....	6
 <u>Scallop</u>	
The Fishery .....	16
Resource Management .....	17
Scallop Fishery Profile .....	18
Markets .....	23
 <u>Snow Crab</u>	
The Fishery .....	26
Resource Management .....	26
Snow Crab Fishery Profile .....	29
Markets .....	32

## Shrimp

The Fishery .....	36
Resource Management .....	38
Shrimp Fishery Profile .....	40
Markets .....	40

## Offshore Clam

The Fishery .....	47
Resource Management .....	48
Offshore Clam Fishery .....	49
Markets .....	50

## Other Shellfish Fisheries

Soft Shell Clam .....	52
Squid .....	55
Whelk .....	60

## LIST OF FIGURES

		<u>Page</u>
Figure 1	Total Landings - Atlantic Canada (1986)	ii
Figure 2	Total Landed Value - Atlantic Canada (1986)	ii
Figure 3	Growth in Value of Landings (1972-1986)	iv
Figure 4	Average Lobster Landings - All Provinces (1980-1986)	8
Figure 5	Lobster Landings and Value - Quebec (1980-1986)	9
Figure 6	Lobster Landings and Value - S.E. Nova Scotia (1980-1986)	10
Figure 7	Lobster Landings and Value - S.W. Nova Scotia/Offshore (1980-1986)	11
Figure 8	Lobster Landings and Value - Newfoundland (1980-1986)	12
Figure 9	Lobster Landings and Value - Southern Area of the Gulf of St. Lawrence (1980-1986)	13
Figure 10	Scallop Landings and Value - Georges Bank (1980-1986)	19
Figure 11	Scallop Landings and Value - Brown's Bank (1980-1986)	20
Figure 12	Scallop Landings and Value - Bay of Fundy (1980-1986)	21
Figure 13	Scallop Landings and Value - Southern Gulf (1980-1986)	22
Figure 14	Snow Crab Landings (By Region) (1980-1986)	30
Figure 15	Value of Snow Crab Landings (By Region) (1980-1986)	31

Figure 16	Eastern Canada Shrimp Landings (1968-1986)	37
Figure 17	TAC vs. Catch - Gulf Shrimp (1980-1986)	41
Figure 18	TAC vs. Catch - Scotia Shelf Shrimp (1980-1986)	42
Figure 19	TAC vs. Catch - Northern Shrimp (1980-1986)	43

## LIST OF TABLES

		<u>Page</u>
Table 1	Number of Licences Issued by Species, by Province and Region (1985)	iii
Table 2	Lobster Traps and Carapace Size	5
Table 3	(a) Lobster Exports (Shell) (b) Lobster Exports (Live) (c) Lobster Exports (Meat) (d) Lobster Exports (Canned)	14
Table 4	(a) Scallop Exports (Frozen) (b) Scallop Exports (Fresh)	24
Table 5	Snow Crab Fishery Regulations (1987)	28
Table 6	(a) Crab Exports (Fresh/Frozen-Whole/Canned) (b) Crab Exports (Canned)	33
Table 7	Average Prices Paid to Crab Fishermen	34
Table 8	1987 Canadian Atlantic Shrimp Management Measures	39
Table 9	Shrimp Exports (Fresh/Frozen) (1985-1986)	45
Table 10	Landings and Value - Soft Shell Clams By Province (1981-1986)	53
Table 11	Landings and Value of Squid by Province (1977-1986)	56
Table 12	Management of Squid (1987) Foreign and Domestic	59

# 1987 SHELLFISH MANAGEMENT PLANS

## INSHORE LOBSTER

- A. Newfoundland Region
- B. Quebec Region
- C. Gulf Region
- D. Scotia-Fundy Region

## OFFSHORE LOBSTER

- E. Scotia-Fundy Region

## INSHORE SCALLOP

- F. Quebec Region
- G. Gulf Region
- H. Scotia-Fundy Region

## OFFSHORE SCALLOP

- I. Scotia-Fundy Region

## SNOW CRAB

- J. Gulf of St. Lawrence (Mid-shore)
- K. Newfoundland Region
- L. Quebec Region (Areas 16 and 17)
- M. Quebec Region (North Eastern Gulf of St. Lawrence)
- N. Scotia-Fundy Region

## SHRIMP

- O. Gulf of St. Lawrence
- P. Northern Shrimp
- Q. Scotia-Fundy Region

## OFFSHORE CLAMS

- R. Scotia-Fundy Region

## INSHORE CLAMS

- S. Scotia-Fundy Region

## WHELK

- T. Newfoundland Region
- U. Quebec Region
- V. Western Newfoundland and Southern Labrador

## ATLANTIC SHELLFISH

### **I. Main Species of Shellfish presently harvested in Atlantic Canada**

Shellfish are among the most popular of all seafood species and though harvest are limited in quantity, they contribute significantly to incomes of fishermen, processors and distributors. Canada's Atlantic shellfish generate about half of fishermen's total income from the fisheries although they make up less than one-fifth of total landings as shown in Figures 1 and 2.

Major Canadian Atlantic shellfish in usual order of economic importance are: lobsters, scallops, snow crab, shrimp, clams and oysters.

Lobster fishing licences represent almost one quarter of all fishing licences issued in Atlantic Canada. The number of licences issued to harvest shellfish species is outlined in Table 1.

FIGURE 1

TOTAL LANDINGS — ATLANTIC CANADA  
1986

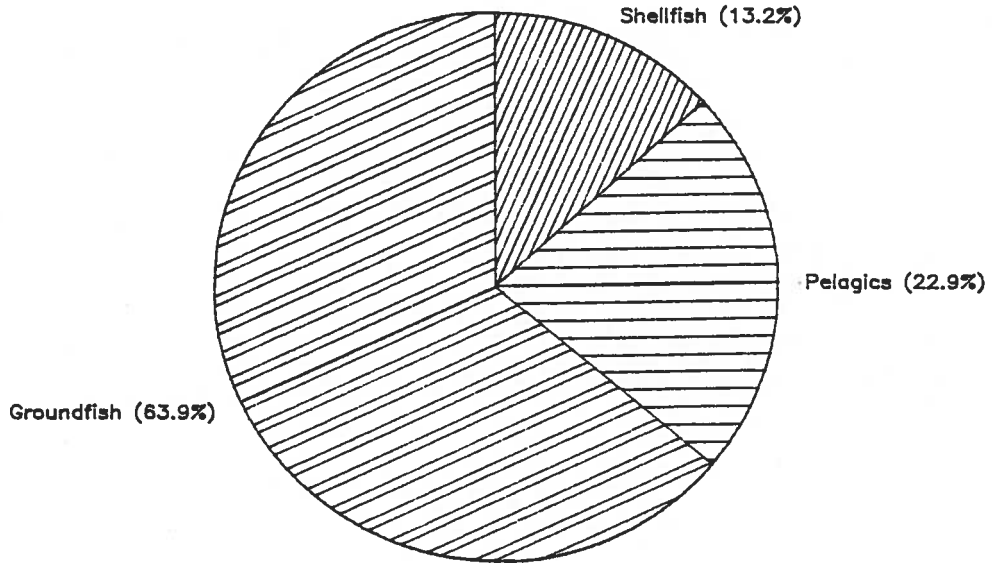
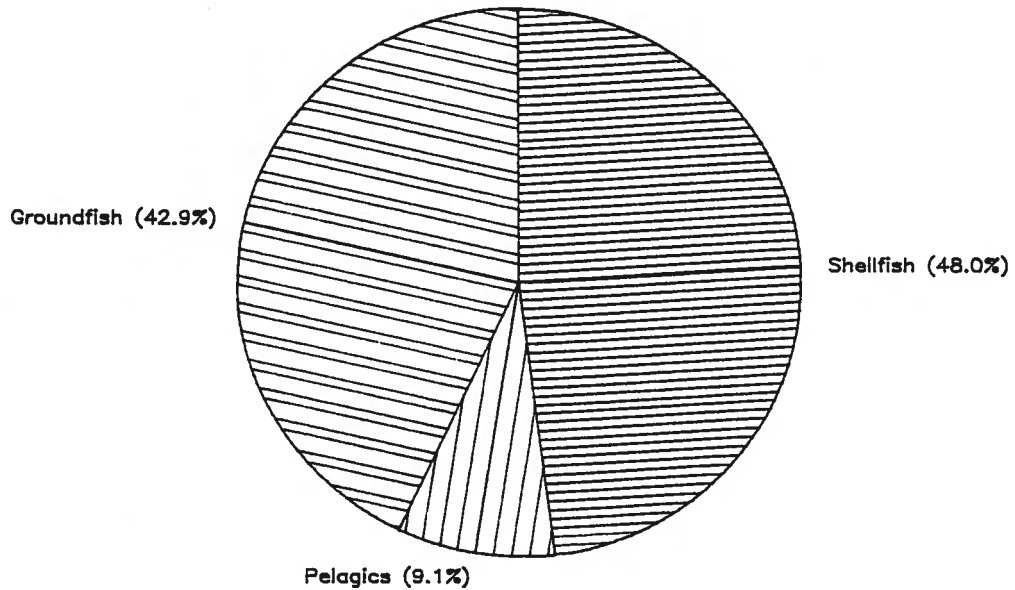


FIGURE 2

TOTAL LANDED VALUE — ATLANTIC CANADA  
1986



**TABLE 1**  
**NUMBER OF LICENCES ISSUED BY**  
**SPECIES BY PROVINCE AND REGION (1985)**

PROVINCE	REGION	SCALLOP	SQUID	LOBSTER	SHRIMP	CRAB	GROUND FISH & PELAGICS	TOTAL
Nova Scotia	Scotia-Fundy	508	35	2,675	10	103	6,772	10,103
	Gulf	135	-	695	-	81	2,363	2,363
New Brunswick	Scotia-Fundy	270	1	303	19	1	846	1,440
	Gulf	256	3	1,390	24	79	3,326	5,078
P.E.I.	Gulf	394	-	1,300	-	-	2,981	4,675
Québec	Québec	63	-	642	47	176	3,567	4,495
Newfoundland	Newfoundland	308	311	2,938	-	126	11,143	15,527
	Gulf	186	-	1,300	40	-	3,571	5,097
<b>Total Atlantic</b>		<b>2,120</b>	<b>350</b>	<b>11,243</b>	<b>140</b>	<b>566</b>	<b>34,359</b>	<b>48,778</b>

# GROWTH IN VALUE OF LANDINGS

1972-1986

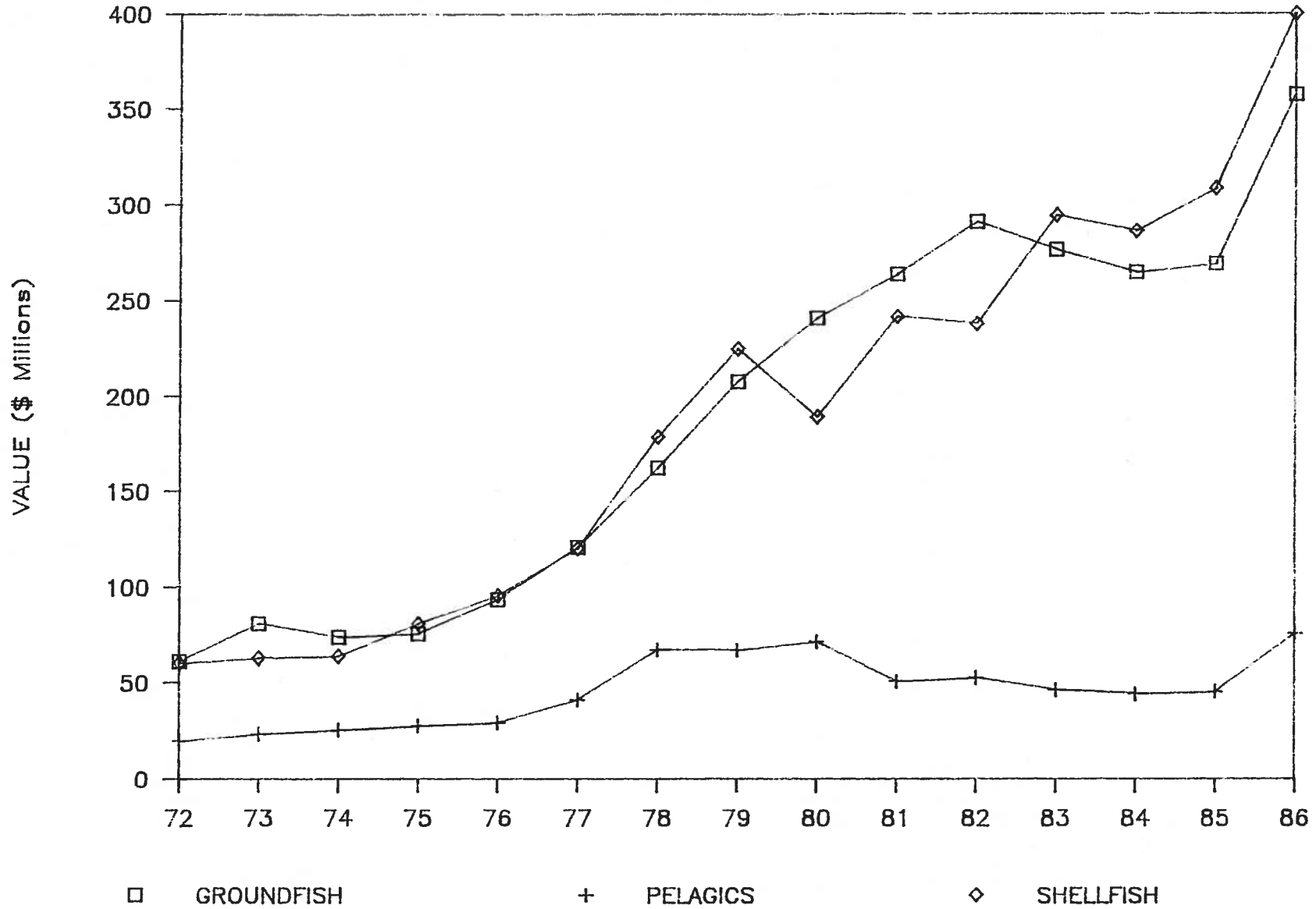


Figure 3  
iv

**LOBSTER**

## LOBSTER

### The Fishery

The harvesting of inshore lobster can be traced back to the mid-1600's when North American Indians caught the species by hand. This primitive method of harvesting was displaced by spears and hooks in the eighteenth century. By the mid-eighteenth century, lobsters were landed in traps; this harvesting strategy culminated with the development of the parlour trap in the early 1900's. Throughout the twentieth century, the inshore lobster fishery has been marked by the introduction of various technologies, such as gas-powered boats, trap haulers and, in the post-World War II period, the use of electronic equipment (echo sounders, radio, loran and radar).

Up to the mid-1800's, lobsters were consumed locally; export markets were nominal. In 1884, the first lobster cannery in Canada was constructed in New Brunswick. The widespread processing of lobster in the Maritime provinces had begun. By 1851, five small canneries were operating in western Nova Scotia. The first large cannery was constructed in 1869. By 1900, over 760 canneries were active in the region, with most canned products being shipped to the United Kingdom. The cannery industry was a major catalyst for local economic growth. During the 1880's, markets for live lobsters in the United States were developed and secured. The shift away from processed to live lobsters, and corresponding contractions in the British market, led to the decline of the cannery industry. The international market for live lobsters has remained strong since World War II. More recently, Canadian companies have gained access to the lucrative live lobster markets in Europe.

The inshore lobster industry has been plagued by cyclical fluctuations coming from weak year-classes, variations in catch rates and strong competition among fishermen. As a result of these factors, the industry has been exposed to frequent instability. In an effort to curb fishing capacity and infuse the industry with more stability, the Department of Fisheries and Oceans introduced several regulatory measures. Trap limits per vessel were introduced in 1968 and limited entry in 1967. Between 1978 and 1981, a government-funded buy-back program resulted in the retirement of 1,406 licences in Nova Scotia, and about 170 licences in Southwest New Brunswick. Between 1981 and 1986, substantial increases in lobster landings and prices occurred. Average per vessel and value of catch per vessel have increased as well.

In 1971, an offshore fishery began in the areas of Browns Bank and Eastern Georges Bank. Since 1977, six vessels have participated in the Browns Bank Fishery while two others have been restricted to Georges Bank. These restrictions were enforced in response to pressures from inshore lobster fishermen who believed the offshore effort was disrupting the migration of lobsters in the inshore fisheries.

#### Resource Management

The inshore lobster fishery has been highly regulated throughout its long history. Regulations have been used to preserve a heavily exploited species though most of the early regulations were based on market requirements and considerations and not on biological concerns. The first regulatory regime was introduced in 1873 when restrictions were placed on soft shell lobsters, berried females and lobster sizes. In 1879, closed seasons were enforced in the Bay of Fundy region, resulting in the creation of a part-time fishery. A minimum carapace size was set in 1934. Up to the late 1940's enforcement of various regulatory measures was sporadic and inconsistent.

Today, the inshore lobster waters are divided into 38 lobster Fishing Areas. Regulations restrict the number of fishermen, the number of traps each fisherman may set, the time and length of the legal season, and the size of lobster that may be caught (Table 2). Theoretically, the amount of effort that fishermen may expend is limited, but in practice other factors may play in the opposite way.

There has been continued development of boats and fishing gear which enable individual fishermen to fish harder and further away from shore, even though their number, and the number of their traps, are limited. Modern vessels are bigger and more powerful than their predecessors. They can therefore travel further and faster. They can go to sea and fish in rougher weather. The fishermen with good radios are less concerned about storms or being caught out with an engine breakdown. Echounders and modern navigation instruments enable them to find and locate new fishing spots, and much of the backbreaking work of hauling haps has been eliminated by hydraulic trap haulers and sophisticated handling gear.

In 1985-86, the first management plan was established for the offshore lobster fishery. The Plan called for the use of enterprise allocations (EA's) for a three-year period. Each vessel was given an annual quota of 90t, based on a total allowable catch of 720t.

TABLE 2

AREA	SEASON	NO. OF TRAPS		MINIMUM CARAPACE SIZE
		CATEGORY A	CATEGORY B	
1	April 20 to July 15			81mm
2	April 20 to July 15			81mm
3	April 20 to July 15			81mm
4	April 20 to July 15			81mm
5	April 20 to July 15			81mm
6	April 20 to July 15			81mm
7	April 20 to July 15			81mm
8	April 20 to July 15			81mm
9	April 20 to June 30			81mm
10	April 20 to June 30			81mm
11	April 20 to June 30			81mm
12	April 20 to July 5	150	50	81mm
13(a)	April 20 to July 5	200	100	81mm
13(b)	April 20 to July 5	300	100	81mm
14(a)	May 5 to July 10	400	100	81mm
14(b)	May 5 to July 10	600	100	81mm
14(c)	May 5 to July 10	400	100	81mm
15	June 1 to August 12	-	150	76mm
16	May 20 to July 31	-	150	76mm
17	June 1 to August 8	-	300	76mm
18	May 20 to July 31	-	250	76mm
19	May 13 to July 22	-	250	76mm
20	April 27 to July 4	-	250	76mm
21	May 6 to July 15	-	250	63.5mm
22	May 11 to July 11	-	300	63.5mm
23	April 30 to June 30	375	113	63.5mm
24	May 9 to July 4	300	90	63.5mm
25	August 6 to Oct. 4	250	75	63.5mm
26(a)	May 9 to July 4	300	90	63.5mm
26(b)	May 9 to July 4	300	90	63.5mm
27	May 15 to July 15	275	83	70mm
28	May 9 to July 10	250	75	81mm
29	April 30 to June 3	275	83	81mm
30	May 19 to July 21	275	83	81mm
31	April 19 to June 20	250	75	81mm
32	April 19 to June 20	250	75	81mm
33	Last Monday in Nov. to May 31	250	75	81mm
34	Last Monday in Nov. to May 31	375	113	81mm
35	Last day of Feb. to Dec.31 and Oct. 14 to July 31	300	90	81mm
36	March 31 to Jan. 14 and second Tuesday in Nov. to June 29	375	113	81mm
38	Second Tuesday in Nov. to to Fourth Friday in June	300	90	81mm
41	October 15 - October 14 (fishing year)	1,000	-	81mm

## Lobster Fishery Profile

In 1985, nearly 11,240 licences were issued to lobster fishermen in Atlantic Canada. On average, more than half of all lobster landings have originated from the Gulf of St. Lawrence during the 1980-1986 period (Figure 4).

There are currently 64 plants which process canned or frozen lobster products:

<u>Province</u>	<u>No. Plants</u>
New Brunswick	22
Nova Scotia	2
P.E.I.	21
Quebec	19

However, in each province, a large number of buyers are shipping live lobsters directly into the market.

The gross earnings per licenced lobster fishermen averages between \$10,000 to \$ 70,000 depending on the area of exploitation. However, when expenses such as fuel, bait, crew and depreciation are accounted for, average net earnings varies between \$5,000 to \$35,000. Thus, many fishermen are heavily dependent on revenues from the lobster fishery and, given the cyclical nature of lobster stocks, the industry as a whole is vulnerable to periods of instability.

## Markets

The average price paid to fishermen for lobsters has been increasing steadily over the years. However, price varies considerably depending on the season, the location and the use which will be made of the lobster. Exports of Canadian lobster products are outlined in Table 3.

Large lobsters (81mm or more) are almost always sold live. Jumbos are usually shucked and sold as frozen or canned meat. Small lobsters ("Canners"- 63.5mm) supply the canning plants although today, freezing supplements canning in general. Furthermore, the sale of whole canner lobsters frozen in brine for export markets has played an important role in lobster production. This method eliminates shucking, thus permitting greater profit at the processing level.

Overall, the value of lobster exports has increased by 36 percent from 1984 to 1986, while sales volumes has increased by only 17 percent. From 1984 to 1986, the value of sales to the United States has dropped by 2 percent due to a significant drop in volumes of sales. However, the sales and value of sales to Japan have increased by 87 and 91 percent respectively. European markets remain strong despite a small contraction during the period.

Growth in the European, Japanese and American markets for live lobsters was significant between 1984 and 1986 while the value and volume of sales increased by 28 and 87 percent respectively.

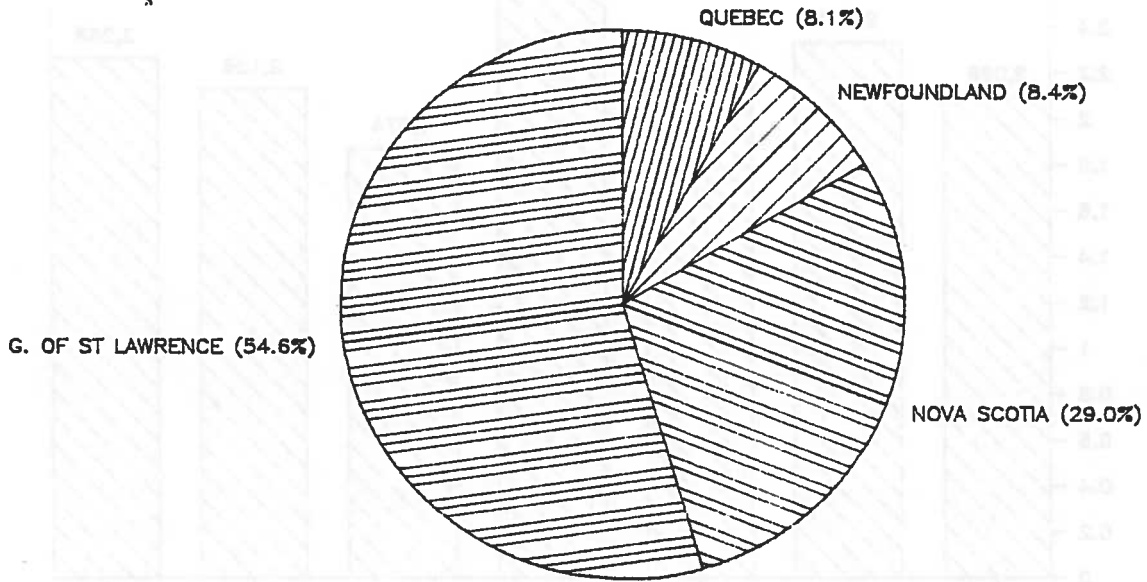
Big increases in sales, volume and value have been recorded for lobster meat exports to the United States (56 and 69 percent). In 1986, American markets accounted for 95 percent of sales in volume and value. In recent years, sales of frozen lobster meat in all markets have increased by 29 percent in volume and by 38 percent in value. In the past three years, American markets have accounted for 84 percent of sales in volume and 92 percent in value. Recent trends indicate more market diversity for frozen meat exports.

The canned lobster market has contracted sharply during the 1984-1986 period. In particular, sales to the United States, in volume and value, have fallen by 81 percent and 71 percent respectively. Exports of canned lobster to Japan have increased slightly.

FIGURE 4

AVERAGE LOBSTER LANDINGS - 1980-1986

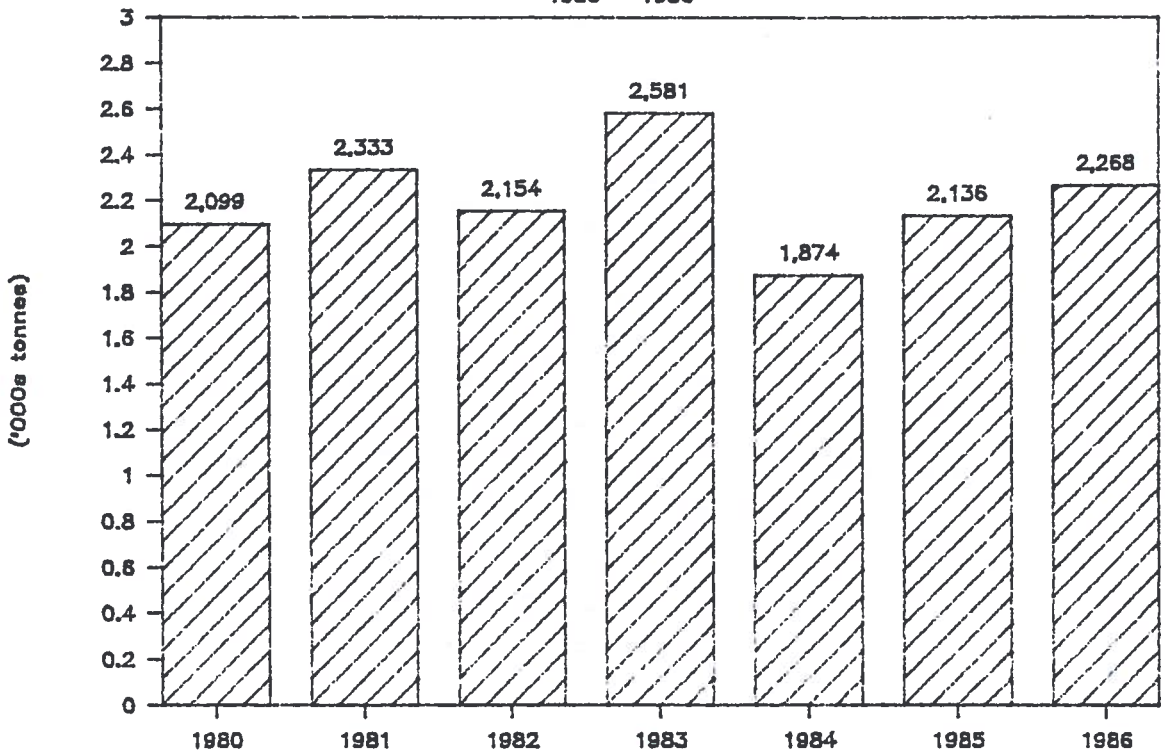
ALL PROVINCES



AVERAGE LOBSTER LANDINGS - 1980-1986 (ALL PROVINCES)  
(Fishing areas 1 to 41)

Province	Landings
Quebec	2,206
Newfoundland	2,280
Nova Scotia	7,919
Gulf of St Lawrence	14,896

FIGURE 5  
LOBSTER LANDINGS — QUEBEC  
1980 — 1986



VALUE OF LOBSTER LANDINGS  
QUEBEC, 1980-1986

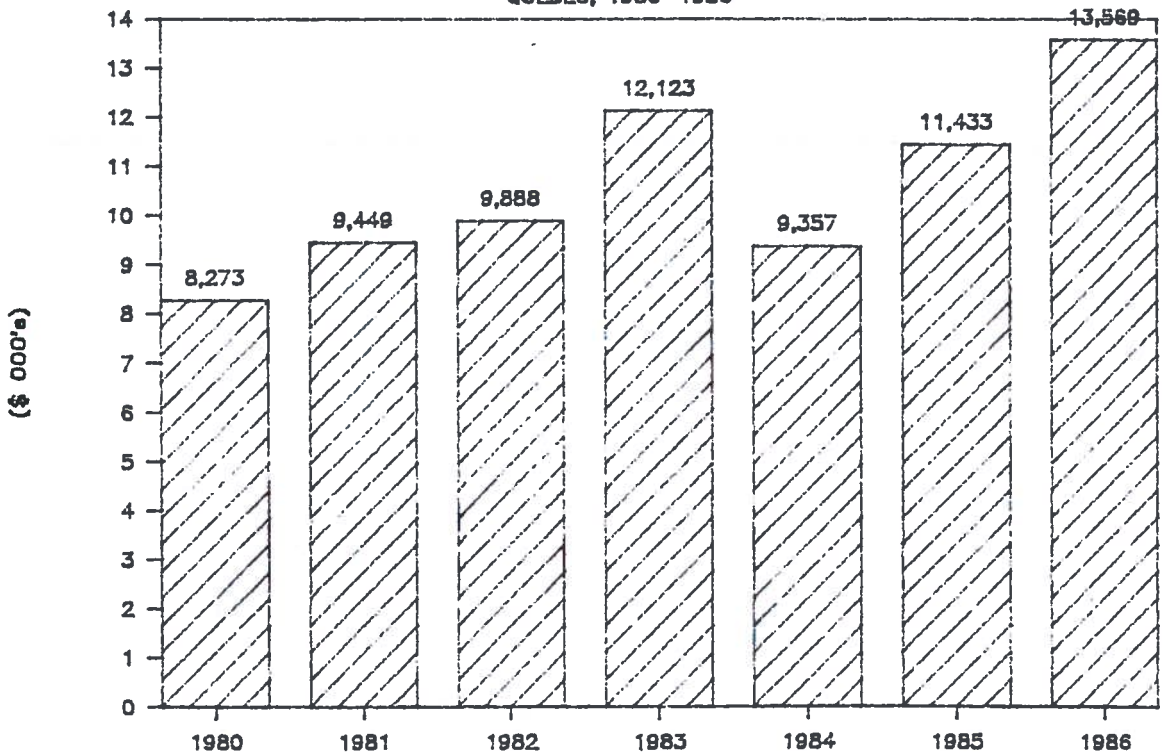
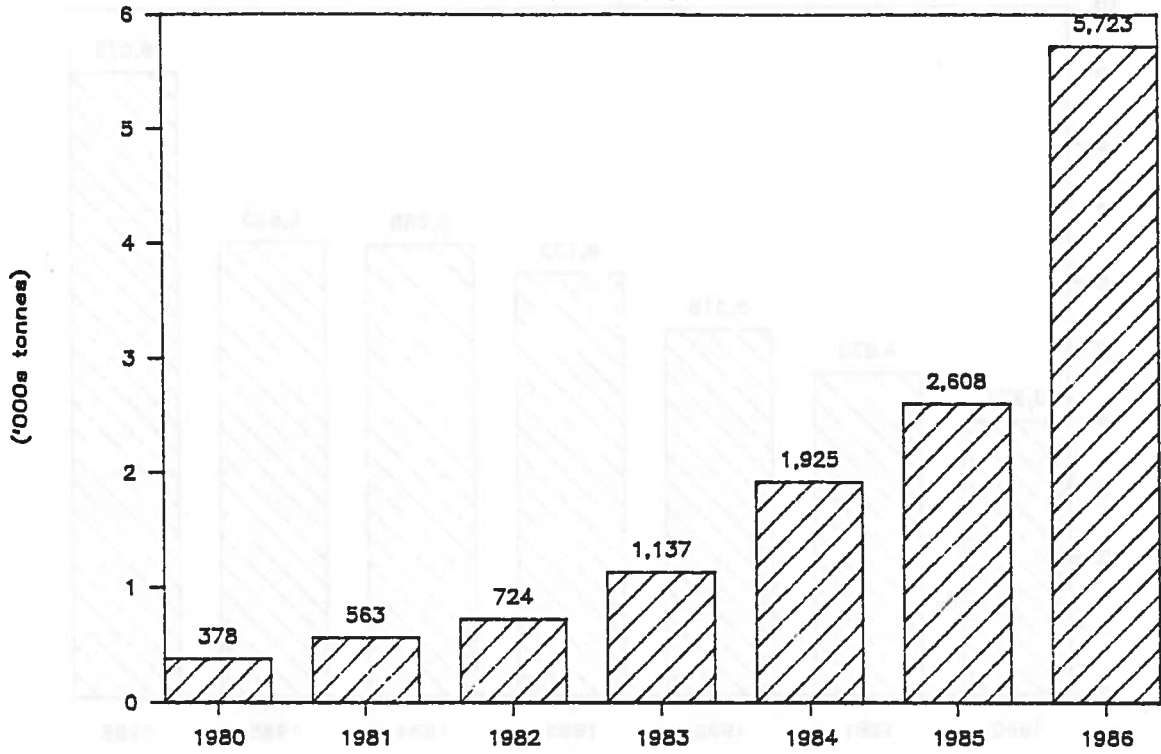


FIGURE 6  
LOBSTER LANDINGS — S.E. NOVA SCOTIA  
1980 - 1986



VALUE OF LOBSTER LANDINGS  
SOUTHEAST NOVA SCOTIA, 1980-86

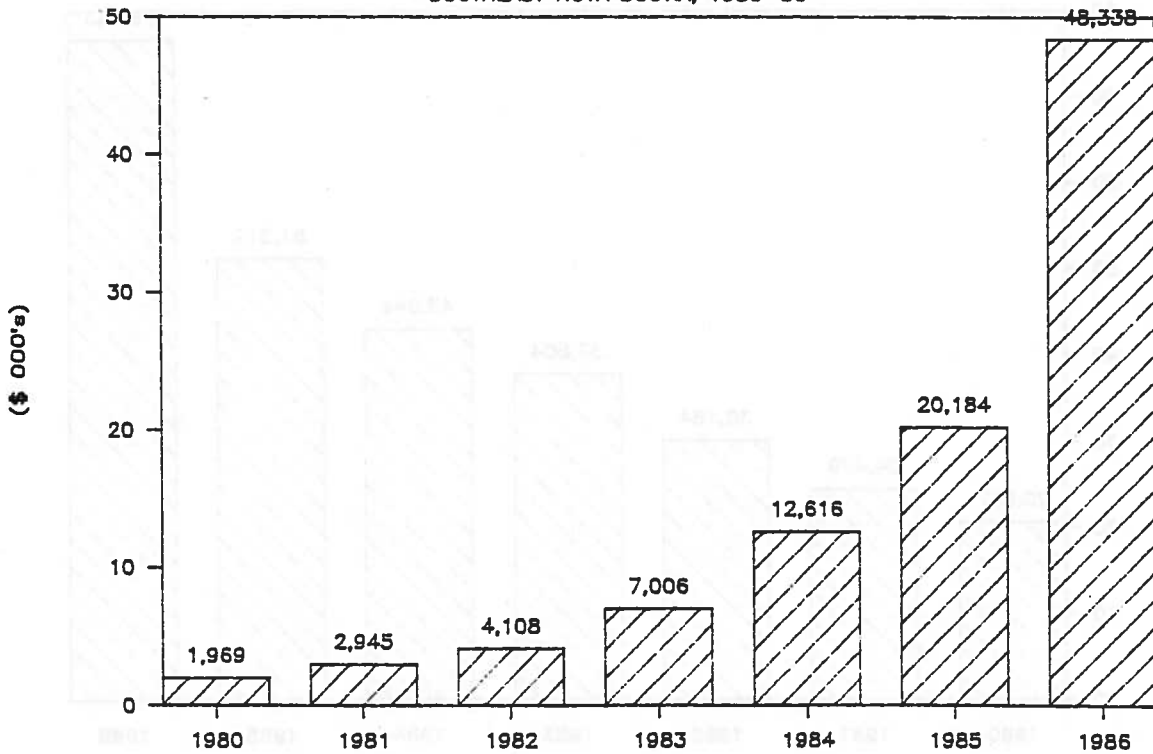
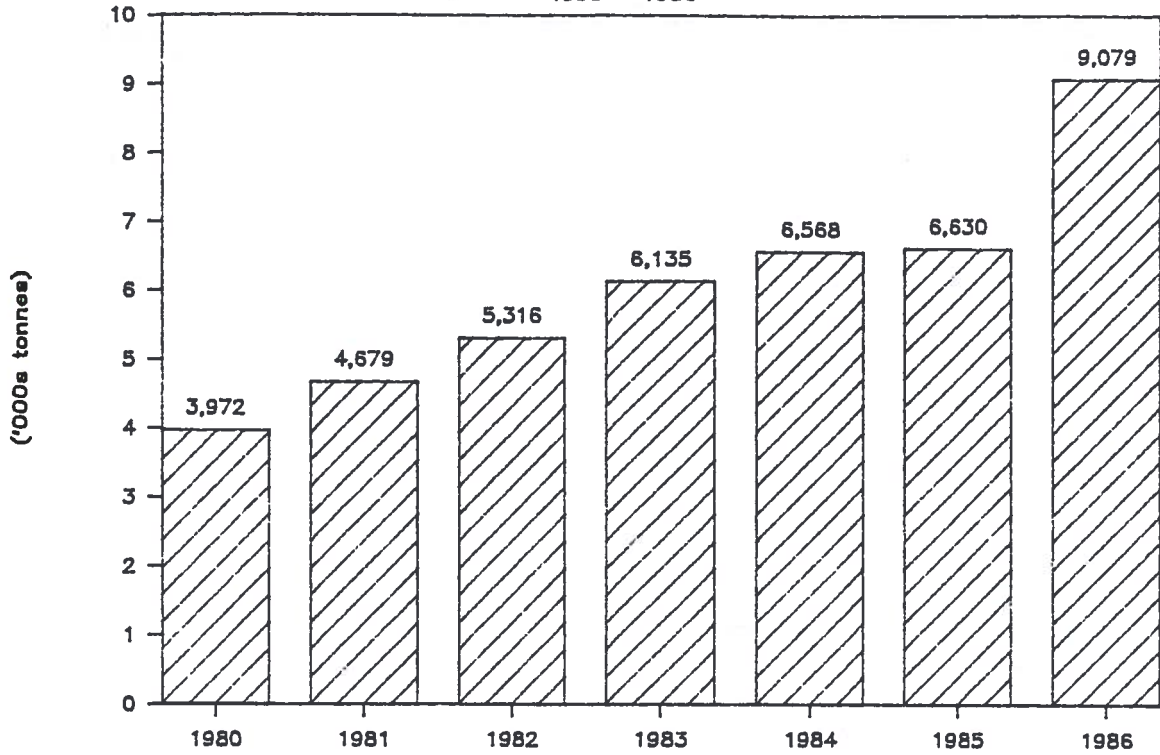


FIGURE 7

LOBSTER LANDINGS — FUNDY/SW NS/OFFSHORE

1980 - 1986



VALUE OF LOBSTER LANDINGS

FUNDY/SW NS/OFFSHORE, 1980-86

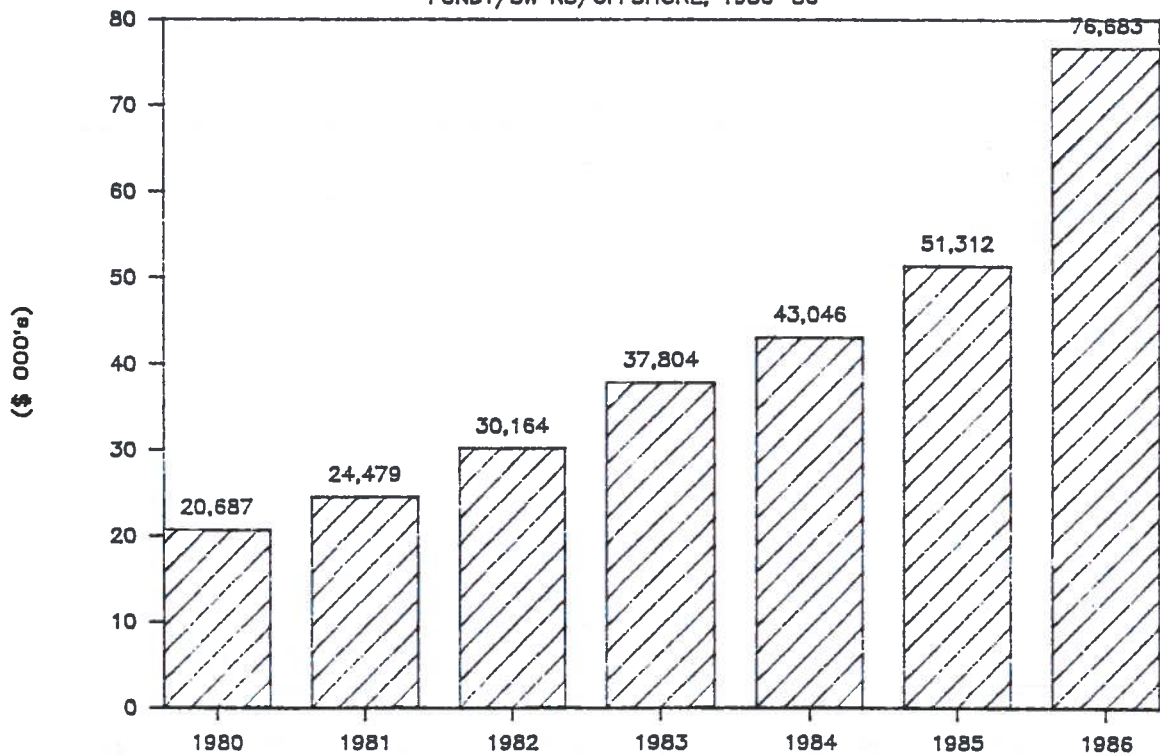
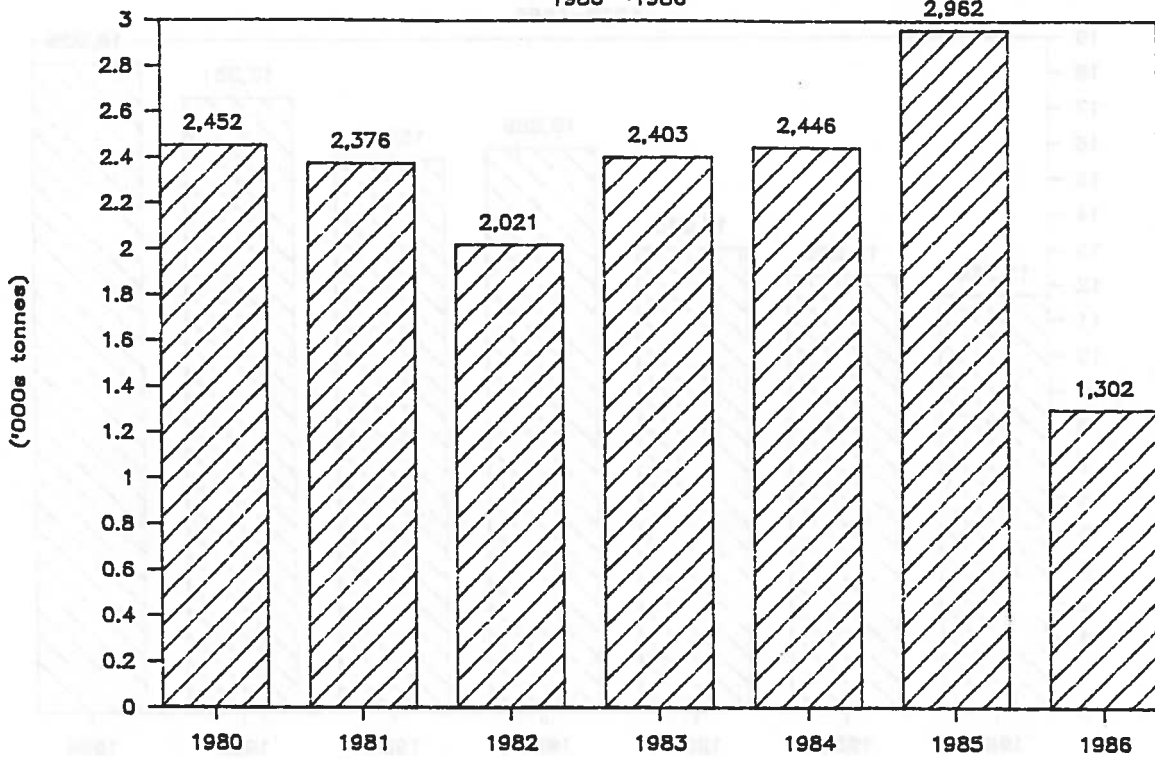


FIGURE 8

### LOBSTER LANDINGS — NEWFOUNDLAND

1980 — 1986



### VALUE OF LOBSTER LANDINGS

NEWFOUNDLAND, 1980—1986

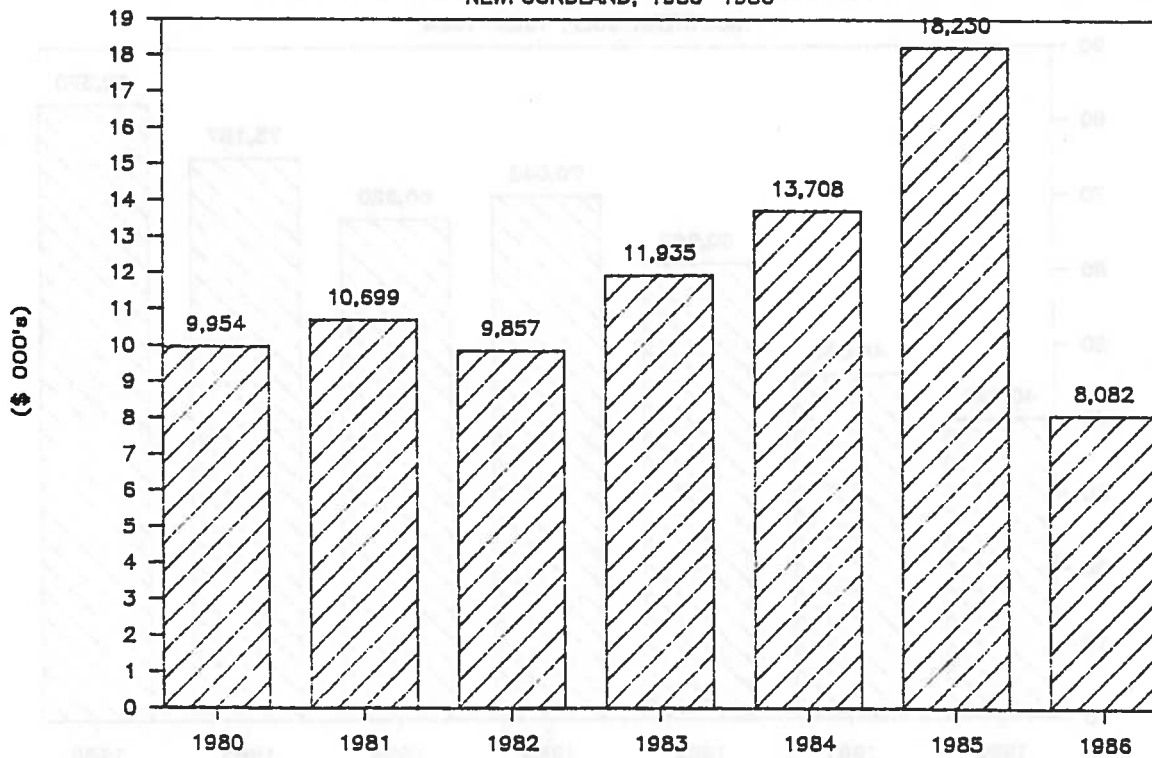
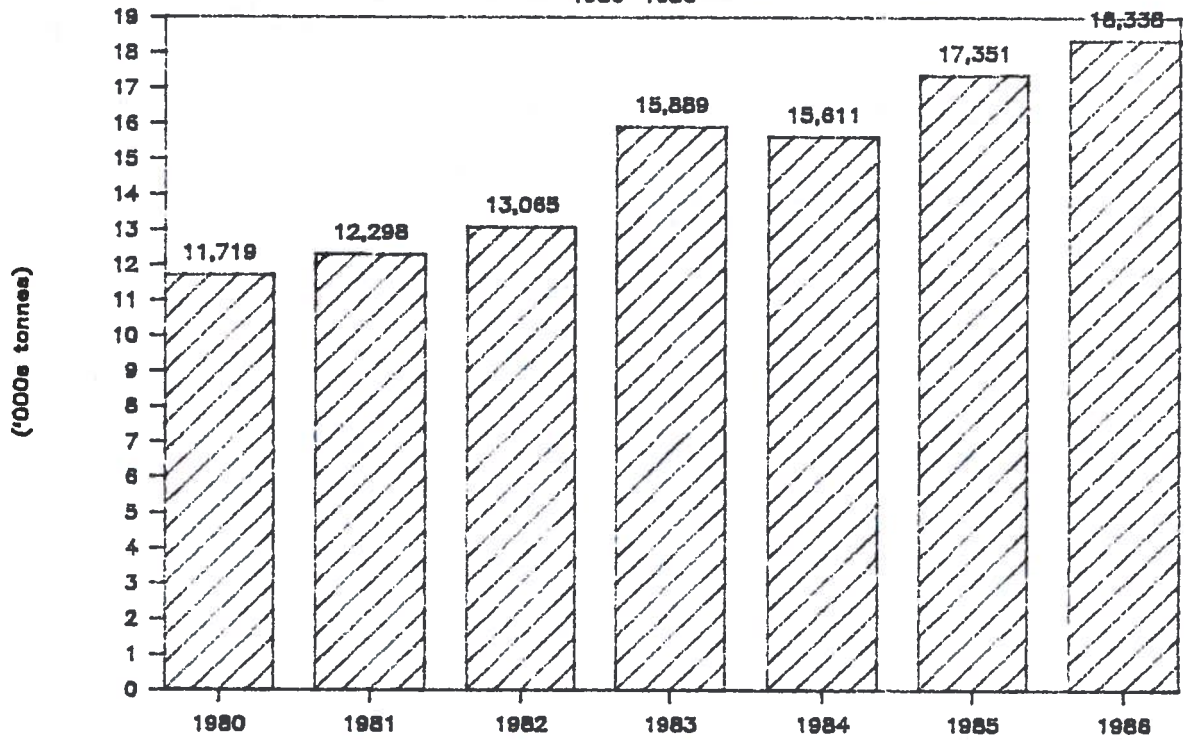


FIGURE 9

### LOBSTER LANDINGS — SOUTHERN GULF

1980—1986



### VALUE OF LOBSTER LANDINGS

SOUTHERN GULF, 1980—1986

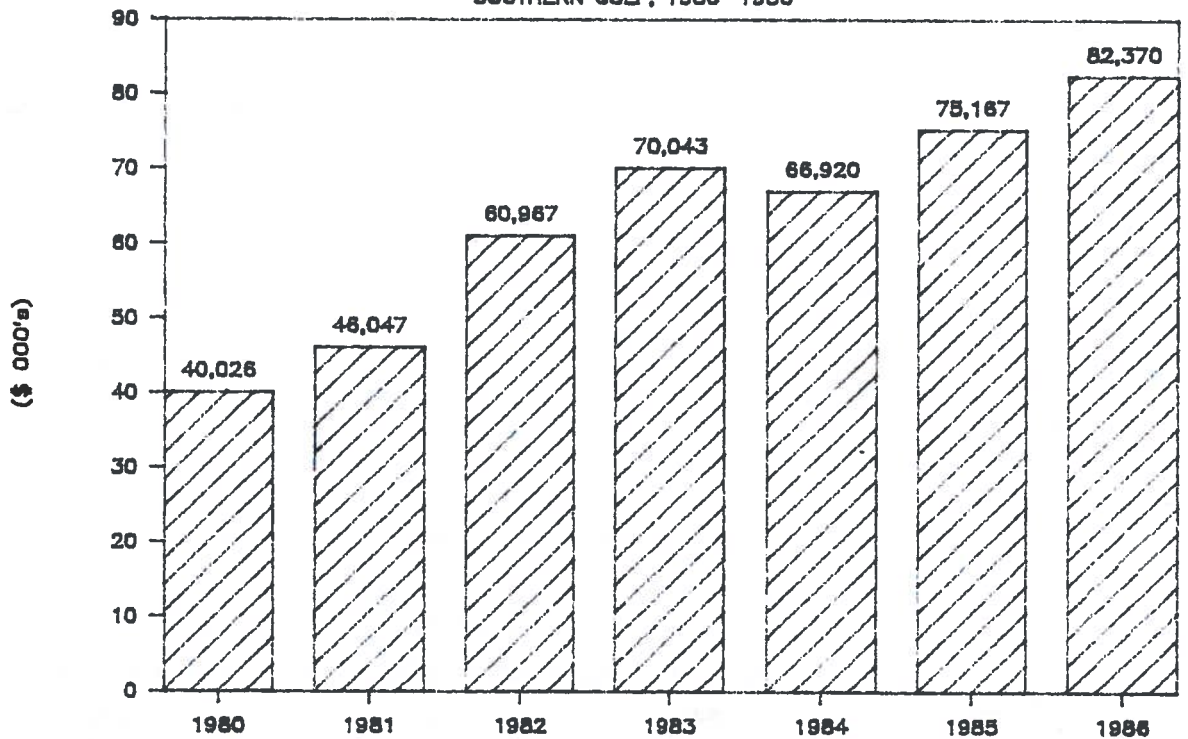


TABLE 3

a. Canadian Exports of Lobster in Shell, (Fresh or Frozen)\*

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
Europe	1,508	7,515	1,875	11,445	1,981	12,309
Japan	36	202	36	236	283	2,328
United States	1,258	6,169	1,165	6,205	937	6,053
Others	103	507	210	1,161	303	1,750
<b>Total</b>	<b>2,905</b>	<b>14,393</b>	<b>3,286</b>	<b>19,047</b>	<b>3,504</b>	<b>22,440</b>

b. Canadian Exports of Live Lobsters\*

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
Europe	998	11,655	1,157	14,585	1,595	22,068
Japan	113	1,997	166	2,877	314	5,788
United States	10,161	93,561	12,236	116,529	13,795	141,032
Others	75	771	95	1,224	154	2,091
<b>Total</b>	<b>11,347</b>	<b>107,984</b>	<b>13,654</b>	<b>135,215</b>	<b>15,858</b>	<b>170,979</b>

c. Canadian Exports of Lobster Meat (Frozen, Fresh, Chilled, Boiled)\*

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
Europe	214	2,314	357	2,369	538	5,083
Japan	25	138	36	267	53	478
United States	2,172	39,480	2,425	51,436	3,040	69,725
Others	5	73	99	667	46	1,041
<b>Total</b>	<b>2,416</b>	<b>42,005</b>	<b>2,917</b>	<b>54,739</b>	<b>3,677</b>	<b>76,327</b>

d. Canadian Exports of Canned Lobsters\*

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
Europe	78	1,270	69	1,037	23	510
Japan	2	35	4	26	14	85
United States	131	2,749	114	2,427	36	804
Others	27	455	4	92	5	221
<b>Total</b>	<b>238</b>	<b>4,509</b>	<b>191</b>	<b>3,582</b>	<b>78</b>	<b>1,620</b>

\* (Quantity (Q) in tonnes, Value (V) in thousand dollars)

**SCALLOP**

## SCALLOP

### The Fishery

Until 1945, the Canadian scallop fishery was an inshore operation and total landings fluctuated from 225 to 775 tonnes annually. The fishery was concentrated mainly in the Bay of Fundy off Digby, Nova Scotia. After the Second World War, an offshore fishery developed at Georges Bank. Since 1958, the annual landed value of scallops has exceeded the combined landed value of all other molluscs in Canada. About 90 per cent of Canadian scallop landings come from Georges Bank.

Offshore scallops vessels sail out of several Nova Scotia ports, the more important ones being Lunenburg, Riverport, Liverpool, Yarmouth, and Saulnierville. The fleet has grown from one small dragger in 1945 to 50 large vessels in 1963, and since 1973 has been restricted to 76 licences.

The two major Maritime centres of the inshore scallop fishery are in the Southern Gulf of St. Lawrence and the Bay of Fundy area off Digby, Nova Scotia.

In 1972, limited entry was introduced in the Bay of Fundy as a conservation measure and as a means of controlling harvesting capacity. Fleet expansion continued however as some vessel owners provided sufficient evidence to the Department of Fisheries and Oceans (DFO) of historical effort in the fishery. The Bay of Fundy fleet expanded from 54 vessels in 1972 to 96 vessels in 1986. Most vessels fish from the Nova Scotia side of the Bay; 14 licences operate from the New Brunswick side.

In recent years, vessel sizes have expanded, on average, to just under 19.8 m (65 feet). Increases in vessel tonnage and break-horsepower have occurred as well. During the late 1970's, the expanding fishing capacity of the Bay of Fundy fleet was

sustained by the exploitation of further grounds such as Browns Bank, German/Lurcher, and the Brier Island area. Almost concurrently, a good recruitment pulse appeared on the traditional Digby scallop beds, starting in 1981. Before too long, the large scallop fishing fleet had difficulty maintaining high catch levels because the stocks of the distant grounds had become depleted and the traditional ones were decreasing rapidly.

Since the latest peak in productivity for the Bay of Fundy stocks in 1981-1983, fishery performance has decreased steadily and no appreciable stock replenishment has taken place. In the summers of 1985 and 1986, some vessels in the Bay of Fundy fleet violated regulatory and quota restrictions used to control their fishing effort on Georges Bank. Relations between the offshore and inshore fleets became inflamed. Following a series of inter-fleet meetings and seminars, hosted by DFO, an agreement was negotiated in October 1986. The Agreement called for the permanent separation of the two fleets and a phasing out of the inshore effort on Georges Bank. The conditions of the October 1986 agreement will require the Bay of Fundy fleet to adopt effective restoration and conservation strategies in the scallop resource is to sustain an economically viable industry. Furthermore, the agreement included the expansion of the coastal New Brunswick fishing district from seven miles to the mid-Bay of Fundy and the elimination of inactive scallop licences.

The Maritimes scallop fishery in the Gulf of St. Lawrence has been concentrated in the Northumberland Strait. The vessels used in this fishery are of Cap Island design, and are often used for finfishing and lobstering as well, depending on the season.

### Resource Management

The growing demand and the limited supply of scallops has led to a rapid rise in the price. This in turn has resulted in the need to introduce conservation measures because of increased fishing

pressure. These measures are largely of regional application and are reviewed annually to determine if they are still of optimal value.

More specifically, current regulations include limited entry, gear restrictions, seasons and meat counts.

### Scallop Fishery Profile

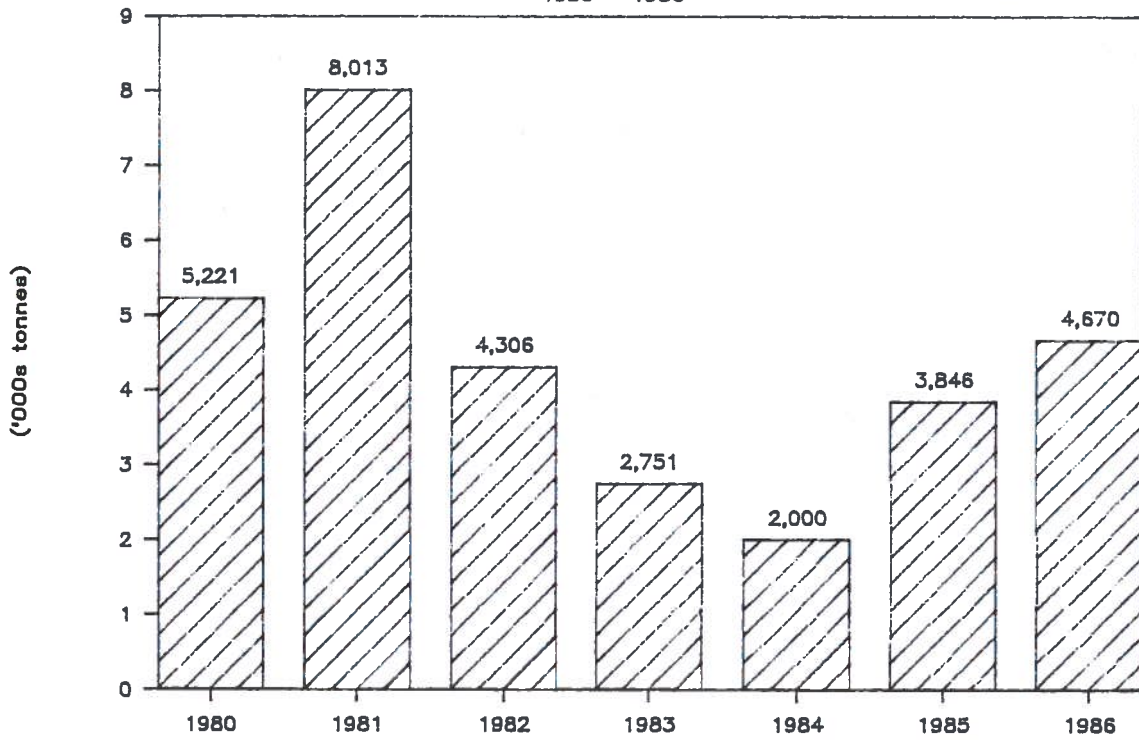
In 1985, a total of 2044 inshore scallop licences and 76 offshore scallop licences were issued. It is estimated that approximately 2960 fishermen participate in this fishery. About 90 percent of Canadian scallop landings come from Georges Bank. Figures 11 to 14 highlight landings and values for the scallop fishery from 1980 to 1986.

The smaller vessels in the inshore fleets (less than 44 feet) employ one to two fishermen, while the larger vessels (45-65 feet) require two to three crew members. Crew earnings have averaged \$20,000 in recent years, with skippers receiving somewhat higher levels of compensation.

A significant number of indirect jobs result from the inshore scallop fishery. The fishery is a traditional source of employment in many communities along the Atlantic Coast. There are 33 plants which handle scallop to complement their other product lines such as groundfish, lobster or herring. They are located in the following provinces:

<u>Provinces</u>	<u>No. Plants</u>
Nova Scotia	15
New Brunswick	11
P.E.I.	6

FIGURE 10  
SCALLOP LANDINGS FROM GEORGES BANK  
1980 - 1986



VALUE OF SCALLOP LANDINGS  
GEORGES BANK, 1980-1986

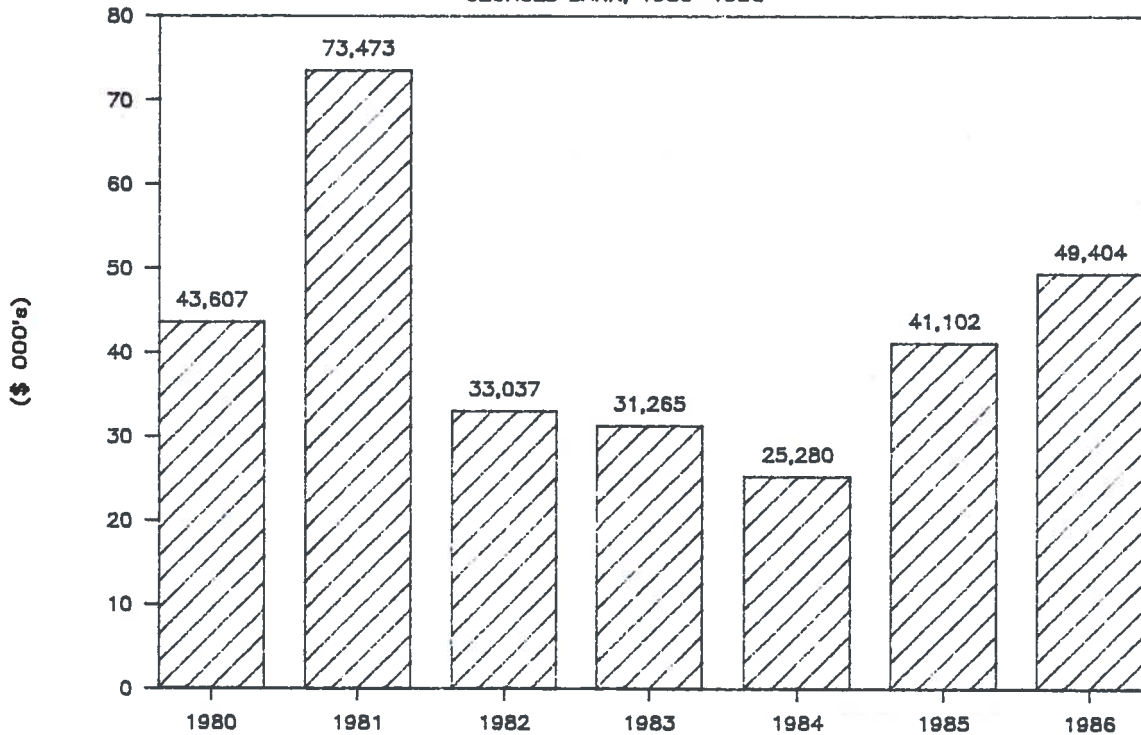
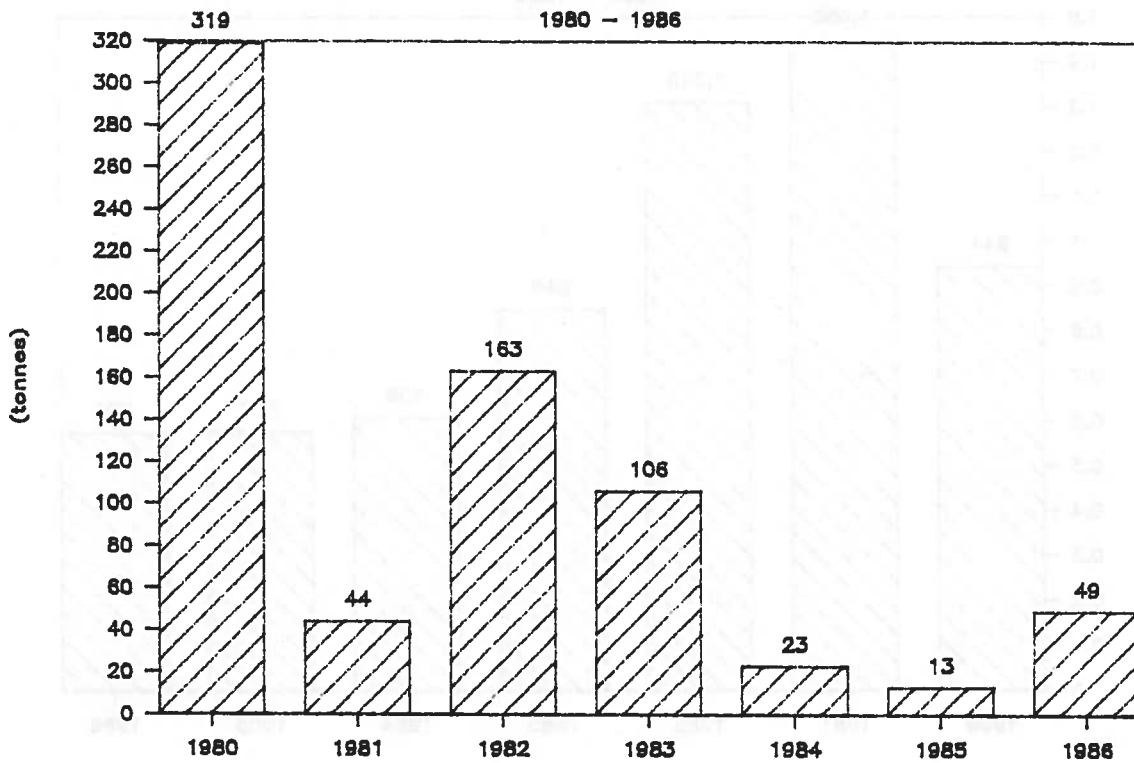


FIGURE 11

### SCALLOP LANDINGS FROM BROWNS BANK



### VALUE OF SCALLOP LANDINGS

BROWNS BANK, 1980-1986

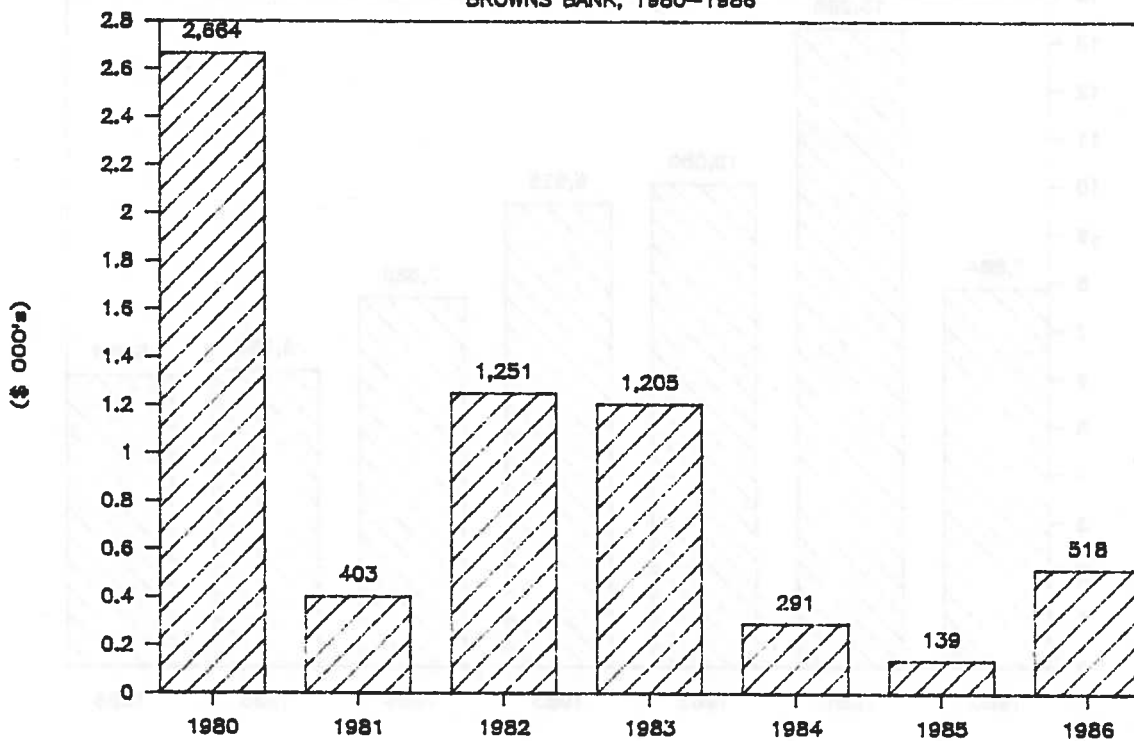
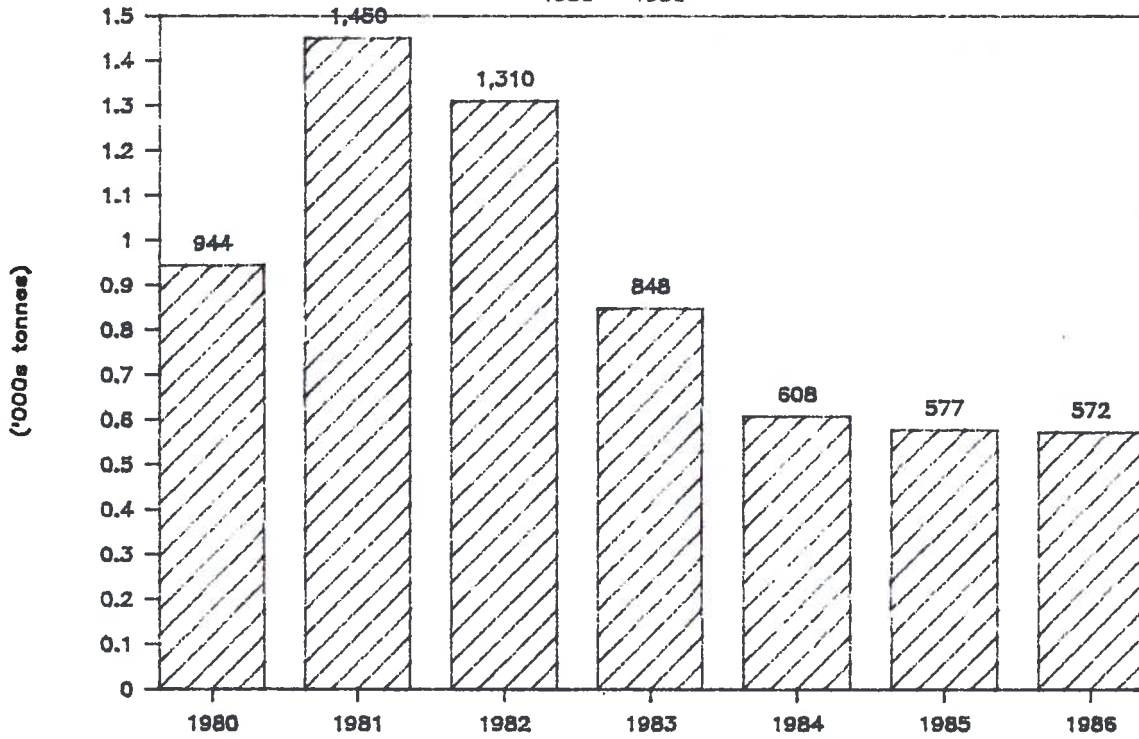


FIGURE 12

### SCALLOP LANDINGS FROM BAY OF FUNDY

1980 - 1986



### VALUE OF SCALLOP LANDINGS

BAY OF FUNDY, 1980-1986

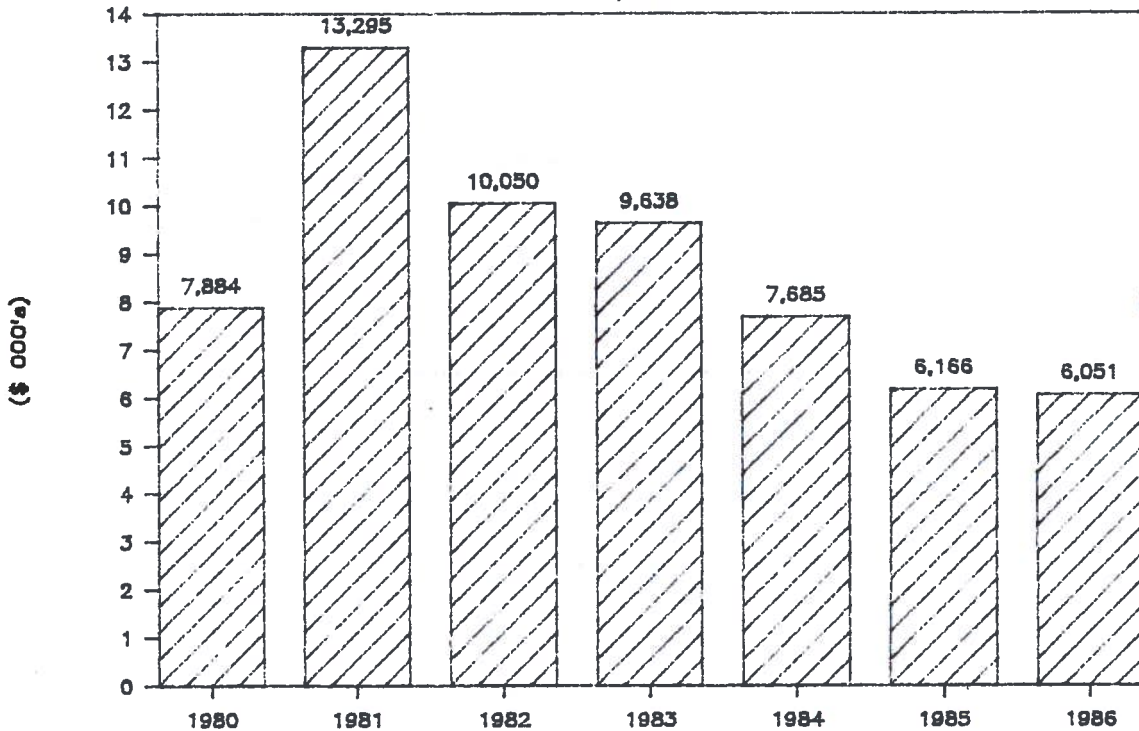
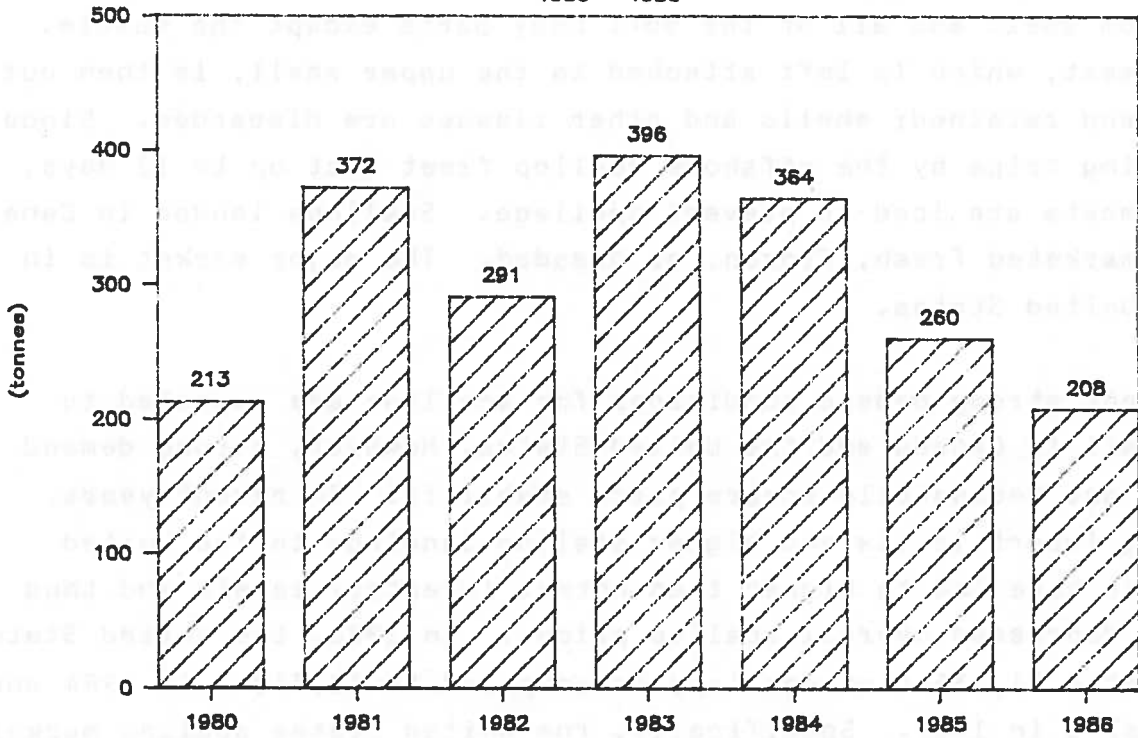


FIGURE 13

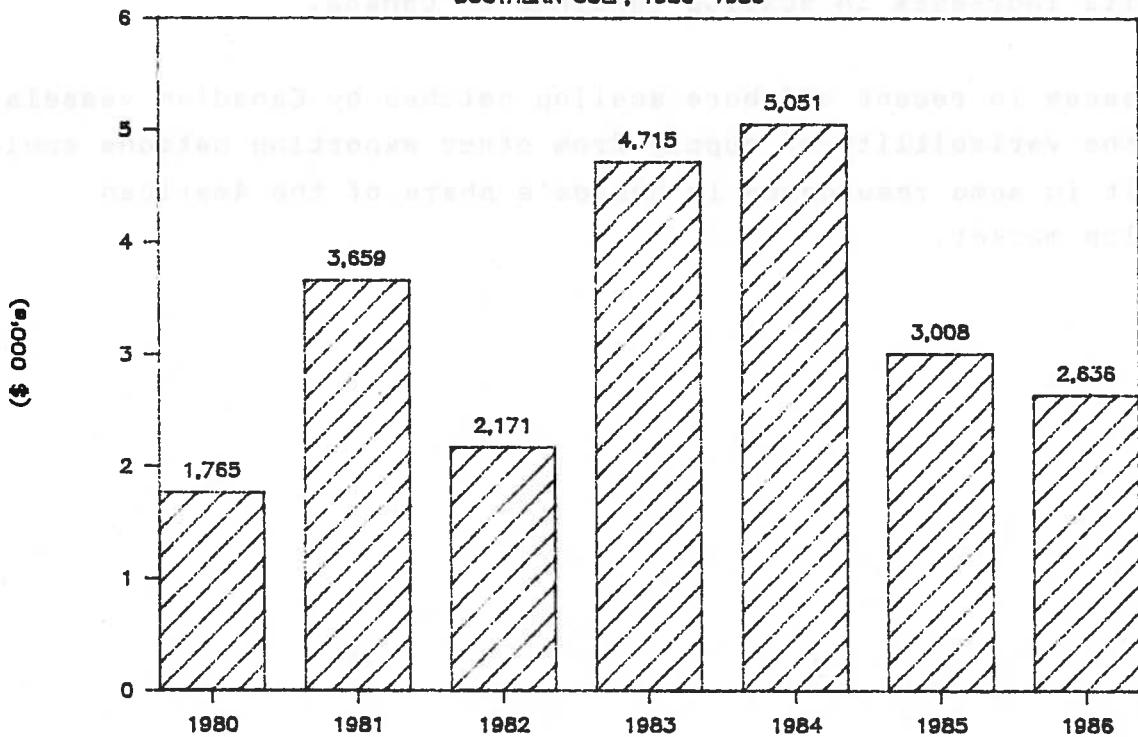
### SCALLOP LANDINGS FROM SOUTHERN GULF

1980 - 1986



### VALUE OF SCALLOP LANDINGS

SOUTHERN GULF, 1980-1986



## Markets

Scallops are shucked as soon as they are caught by removing the bottom shell and all of the soft body parts except the muscle. The meat, which is left attached to the upper shell, is then cut off and retained; shells and other tissues are discarded. Since fishing trips by the offshore scallop fleet last up to 12 days, the meats are iced to prevent spoilage. Scallops landed in Canada are marketed fresh, frozen, or breaded. The major market is in the United States.

Current strong demand conditions for scallops are expected to prevail in Canada and the United States. However, strong demand does not necessarily ensure price stability. In recent years, strong import levels and higher scallop landings in the United States have led to higher than normal inventory levels and thus have depressed overall scallop prices. In 1986, the United States imported 21,735 t of scallops as compared to 12,730 t in 1984 and 19,067 t in 1985. Specifically, the United States scallop market has declined rapidly since 1982 when it stood at 72 percent. Competition from Peru, Japan and Panama has pushed the Canadian share of the American market below 30 percent in recent years despite increases in scallop landings in Canada.

Increases in recent offshore scallop catches by Canadian vessels and the variability of supply from other exporting nations could result in some resurgence in Canada's share of the American scallop market.

TABLE 4

a. Canadian Exports of Frozen Scallops\*

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
France	19	121	20	129	-	-
West Germany	0	2	29	290	-	-
Switzerland	11	136	-	-	10	68
Japan	10	100	7	54	8	44
Bermuda	2	44	0	1	-	-
U.S.A.	2,940	45,777	4,068	59,153	4,213	64,837
Other	2	32	3	53	16	271
Total	2,984	46,212	4,127	59,677	4,247	65,220

b. Canadian Exports of Fresh/Chilled Scallops\*

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
U.S.A.	1,046	16,474	1,510	21,597	1,853	27,736
Other	14	135	0	1	1	28
Total	1,060	16,609	1,510	21,598	1,854	27,764

\* (Quantity (Q) in tonnes, Value (V) in thousand dollars)

**SNOW CRAB**

## SNOW CRAB

### The Fishery

The commercial snow crab fishery on the Canadian Atlantic coast began in 1967 after exploratory surveys had located abundant stocks in the Gulf of St. Lawrence. During the 1970's and early 1980's, new stocks were being identified and harvested in Newfoundland and inshore waters of the Gulf of St. Lawrence.

In 1967, a total of 616 tonnes were caught in the Gulf waters. It reached 4,919 t in the following year and fluctuated between 5,000 and 8,000 t until 1976. Between 1976 and 1980, the annual landings reported in the Gulf increased steadily. Since then, landings have fluctuated between 20,000 t and 28,500 t. In Newfoundland, landings also followed a fairly constant increase, which was more pronounced between 1977-1982. Since then however, eastern Newfoundland landings have been decreasing steadily.

The main fishing grounds in the Gulf are located between Gaspé Peninsula and the Magdalen Islands, along the Quebec North shore and around Cape Breton Island. The main ports of landings are Caraquet, Shippegan and Lameque in New Brunswick, Grande Rivière and Ste-Thérèse in Quebec, and Pleasant Bay in Cape Breton. In Newfoundland, most of the commercial catch is made in the Conception Bay and Bonavista Bay areas.

### Resource Management

From its inception in the mid 1960's until the early 1970's, the snow crab fishery in the Gulf of St. Lawrence was not subject to regulatory measures. Fishing effort increased until the late 1960's but existing biological knowledge was minimal and regulated management of this fishery was not deemed necessary. It was not until the mid 1970's that certain control measures gradually began to appear.

Although the use of trawl gear was forbidden to minimize habitat destruction and damage crabs, initial regulations were mostly based on processing considerations. Females were excluded from the catch due to their small size and only large males (100 mm carapace width (CW)) were considered exploitable. The size limit was subsequently reduced to 95 mm CW as the industry became capable of processing smaller crabs.

In the mid 1970's, effort restrictions were introduced by limiting access to the fishery, as well as limiting the number of traps. As inshore snow crab fisheries developed, it was envisioned that fishermen would not derive all of their income from the crab fishery but would also be involved in other fisheries. Thus, in some inshore crab fishing areas pre-emptive total allowable catches (TACs) were established along with individual vessel quotas. A pre-emptive TAC was also established for the Gulf mid-shore crab fleet.

With increasing exploitation, the relative proportion of soft-shelled crabs increased due to fishing in the moulting time period. To overcome this problem, regulations were introduced in 1982 to limit the fishing season by a summer closure. Furthermore, a minimum trap mesh size regulation was established to reduce the catch of undersized crabs. Table 5 outlines current regulations in the snow crab fishery.

TABLE 5

## SNOW CRAB FISHERY REGULATIONS (1987)

<u>Fishing Area</u>	<u>TAC (m.t.)</u>	<u>Season</u>	<u>No. Traps*</u>	<u>Minimum mesh size (mm)</u>	<u>Minimum Carapace Width (mm)</u>
Zone 12, Gulf of St. Lawrence mid-shore fleet	26,000	April 12-June 20	150 standard traps or 300 Japanese traps	65	95
Zone 13 and the north-east portion of Division 4R	1,779	July 13-Dec. 31	50 standard traps or 100 Japanese traps	65	95
Zone 14, Quebec North Shore inshore fleet	762	July 13-Dec. 31	50 standard traps or 100 Japanese traps	65	95
Zone 15, Quebec North Shore inshore fleet	-	July 13-Dec. 31	50 standard traps or 100 Japanese traps	65	95
Zone 16, Quebec North Shore inshore fleet	2,500	April 7 (start)	75 standard traps or 150 Japanese traps	65	95
Zone 17, Quebec North Shore inshore fleet	-	April 1-July 7	75 standard traps or 150 Japanese traps	65	95
Division 2J, Southern Labrador					
Full-time fishery	725	May 1-Nov. 30	800 Japanese traps	65	95
Supplementary fishery	200	May 1-Nov. 30	150 Japanese traps	65	95
Division 3K, Northeast Coast of Newfoundland					
Full-time fishery	3,000	May 1-Nov. 30	800 Japanese traps	65	95
Supplementary fishery	1,000	May 1-June 15	150 Japanese traps	65	95
Division 3L, East Coast of Newfoundland					
Full-time fishery:					
500-Bonavista Bay		April 1-Nov. 30**	800 Japanese traps	65	95
100-Trinity Bay					
200-Conception Bay					
2,000-Eastern/Southern Avalon					
Division 3Ps, South Coast of Newfoundland					
Supplementary fishery:					
200 (spring)		May 1-June 15	150 Japanese traps	65	95
400 (fall)		Sept. 1-Oct. 31			
20 to 23, Scotia Fundy	-	July 22-Sept. 11	30 standard traps	65	95
Zone 24, Scotia Fundy	-	Aug. 1-Sept. 30	30 standard traps	65	95

\* Standard trap : max. volume of 2.1 cu. m.  
 Japanese trap : max. base diameter of 122 cm

\*\* Bonavista Bay is closed to all crab fishing between July 1-August 31

## Snow Crab Fishery Profile

In 1985, approximately 500 snow crab licences were issued in the Atlantic Provinces. It is estimated that 1,620 fishermen participate in the snow crab fishery.

Area	No. of Active vessels	No. of fishermen
Gulf mid-shore fishery	126	530
Inshore Newfoundland	65	300
Inshore Quebec	126	444
Inshore Cape Breton	84	252
Scotia-Fundy	32	96

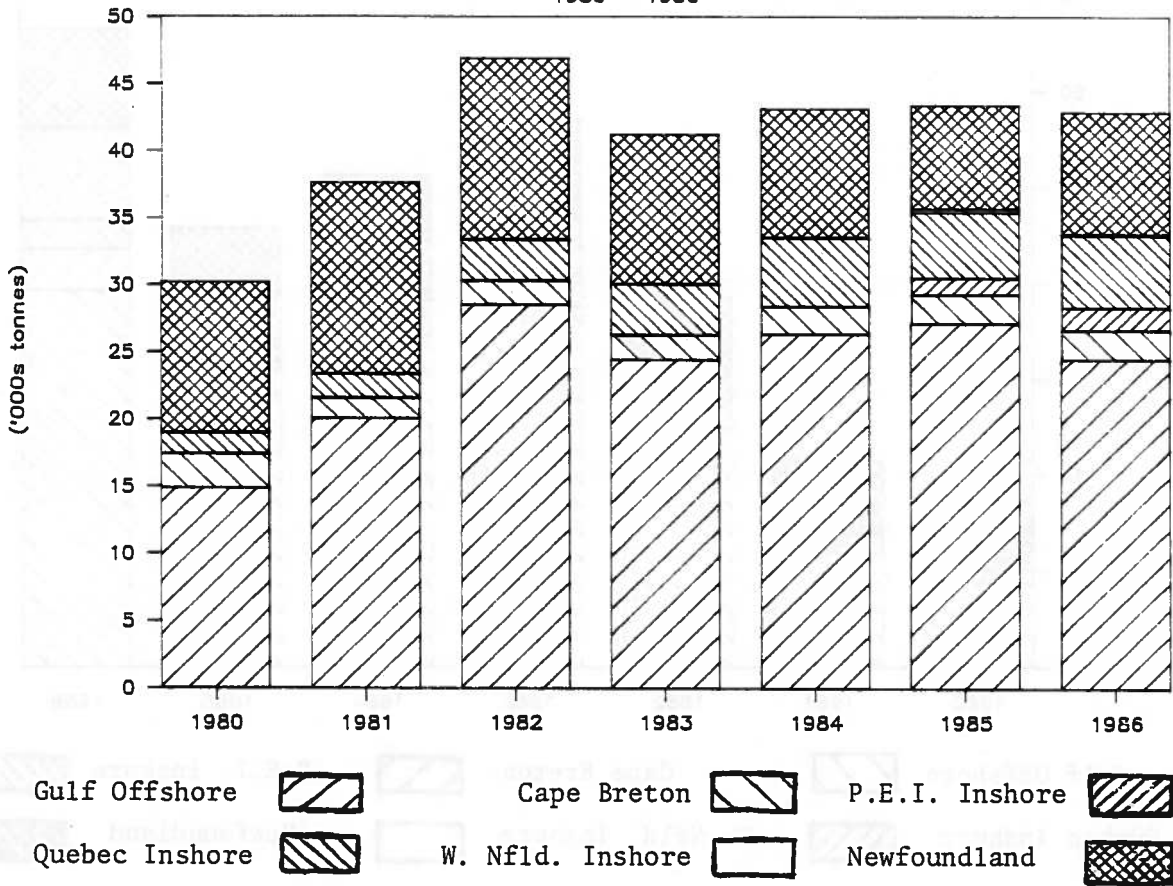
The snow crab fishery is characterized by a wide geographic distribution of the resource, a relatively long catching season, a high percentage of individually-owned vessels and a labour intensive processing industry. The snow crab is a deep-water species and, consequently, the principal fishing grounds are located along the north shore of the St. Lawrence estuary, the deep waters between the Gaspé and New Brunswick, the depressions off the Magdalen Islands and Cape Breton and along the northeast coast of Newfoundland. However, the principal landings occur in New Brunswick, Quebec and Newfoundland.

After their capture, snow crabs are held live on ice in the hold of the fishing boat. Fishing trips are usually one or two days long, depending on weather. Within a few hours of delivery to the processing plant, crabs are usually butchered. The leg sections

FIGURE 14

SNOW CRAB LANDINGS, BY REGION

1980 - 1986



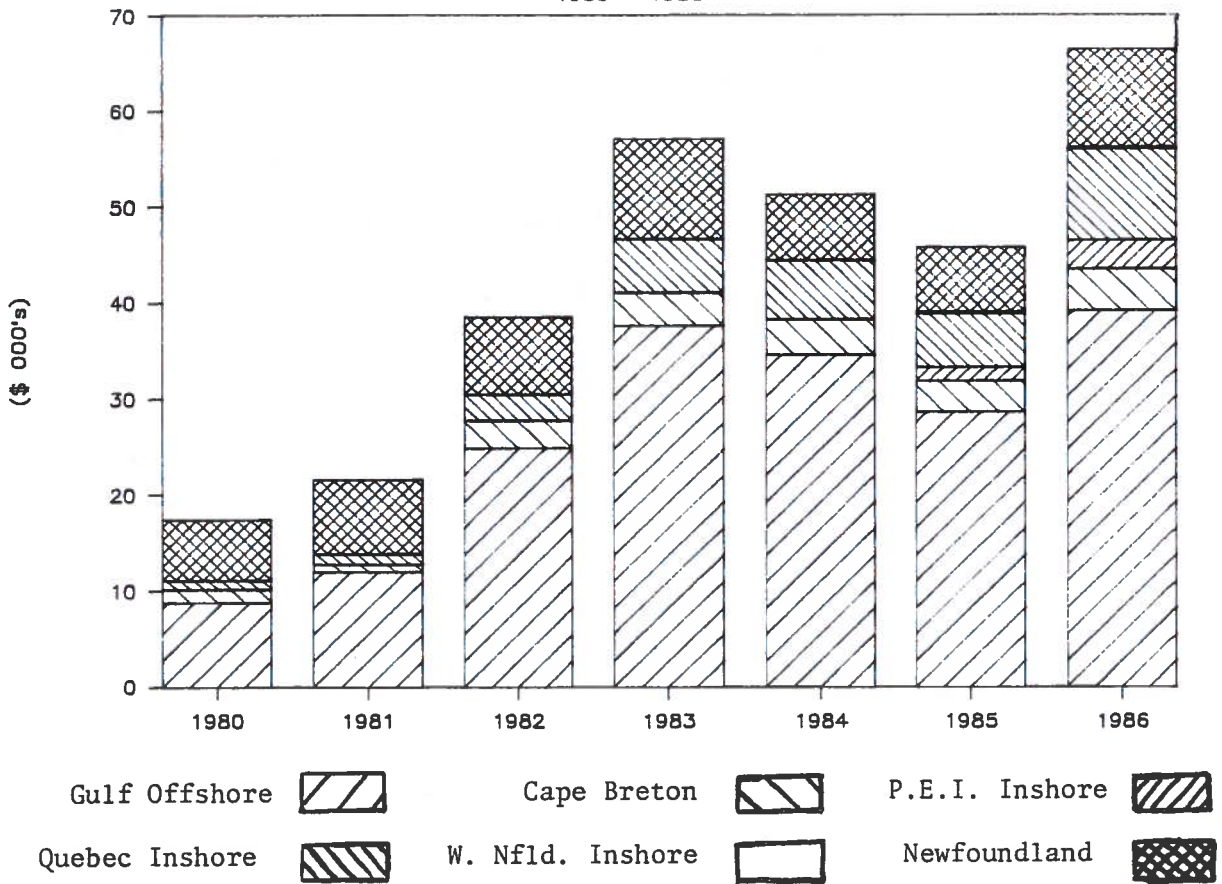
Year	Snow Crab Landings (tonnes)						TOTAL
	Gulf Offshore	Inshore Cape Breton	P.E.I. Inshore*	Inshore Quebec	Western Nfld. Inshore*	Newfoundland	
1980	14,854	2,568	0	1,578	0	11,195	30,195
1981	20,065	1,534	0	1,801	0	14,204	37,604
1982	28,544	1,811	0	3,040	0	13,506	46,901
1983	24,435	1,846	0	3,788	0	11,120	41,189
1984	26,339	2,078	0	5,110	0	9,566	43,093
1985	27,129	2,152	1,248	4,846	291	7,692	43,358
1986	24,469	2,196	1,676	5,370	105	9,042	42,858

\* Experimental zone since 1985

FIGURE 15

VALUE OF SNOW CRAB LANDINGS, BY REGION

1980 - 1986



Value of Snow Crab Landings  
(\$ ,000)

Year	Gulf Offshore	Inshore Cape Breton	P.E.I. Inshore*	Inshore Quebec	Western Nfld Inshore*	Newfoundland	TOTAL
1980	8,829	1,374	0	928	0	6,242	17,373
1981	12,021	777	0	1,090	0	7,668	21,556
1982	24,895	2,914	0	2,711	0	8,039	38,559
1983	37,617	3,461	0	5,529	0	10,413	57,020
1984	34,611	3,698	0	6,142	0	6,862	51,313
1985	28,652	3,240	1,408	5,541	252	6,628	45,721
1986	39,183	4,335	3,004	9,478	185	10,210	66,395

\* Experimental zone since 1985

are washed, cooked in the shell and cooled. Since the mid-1980's, the demand for sections has increased significantly and displaced the more traditional, frozen meat products on the market place. There are approximately 59 plants which process canned or frozen crab products:

<u>Province</u>	<u>No. Plants</u>
New Brunswick	29
Quebec	11
Newfoundland	17
Nova Scotia	2

### Markets

Most of the snow crab production is exported to Japan, the United States and Europe. Sections and frozen meat constitute the bulk of these exports. The volume of canned crab exports has declined by 98 per cent from 1982 to 1986 while the value of the product has dropped by 91 per cent. Canned crab sales will remain static as profitability is much stronger for meat and sections.

TABLE 6

a. Canadian Exports of Fresh/Frozen Crab (Whole and Meat)\*

Country	1985		1986	
	Q	V	Q	V
Japan	8,289	46,603	7,478	48,100
U.S.A.	6,899	60,938	5,981	81,339
Europe	1,053	11,353	1,387	21,759
Others	106	1,052	141	1,611
Total	16,348	119,946	14,987	152,809

b. Canadian Exports of Canned Crab\*

Country	1985		1986	
	Q	V	Q	V
Japan	23	393	69	1,073
U.S.A.	76	1,166	78	1,412
Europe	158	2,514	107	2,342
Others	39	579	35	566
Total	296	4,652	289	5,393

\* (Quantity (Q) in tonnes, Value (V) in \$,000)

TABLE 7

AVERAGE LANDED PRICES  
PAID TO CRAB FISHERMEN 1975-1986  
(cents/lb)

	New Brunswick	Newfoundland	Quebec
1975	17.7	11.3	16.8
1976	21.8	15.0	19.8
1977	25.4	19.1	22.6
1978	27.2	23.1	27.2
1979	34.0	25.9	31.5
1980	26.8	25.3	26.7
1981	27.0	24.5	27.4
1982	38.9	27.0	40.4
1983	68.9	42.5	66.2
1984	59.6	32.5	54.5
1985	47.8	39.0	51.7
1986	80.0	51.6	79.1

**SHRIMP**

## SHRIMP

### The Fishery

Shrimp fisheries in eastern Canada have shown rapid growth during the last decade and are now ranked fourth in value among shellfish species, behind lobster, scallop and crab. This growth, especially apparent in northern offshore regions, has been made possible by advances in technology, exploitation of new fishing areas and maintenance of good market prices. At the same time, other shrimp fisheries in Alaska and the Gulf of Maine have declined due to reductions in abundance.

In the Gulf of St. Lawrence, fishermen began fishing shrimp in the mid 1960s in the Sept-Iles, Quebec area. Fisheries have since developed on the west coast of Newfoundland in the late 1960s and early 1970s, and in an area north of Anticosti Island during the mid 1970s. In 1977, New Brunswick vessels participated in a relatively small fishery on the Scotian Shelf and large trawlers fished newly discovered shrimp concentrations in Hopedale and Cartwright Channels of the Labrador coast. The larger vessels extended their effort for shrimp into the Davis Strait area in 1979, and in 1980, a limited amount of fishing was conducted in the eastern Hudson Strait and Ungava Bay.

Landings of shrimp on the east coast of Canada increased from less than 2,000t in the early 1970s and have fluctuated around 15,000t in the period 1979-86 (Figure 17). The shrimp resources of Sept-Iles, Quebec and Port aux Choix, on the west coast of Newfoundland are now being fully utilized. Areas in the southern Gulf of St. Lawrence, around Anticosti Island, have become increasingly important as a result of industry expansion. The fishery on the Scotian Shelf has had a slow start. However, the current good market situation should stimulate its development. This scenario has occurred in 1987 in the fishery off Labrador and in the Davis Strait, Hudson Strait and Ungava Bay areas. Strong

# EASTERN CANADIAN SHRIMP LANDINGS

1968 - 1986

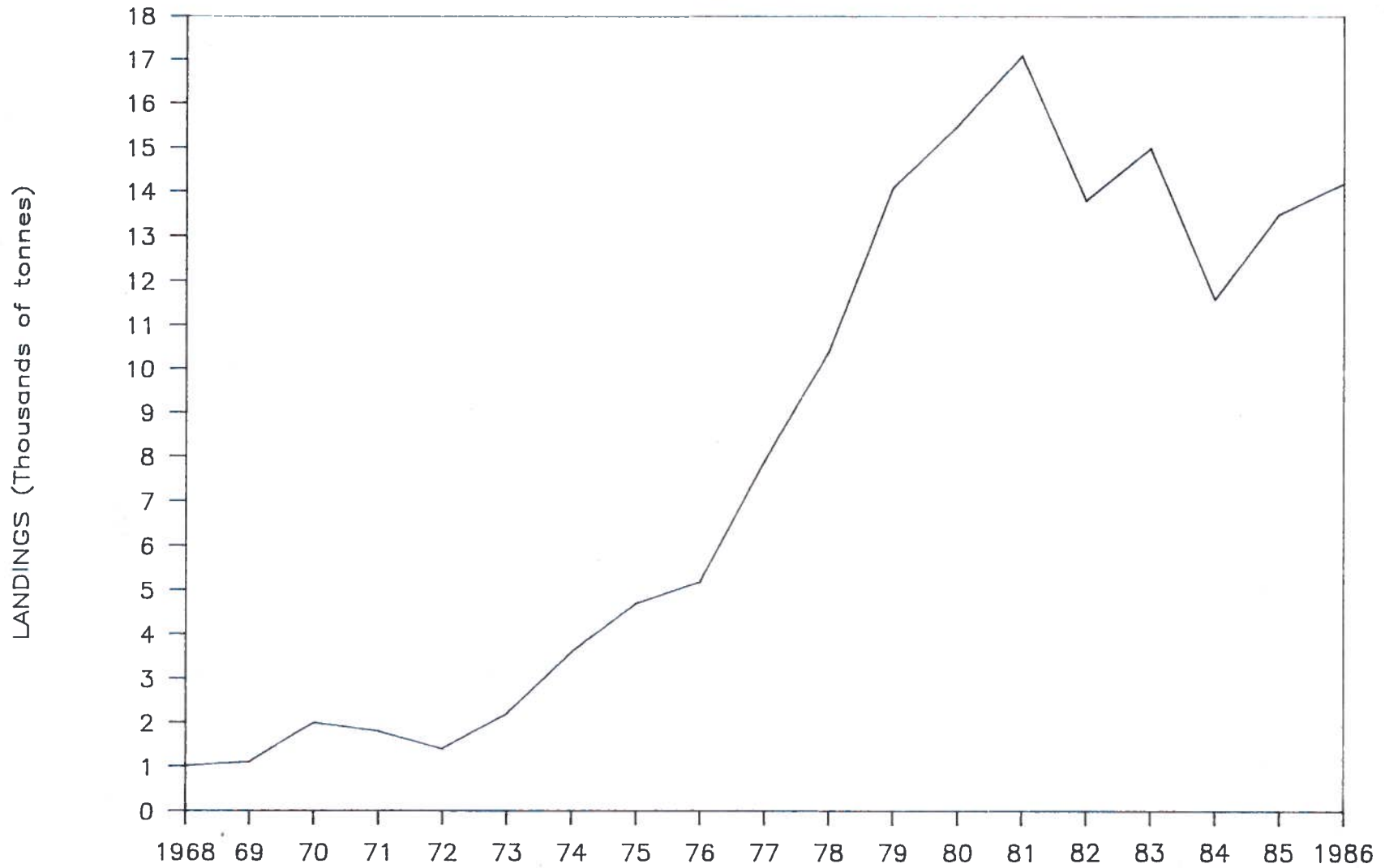


Figure 16

market prices and an Experimental Enterprise Allocation Program have proved very successful in stimulating activity in these areas.

Vessels participating in the Atlantic shrimp fisheries use small meshed otter trawls to catch the shrimp. Both net and vessel size vary, depending on the fishery. Small stern trawlers (less than 20m) are used on the west coast of Newfoundland for trips of one or two days' duration while vessels from Quebec and New Brunswick are generally larger. They are also capable of towing larger trawls and able to remain at sea for longer periods of time. The larger offshore stern freezer trawlers in the Labrador Sea and Davis Strait use very large trawls and can remain at sea for a month or more.

### Resource Management

The shrimp resources in eastern Canada are monitored through research surveys and sampling of the commercial catch. Based on the information obtained from research and observation of the fisheries, estimates of yield and Total Allowable Catches (TACs) are derived annually.

Shrimp fisheries in Atlantic Canada are also controlled by limited entry, seasons and mesh size regulation to permit the escape of smaller shrimp (Table 8).

TABLE 8

## 1987 CANADIAN ATLANTIC SHRIMP MANAGEMENT MEASURES

<u>FISHING AREA</u>	<u>TAC (M.T.)</u>	<u>SEASON</u>	<u>MINIMUM MESH SIZE (MM)</u>	<u>OTHER DETAILS</u>
<u>Gulf of St. Lawrence:</u>				
Esquiman Channel	3,500	Jan. 1 - Dec. 31	40	All vessels less than 100 ft.
Sept-Iles	3,400	April 1 - Sept. 7	40	All vessels less than 100 ft.
Sept-Iles	1,500	Sept. 8 - Dec. 31	40	All vessels less than 100 ft.
North Anticosti	3,500	Jan. 1 - Dec. 31	40	All vessels less than 100 ft.
South Anticosti	700	Jan. 1 - Dec. 31	40	All vessels less than 100 ft.
St. Lawrence Estuary	500	Jan. 1 - Dec. 31	40	All vessels less than 100 ft.
<u>Scotian Shelf:</u>				
Louisbourg Channel	-	Jan. 1 - Dec. 31	40	All vessels less than 100 ft.
Misaine Channel	-	Jan. 1 - Dec. 31	40	All vessels
<u>Northern Grounds:</u>				
Sub-Area 0 (Davis Strait)	6,120	May 1 - April 30	40	All vessels less than 100 ft.
2G	500	May 1 - April 30	40	All vessels less than 100 ft.
Ungava Bay	200	May 1 - April 30	40	All vessels less than 100 ft.
Eastern Hudson Strait	1,000	May 1 - April 30	40	All vessels less than 100 ft.
<u>Southern Grounds:</u>				
3K	1,500	May 1 - April 30	40	All vessels less than 100 ft.
Hopedale Channel	4,000	May 1 - April 30	40	All vessels less than 100 ft.
Cartwright Channel	800	May 1 - April 30	40	All vessels less than 100 ft.
Hawke Channel	1,500	May 1 - April 30	40	All vessels less than 100 ft.

## Shrimp Fishery Profile

In 1985, a total of 140 shrimp licences were issued in the Atlantic Provinces. It is estimated that 720 fishermen participate in the shrimp fishery.

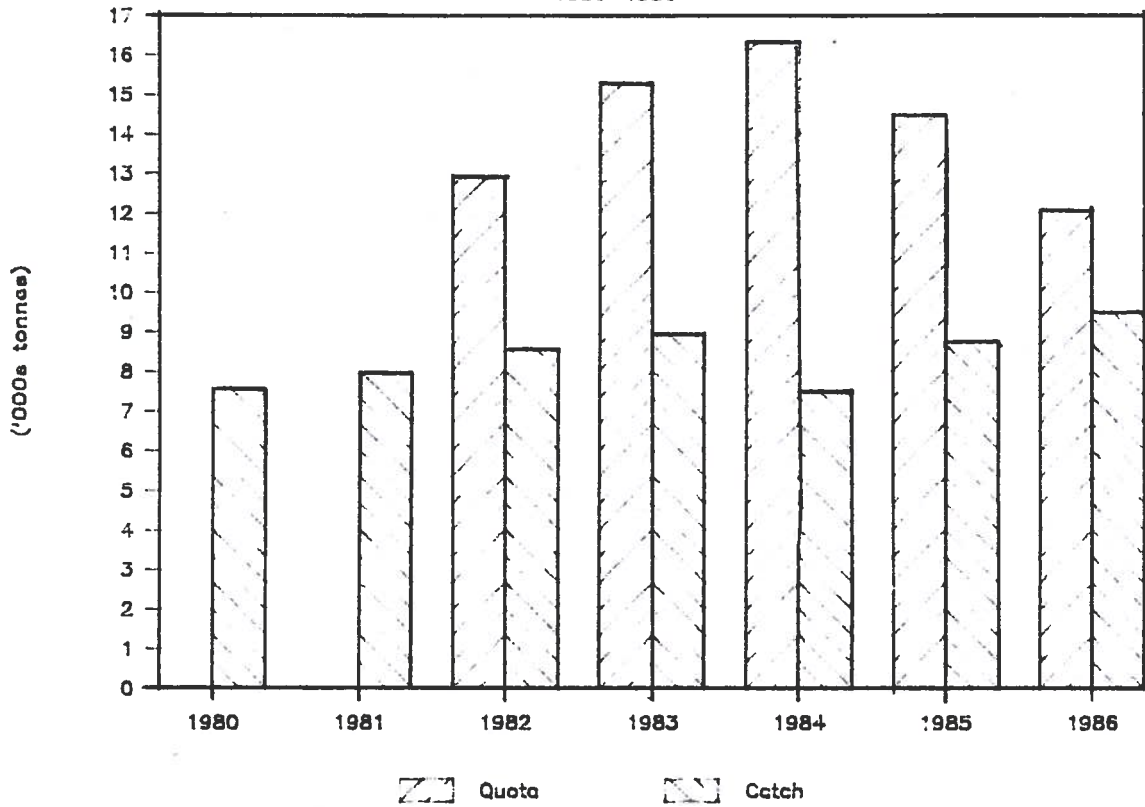
Almost all of the landed shrimp is harvested in the Gulf of St. Lawrence or off Labrador and in the Davis Strait. The product is landed in a number of forms. In the Gulf of St. Lawrence, fresh and frozen whole shrimp often are returned to shore for cooking and peeling while larger offshore trawlers have onboard cooking and peeling machinery and thus, deliver a very advanced product. Therefore, the landed value of shrimp is variable and difficult to quantify. However, it was estimated that the landed value of shrimp on the Atlantic Coast of Canada was around \$13 million in 1979 and \$29 million in 1986. There are currently 15 plants handling or processing shrimp:

<u>Provinces</u>	<u>No. Plants</u>
New Brunswick	4
Quebec	8
Nova Scotia	2
Newfoundland	1

## Markets

Nearly half of the world's shrimp production is traded on international markets. In 1986, value was estimated at U.S. \$4.0 billion, thus making shrimp the world's most important seafood trade item, accounting for 20% of the world trade in seafood products.

FIGURE 17  
TAC Vs. Catch - GULF SHRIMP  
1980-1986



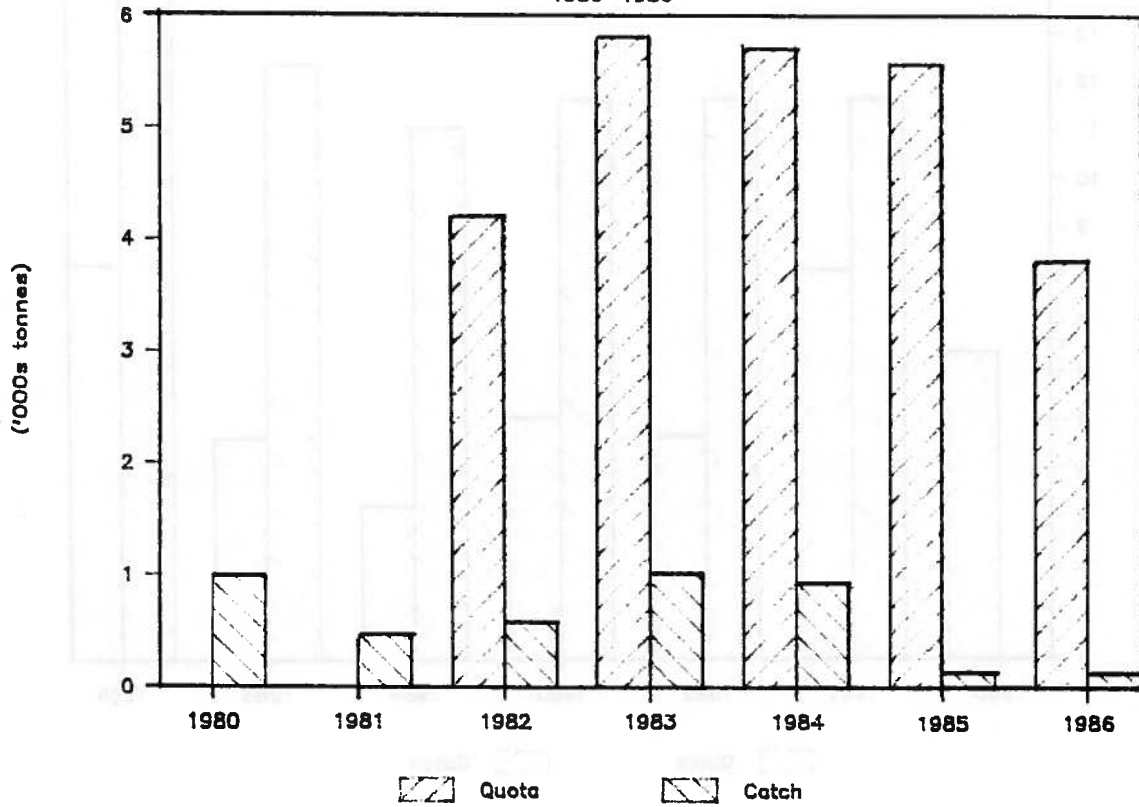
Comparison of TAC and Catch - GULF SHRIMP

Year	1980	1981	1982	1983	1984	1985	1986
TAC	0	0	12,900	15,300	16,300	14,500	12,100
Catch	7,559	7,971	8,537	8,972	7,513	8,770	9,527

FIGURE 18

TAC Vs. Catch -- SCOTIAN SHELF SHRIMP

1980-1986



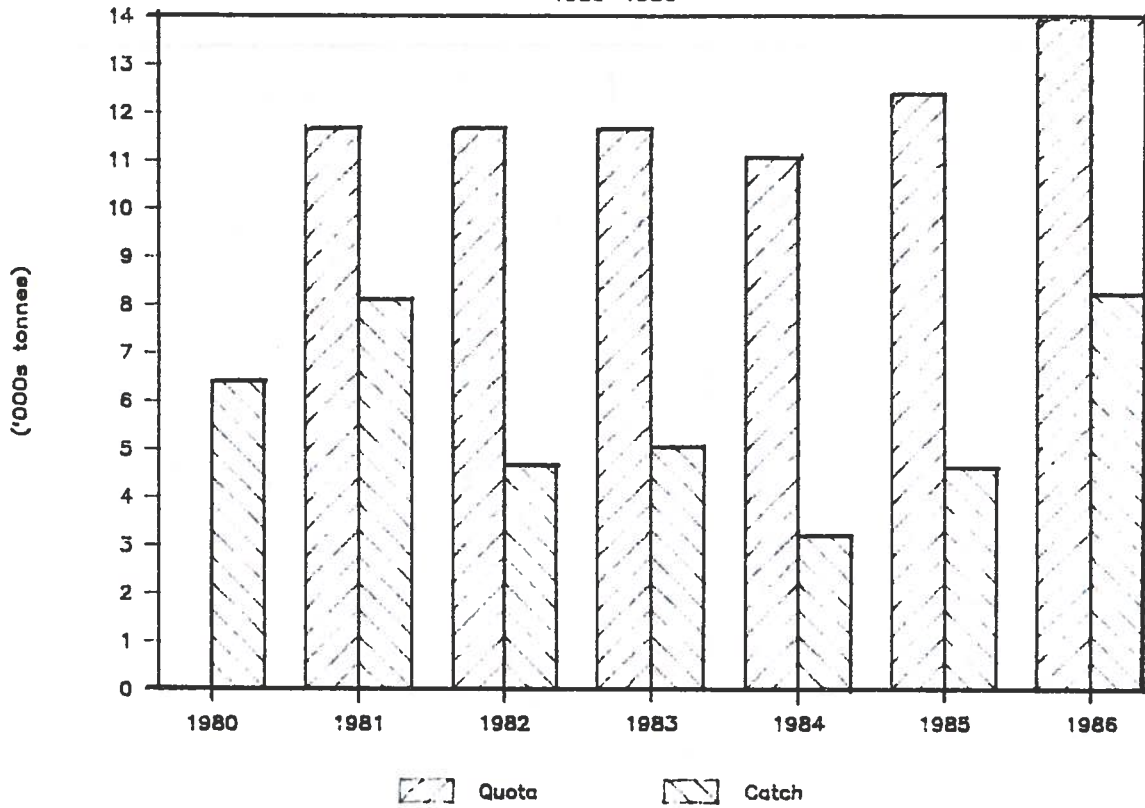
Comparison of Quota and Catch - SCOTIAN SHELF SHRIMP

Year	1980	1981	1982	1983	1984	1985	1986
TAC	0	0	4,200	5,800	5,700	5,560	3,800
Catch	984	454	569	1,010	928	133	126

FIGURE 19

TAC Vs. Catch - NORTHERN SHRIMP

1980--1986



Comparison of TAC and Catch - NORTHERN SHRIMP

Year	1980	1981	1982	1983	1984	1985	1986
TAC	0	11,650	11,650	11,650	11,050	12,390	13,920
Catch	6,394	8,095	4,657	5,044	3,195	4,615	8,202

However, Canadian shrimp accounts for only 5 per cent of the world market for shrimp. The three major markets for Canadian shrimp continue to be the United States, Japan and the EEC.

Overall, the value of shrimp exports has increased by 61 per cent in 1986 as compared to 1985 while sales volume has increased by 66 per cent. In 1986, there was a pronounced shift in terms of markets for Canadian exports: 30% to the United States, 48% to Europe, 13% to Japan, whereas in 1987, the shift in exports towards the U.S. market is similar to the 1985 trend. In that year, 66%, 16% and 13% of Canadian shrimp were exported to the United States, Europe and Japan respectively (Table 9).

The average prices paid to shrimp fishermen in the Gulf of St. Lawrence have increased significantly in 1986 and 1987 as shown below:

Average Shrimp Prices to Gulf of St. Lawrence Fishermen (\$/kg)

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986*</u>	<u>1987*</u>
Quebec	1.24	1.34	1.28	1.34	1.71	2.47
New Brunswick	1.04	1.28	1.37	1.25	1.65	1.54
Newfoundland	1.10	1.17	1.21	1.25	1.32	1.47

\* Preliminary

As for the average price of Canadian cooked and peeled shrimp on our major export market, the United States, it has steadily increased between 1984 and 1987.

<u>Year</u>	<u>Average Price - U.S.\$/lb.</u>
1983	4.50
1984	3.50
1985	3.55
1986	4.70
1987	5.45

The demand for shrimp in the U.S. is expected to rise by 5-10% annually through 1990.

TABLE 9

CANADIAN EXPORTS OF FRESH/FROZEN SHRIMP & PRAWN\*

	1985		1986	
	Q	V	Q	V
U.K.	131	734	455	2,090
Belguim	0	0	11	34
Denmark	120	346	1,111	4,106
France	12	129	56	385
F.R.G.	70	1,031	227	1,278
Norway	0	0	0	0
Sweden	33	242	86	822
Switzerland	74	720	210	2,594
Hong Kong	74	604	49	633
Japan	350	1,087	517	1,941
U.S.A.	1,794	14,045	1,742	16,793
Other	49	289	26	276
<b>Total</b>	<b>2,707</b>	<b>19,227</b>	<b>4,490</b>	<b>30,952</b>

\* Quantity (Q) in tonnes, Value (V) in thousand dollars

**OFFSHORE CLAM**

## OFFSHORE CLAM

### The Fishery

Although the American offshore clam industry has undergone major developments in the last twenty years, the Canadian industry has not followed the same expansion. A quahaug fishery operation was established in 1970 in Port Medway, Nova Scotia. Only one company participated in the fishery and the production was exported exclusively to the United States. Production consisted of live and frozen quahaugs for the half-shell trade, while larger clams were shucked, minced and shipped frozen for use in the canned chowder and stuffed clam market. The company reported landings of 907t and 1,361t for 1970 and 1971 respectively. Operations ended abruptly in 1971.

In 1979, less than 0.5t of offshore clams were landed in Nova Scotia and New Brunswick, while a small fishery in Prince Edward Island landed 32 t. In 1980, catches increased to 8t in Nova Scotia, 1t in New Brunswick and 84t in Prince Edward Island. Generally, the catches recorded from Nova Scotia and New Brunswick represented landings for domestic consumption only. However, in 1982, two vessels were actively involved in a commercial fishery and landed 77t, which was canned for the Maritime markets.

Gaining consumer acceptance of Stimpson's surf clams has played a major role in the development of this fishery. But in recent years, an overall increase in the consumption of clams coupled with a decline in the availability of traditional species made it possible to develop a Stimpson's surf clams fishery in the Maritimes. Consequently, a major survey was initiated to determine the distribution and abundance of ocean quahaugs, surf clams and other underutilized shellfish resources on the Scotian Shelf. Between 1980 and 1983, 12 major banks were surveyed to determine the size of stock biomass and the level of stock stability.

Based on biological and economic advice, DFO authorized several companies in 1985 and 1986 to begin an experimental offshore clam fishery. As results were encouraging, DFO and the industry developed, in 1987, an offshore fishery program. Participation was restricted to three companies and harvesting of the resource was subject to annual total allowable catches (TACs) and Enterprise Allocations (EAs). The EA Program which restricts each company to a portion of the TAC, was put in place for three years, after which it will be reviewed by DFO and industry. A strong consensus exists that this new fishery should be developed in an orderly and prudent manner to avoid over exploitation and to ensure economic viability.

### Resource Management

Specifically, the 1987 Offshore Clam Management Plan involves the following points:

1. A Total Allowable Catch (TAC) of 30,000 t for Stimpson's surf clams on Banquereau Bank.
2. Each enterprise will receive an allocation of 15,000 t.
3. An additional 15,000 t of Stimpson's surf clams and 10,000 t of ocean quahaugs per year for three years outside the Banquereau Bank area has also been identified for harvesting. Two firms will receive equal allocations (5,000t of Stimpson's surf clams and 3,300 t of ocean quahaugs) for three years. One firm will participate in the experimental fishery for one year.
4. A TAC will be established annually for offshore clam and quahaug stocks in Divisions 4V, 4W and 4X and will be based on the best biological advice available at the time. the annual TAC advice will be reviewed by the Offshore Clam Advisory Committee prior to the start of the fishing year.

5. The TAC for the offshore clam fishery will be established annually for a fishing year beginning on January 1 and ending December 31.
6. The harvesting of offshore clams will undoubtedly result in the landing of other species (by-catches). Unrestricted by-catches of propeller clams are permitted.

#### Offshore Clam Fishery Profile

In September 1986, the Minister of Fisheries and Oceans announced that there was sufficient biomass to sustain a commercial Stimpson's surf clam fishery on the Banquereau Bank. The available quota was apportioned between two firms on the basis of enterprise allocations (EAs) for the period 1987 to 1989 inclusive. Furthermore, these firms along with a third, have been provided access to the area outside of Banquereau Bank to conduct an extended test fishery to assess resource potential for the purpose of commercialization.

Following the successful commercial development of this fishery, attention will be given to decisions regarding the entry of additional companies, possible expansion of fleet/primary processing infrastructure, construction and opening of secondary processing facilities and finalization of appropriate regulatory measures. Currently, insufficient economic data are available to permit reliable projections on possible employment levels, fleet characteristics and a general socioeconomic profile of the fishery.

In the summer of 1987, one firm participated in the offshore clam fishery. Some clams were processed at sea, some were shipped to the United States, subject to DFO's fishery inspection regulations; some were processed in southwestern Nova Scotia and some were packaged at Auld's Cove, Nova Scotia, in the latter part of 1987. In June 1987, one enterprise announced plans to renovate a fish processing plant in Auld's Cove. With new equipment the plant would have the capacity to

process many types of clam products and create 40 to 50 additional jobs. The enterprise also announced plans to construct a new plant in Park Point, Nova Scotia.

Offshore clams are fished by large hydraulic dredges approximately 3.8m wide that are towed by a vessel. (One or two dredges may be used per vessel depending on the size and type of vessel.) The catch is delivered live to the appropriate plant where it is shucked, cleaned and processed into frozen and canned products such as chopped or whole meat, chowder, juices and sauces.

### Market

The taste and colour of Stimpson's surf clams are distinct from other clam species purchased in international markets. Market opportunities for offshore clams have been identified in Japan and the United States. Security and expansion of markets will be essential if the offshore clam fishery is to support an economically viable industry. Analysis of pertinent economic data following the completion of the three-year EA Program will help determine if adequate and secure markets for Stimpson's surf clams can be established over time.

**OTHER SHELLFISH FISHERIES**

## SOFT SHELL CLAM

Although the clam resources in the Maritimes have been commercially exploited since the turn of the century, the harvesting methods have not changed much. Fishermen armed with a clam hoe or hack and containers follow the receding tide to dig clams. However, the use of hydraulic or mechanical devices has become more common in some areas.

Clam landings in the Maritimes reached their peak in 1950 when 10,525t were harvested. Subsequently, landings dropped dramatically to 555t in 1963. This decline in landings is attributed to overfishing as well as natural predation by the green crab. Catches then rose steadily and reached 4,404t by 1971. This was followed by another brief decline in 1975 when catches dropped to 1,683t. In the 1980s, clam landings have continued to increase steadily (Table 10)

The management planning process for the clam fishery is less structured and regimented than it is for other fisheries. Widespread access to the many open clam beds makes it difficult to introduce a comprehensive management regime.

Furthermore, data on recruitment patterns and stock levels on the soft shell clam species remain incomplete. Thus, there is no precise information currently available to determine optimal levels of fishing effort or proper harvesting seasons. Nevertheless, overall fishing effort has increased in recent years and clam yields per individual have declined.

To ensure conservation and protection of this resource, DFO is currently reviewing management options designed to control and monitor fishing effort in the clam fishery.

TABLE 10

LANDINGS AND VALUES SOFT-SHELL CLAMS  
 BY PROVINCE (1981-1986)  
 Quantity (Q) in m.t., Value (V) in \$,000

Province	1981		1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V
New Brunswick	1,607	834	2,658	1,474	1,689	1,298	2,896	2,677	3,651	3,824	3,921	4,710
P.E.I.	808	442	1,178	782	1,212	995	1,582	1,394	1,697	1,200	1,103	1,131
Quebec	155	56	2	1	-	-	328	255	737	472	884	660
Newfoundland	-	-	-	-	-	-	2	2	-	-	-	-
Nova Scotia	2,152	1,514	2,391	1,655	2,038	1,636	1,816	1,568	1,623	1,737	1,948	2,730
<b>TOTAL</b>	<b>4,722</b>	<b>2,846</b>	<b>6,229</b>	<b>3,911</b>	<b>4,939</b>	<b>3,929</b>	<b>6,624</b>	<b>5,896</b>	<b>7,708</b>	<b>7,233</b>	<b>7,856</b>	<b>9,231</b>

At present, the minimum size for harvesting soft-shell clams varies throughout the Maritimes, ranging from 3.8 to 5.1 cm. Techniques of harvesting are also regulated. Although regulations stipulate that no person shall fish for clams except with hand tools, there are provisions which allow for the use of mechanical devices. The use of such devices can be granted by the Minister only if the operation does not interfere with other methods of fishing. Fishermen who harvest clams hydraulically or mechanically are issued licences.

## SQUID

Before the 1970s, Canadian squid had been harvested for many years and used primarily as bait in fishing cod. It was considered essentially an inshore fishery that took place entirely in the Province of Newfoundland.

Records indicate some 90 tonnes were taken in 1910, dried and exported to China. In 1930, some 2,000 tonnes followed the same route after many lean years. From the 1950's onward, the largest proportion of squid was frozen (varying from 4,000 to 7,000 tonnes a year) and sold to fishermen for use as bait. Following the sudden drop in Japan's domestic supply of squid in 1976 and 1977, Canadian squid (*Illex*) began to evolve into an export-oriented food industry.

The short finned *Illex* has undoubtedly developed into a valuable fishery between 1975-1982. Nominal catches for NAFO Sub-areas 2,3 and 4, have increased from 5,000 metric tonnes for the early part of the seventies to close to 100,000 metric tonnes in 1978. This rapid increase in catch by both foreign and domestic groups produced a "snowbal" effect in the number of full and part-time fishermen entering the fishery.

The squid fishery is largely centered in Newfoundland with a smaller activity taking place off the Nova Scotia shore. In Newfoundland squid is primarily caught inshore while in Nova Scotia it is primarily an offshore fishery. New Brunswick and Prince Edward Island fishermen are also eligible to participate in this activity.

Squid is seasonal in Canadian coastal waters. The resource is broadly distributed on the Grand Banks, the Scotian Shelf and inshore waters from late May/early June to November/December.

TABLE 11

CATCHES AND LANDED VALUE OF SQUID,  
BY PROVINCE, 1977-1986

Quantity (Q) in tonnes; value (V) in \$,000

Province	1977		1978		1979		1980		1981		1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q	V
Nova Scotia	8,790	1,869	17,722	7,359	25,397	10,549	759	138	669	245	1,148	378	3	2	1	1	9	6	66	36
New Brunswick	21	3	26	6	676	224	111	17	166	31	1	--	5	1	0	0	2	--	--	--
P.E.I.	0	0	1	--	513	234	0	0	1	--	0	0	--	--	--	--	--	--	--	--
Quebec	--	--	--	--	1	2	--	--	18	8	0	0	--	--	--	--	--	--	--	--
Newfoundland	29,733	3,256	44,058	8,104	86,069	19,328	33,978	3,284	17,464	2,504	1,160	2,103	5	1	397	127	399	115	1	--
TOTAL	38,544	5,128	61,807	15,469	112,656	30,337	34,848	3,439	18,318	2,788	12,309	2,481	13	4	398	128	410	121	67	36

The annual abundance of the resource is highly influence by environmental factors and the resource displays erratic annual variations in abundance. Only after the resource migrates to Canadian waters can an estimate of abundance be made for a given year. Squid has a short life cycle (12 to 18 months) and the relationship between stock and recruitment is uncertain, thus making quota management more complex and less adequate as a management technique.

The nature of the squid resource and the requirements of the current markets are such that an offshore squid fishery can only proceed if the squid is frozen on board. Quality considerations are paramount for successful marketing and the criteria include colour, texture, internal mantle stain formation and odor. Handling is the main determinant of quality, for inshore and offshore fishing operations as well as plant processing.

While Canadian dried squid found a market in China over 40 years ago, the large quantities handled by Canadian processors between 1975-1982 were generally exported in lightly processed frozen form in response to strong market preferences. Each year, Canadian exporters possess limited information about demand and the characteristics of the market. Because of the season of abundance of Canadian squid, they find themselves last in line to offer supplies to the Japanese market.

### Resource Management

The uncertainties that exist in the supply and demand projections for this fishery make management decisions more difficult. Sharing the resource among competing fleets when the characteristics of the resource are not well known make the problems of allocation that much harder.

Thus, given the current uncertainties about the degree of year-to-year fluctuations in resource abundance, the squid fishery continues to be managed on the basis of a Total Allowable Catch. For planning purposes, an allocation is set aside for the inshore fishery in line with recent levels of catch. To provide some degree of flexibility or expansion during the fishing season, an inshore reserve allocation is established.

Allocation (Metric Tons)

Country	YTD	CANADA	TOTAL
Bolivia	200	-	200
Chile	2,250	2,000	4,250
ECU	-	2,000	2,000
Japan	2,250	14,750	17,000
Peru	1,000	-	1,000
Portugal	200	-	200
Romania	200	-	200
Soviet	2,250	-	2,250
USA	2,000	-	2,000
TOTAL	11,700	24,750	41,000

Domestic Allocation :

Canada	24,750
USA	2,000
Japan	17,000
Other	7,250
<b>TOTAL</b>	<b>51,000</b>

Fishing season 1 January 1 - March 31  
Minimum catch size of other level : 50 mm

TABLE 12

MANAGEMENT OF SQUID - 1987

TAC 150,000 m.t.

Foreign Allocations :

Country	NAFO	Allocations (m.t.) CANADA	TOTAL
Bulgaria	500	-	500
Cuba	2,250	5,000	7,250
EEC	-	7,000	7,000
Japan	2,250	14,750	17,000
Poland	1,000	-	1,000
Portugal	500	-	500
Romania	500	-	500
Spain	2,250	-	2,250
USSR	5,000	-	5,000
TOTAL	14,250	26,750	41,000

Domestic Allocations :

Offshore	10,000
Inshore - Quebec/Maritimes	10,000
Inshore - Newfoundland	55,000
Reserve	34,000
	<u>109,000</u>

Fishing season : January 1 - March 31

Minimum mesh size of other trawl : 60 mm.

## WHELK

The whelk fishery is currently being developed in the Atlantic Provinces. Positive results of surveys and consultations carried out with fishermen associations and producers led to the establishment of whelk management plans in three Regions: Quebec, Gulf and Newfoundland. The objectives of these plans are the conservation of the whelk stocks and an allocation of the resource based on equity between coastal communities.

The whelk fishery is identified as an inshore fishery restricted to fishing vessels less than 15.2 m in overall length. Furthermore, it is considered a complementary fishery providing an additional income to other fisheries.

<u>Fishing Area</u>	<u>Season</u>	<u>No. of traps</u>
14 (Western Nld. & Southern Lab.)	April.1 - Dec.31	50
1-11 (Newfoundland)	May.1 - Dec.31	50
1-15 (Quebec)	Jan.1 - Dec.31	100*

\*Whelk licensees that were allowed to use more than 100 traps in 1986 kept this privilege in 1987.

**MANAGEMENT PLANS BY SPECIES**

**1987 LOBSTER MANAGEMENT PLAN  
NEWFOUNDLAND REGION**

## MANAGEMENT PRINCIPLES

1. To protect and conserve the lobster stocks.
2. To provide access to the resource where possible, subject to the constraints imposed by 1.

## MANAGEMENT AREAS

The lobster fishery will be managed by zones as outlined in the Atlantic Fishery Regulations. Eleven zones are identified in these regulations:

Lobster Fishing Area 1	Cape Chidley to Cape Rouge
Area 2	Cape Rouge to Cape Charles
Area 3	Cape Charles to Cape John
Area 4	Cape John to Cape Freels
Area 5	Cape Freels to Cape Bonavista
Area 6	Cape Bonavista to Grates Cove
Area 7	Grates Cove to Cape St. Francis
Area 8	Cape St. Francis to Cape Race
Area 9	Cape Race to Cape St. Mary's
Area 10	Cape St. Mary's to Point Crewe
Area 11	Point Crewe to Cinq Cerf Bay

## LICENCING POLICY

New lobster licences are available to fishermen who have been classified as full-time for at least the past three consecutive years and who hold a groundfish licence and are head of an enterprise. New licences are available for lobster fishing areas 3,6,7,8 and 9 only. Fishermen will be licenced to use a maximum of 100 traps under these new licences.

No new licences are available for lobster fishing areas 4, 5, 10 and 11.

There has never been a lobster fishery in areas 1 and 2.

## TRAP LIMITS

Except for new licences where fishermen will be restricted to using a maximum of 100 traps all other licenced fishermen will be restricted to using the amount of gear specified on their licence in the previous year. However, all full-time fishermen will be licenced for a minimum of 100 traps.

The number of lobster licences issued by area for 1986 is as follows:

<u>Area</u>	<u>Full-time</u>	<u>Part-time</u>	<u>Total</u>
1	-	-	-
2	3	1	4
3	112	2	114
4	977	203	1180
5	293	58	351
6	256	39	295
7	212	27	239
8	74	3	77
9	60	12	72
10	409	42	451
11	<u>333</u>	<u>49</u>	<u>382</u>
Total	2729	436	3165

### TRANSFER OF LICENCE

Lobster licences can be transferred under the following conditions:

- a) the recipient must be a resident of the area for which the licence is valid.
- b) the recipient must be a full-time inshore fisherman and have participated as such for the past three consecutive years.
- c) the recipient cannot be the registered owner or leasee of a vessel greater than 34'11", 10 gross tons or hold a supplementary crab licence.

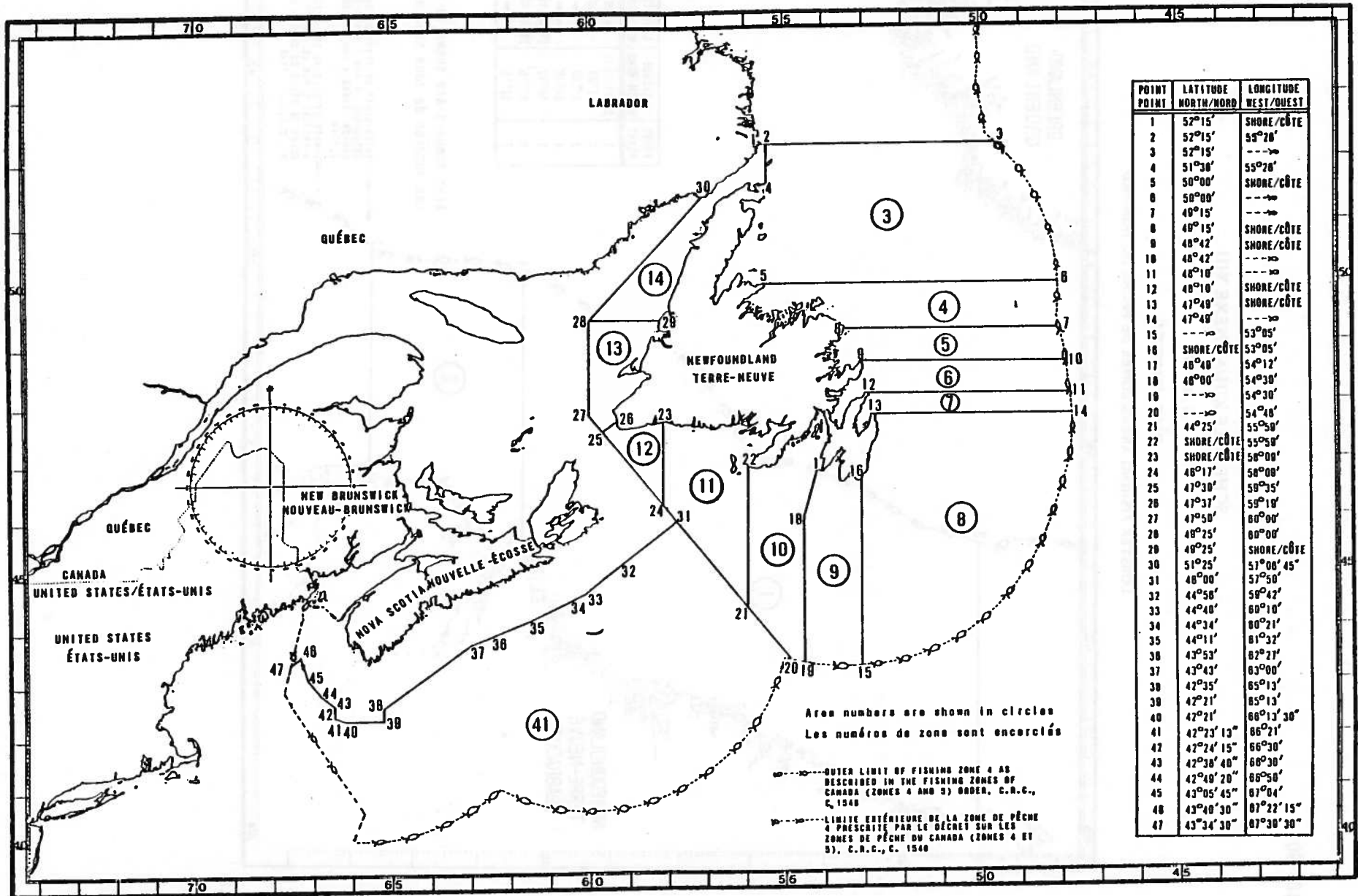
### SEASON

The open season for the lobster fishery is as follows:

<u>Area</u>	<u>Season</u>
1-8	April 20 - July 15
9-11	April 20 - June 30.

## PART II/PARTIE II

## LOBSTER FISHING AREAS/ZONES DE PÊCHE DU HOMARD

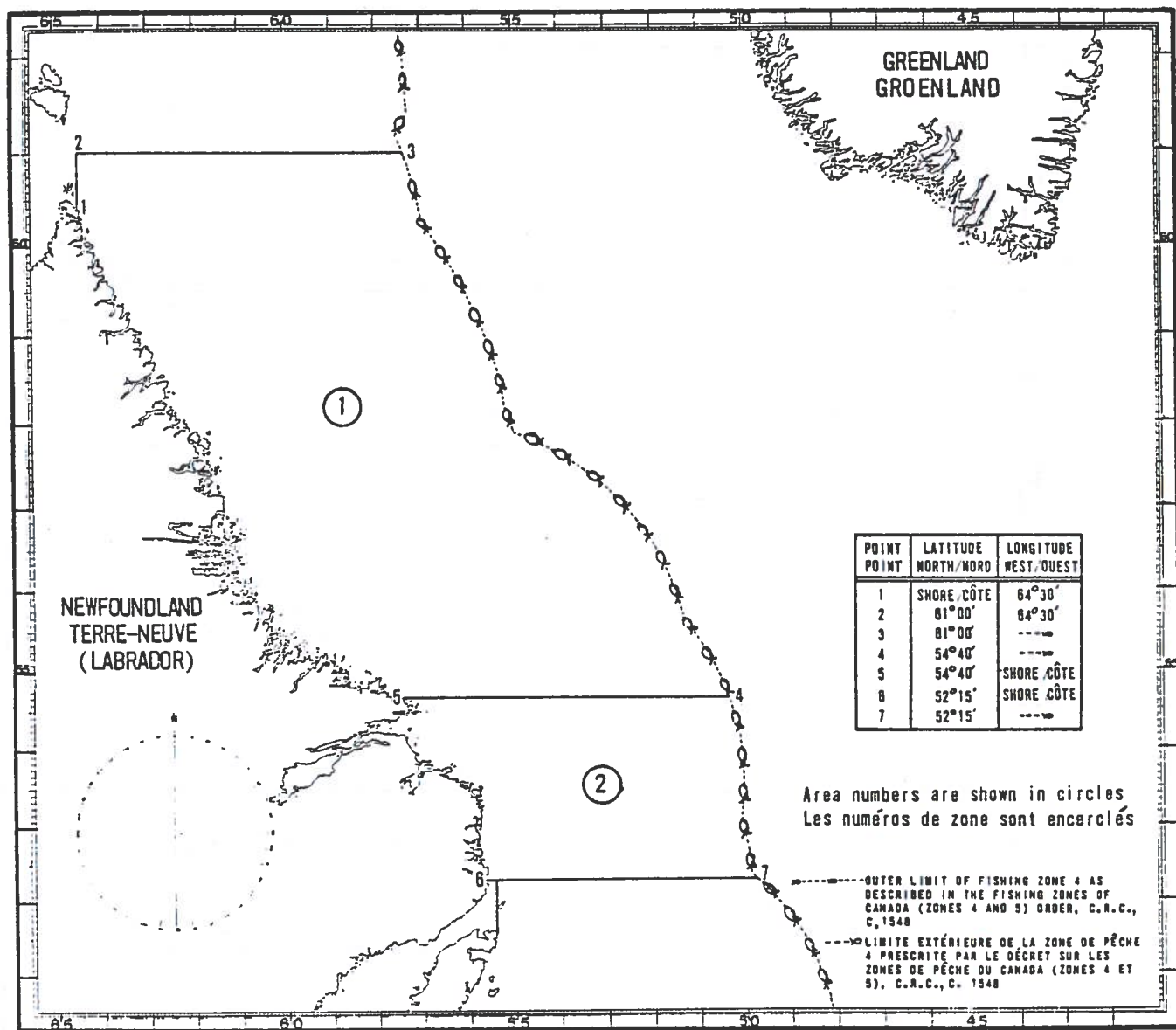


## SCHEDULE XIII/ANNEXE XIII

(s./art. 2)

## PART I/PARTIE I

## LOBSTER FISHING AREAS/ZONES DE PÊCHE DU HOMARD



1987 LOBSTER MANAGEMENT PLAN IN AREAS  
15, 16, 17, 18, 19, 20, 21 AND 22

DEPARTMENT OF FISHERIES AND OCEANS  
QUEBEC REGION

Summary of management plan

This management plan results from consultations with fishermen associations and producers involved in the lobster fishery. The objectives of this plan are the conservation of the lobster stocks and an allocation of the resource based on equity between coastal communities of the province of Quebec.

The waters administered by the Quebec Region are subdivided in 8 lobster fishing areas, as described in the Atlantic Fishery Regulations. Furthermore, in 1987, areas 18, 19 and 20 have been subdivided in subareas where a restricted number of licenses shall be used.

The lobster fishery will be restricted to inshore fishing vessels smaller than 50 feet (15.2 m) LOA.

The maximum number of traps allowed along the Lower North Shore (areas 15 and 16) will be 150 while it will be 250 traps along the Upper and Middle North Shore (area 18) and Gaspé peninsula (areas 19, 20 and 21). Fishermen will be authorized to use 300 traps around Anticosti Island (area 17) and Magdalen Islands (area 22).

The number of regular licenses in each area will remain the same as in 1986. However, along the Upper and Middle North Shore (area 18) and the northern shore of Gaspé peninsula (subarea 19A), exploratory licenses will be issued in order to assess the commercial potential of some fishing grounds presently non-exploited. Management measures ruling the exploratory fishery in each of these subareas will be identical to those in effect for regular lobster licensees in the same fishing area (maximum number of traps, fishing season, etc.).

In the areas 15 and 16 and subarea 18F, a lobster licensee will be authorized to renew his lobster license in 1988 if he uses it in 1987 and catches at least 500 lb (227 kg) of lobster in 1986 or 1987. Catches during these two years will not be cumulative. Aiming at a better use of all licenses, this measure will allow some flexibility to fish other species.

On the Lower North Shore, in the area between Kegaska and Matchiatic Island (area 16), the fishing season will run from May 20th to July 31st 1987, while in the area from Matchiatic Island to Blanc-Sablon (area 15), the season will be opened from June 1st to August 12th 1987. The fishery around Anticosti Island (area 17) will be allowed between June 1st and August 8th 1987.

On the Upper and Middle North Shore (area 18), fishing will be permitted from May 20th to July 31st 1987.

In the Gaspé peninsula, three areas are defined with different fishing seasons. In the area between the east point of Ile d'Orleans and Cap Gaspe (area 19), the fishing season will be from May 13th to July 22nd 1987. The fishery, in the area between Cap Gaspe and the Riviere Bonaventure wharf (area 20), will start on April 27th and will end on July 4th 1987, while in the area enclosed between the Riviere Bonaventure wharf and Miguasha-West (area 21), the fishery will run from May 6th to July 15th 1987.

Finally, in the Magdalen Islands (area 22), the fishing season will open on May 11th and will close on July 11th 1987.

Opening and closing dates for the fishery could be postponed if exceptional climatic conditions delay the beginning of the fishery. Also, a lobster vessel or, in case of a mechanical failure, a vessel of equivalent length could be used by a licensee to set its lobster fishing gear after 5 h AM, local time, two days prior to the opening dates as set for each fishing area. Whenever a replacement vessel is needed to set the lobster traps on the fishing ground, fishermen are required to obtain the authorization from the DFO office of their district.

All traps used to fish lobster shall bear a tag delivered by the Department.

Detailed management plan

Basic principles

- i) Conservation of lobster stocks.
- ii) Access to all lobster stocks will be regulated by the following means:  
number of fishing licenses, areas, subareas, seasons, limited number of traps and boat sizes.
- iii) The lobster fishery being identified as an inshore fishery, the resource will be allocated on a basis of equity, taking into account adjacency to the communities, dependency of coastal communities and economic efficiency of the fishing fleet.
- iv) Opening and closing dates of the fishing seasons, could be postponed only if exceptional climatic conditions delay the beginning of the fishery.

1987 MANAGEMENT PLAN

The waters administered by the Quebec Region are subdivided in eight (8) lobster fishing areas, as described in the Atlantic Fishery Regulations. Furthermore, in 1987, areas 18, 19 and 20 have been subdivided in subareas where licenses shall be used in limited number. Each area has a determined number of fishermen, a maximum number of traps per fisherman and a fixed fishing season.

I LICENSING POLICY

- 1) The lobster fishery will be limited to inshore fishermen owning a boat less than 50 feet (15.2 m) LOA.
  
- 2) The maximum number of traps allowed in each fishing areas, in 1987, will be the following:

Areas 15 and 16: 150 traps

Areas 17 and 22: 300 traps

Areas 18, 19, 20 and 21: 250 traps

Current lobster licensees, in areas 15 and 16, that were allowed to use more than 150 traps in 1986, will keep this privilege in 1987 (grand-father clause).

- 3) The number of regular licenses in each fishing area will be the same as 1986.

The maximum number of licenses that can be issued in 1987, in each area, is identified in Appendix I.

- 4) Areas 18, 19 and 20 have been subdivided in subareas where licenses shall be used in a restricted number. Description of these subareas as well as the number of licenses that can be issued in each subarea are identified in Appendix II.
- 5) Access to subarea 18-G will be restricted to lobster fishermen based in area 16.
- 6) Non-renewed licenses in 1987, in subareas 20-B to 20-K included as area 21, will not be reissued. Only the renewal of licenses issued in 1986 will be allowed during 1987.

In subarea 20-A, an available license will be issued in 1987.

- 7) In areas 15 and 16 and subarea 18-F, a fisherman will be authorized to renew his lobster license in 1988 if he meets the two following conditions:
  - a) Utilization of his license in 1987; AND
  - b) Catch of at least 500 lb (227 kg) of lobster in 1986 or 1987. Catches during these two years will not be cumulative.

II EXPLORATORY FISHERY

Exploratory lobster fishing licenses will be issued in 1987 in the following subareas:

- 18-A: 1 license
- 18-B: 1 license
- 18-C: 1 license
- 18-D: 1 license
- 18-E: 1 license
- 19-A: 3 licenses

Management measures ruling the exploratory fishery in each of these subareas will be identical to those in effect for regular lobster licensees in the same fishing area (maximum number of traps, fishing season, etc.).

III FISHING SEASONS - 1987

- Area 15: June 1st to August 12th
- Area 16: May 20th to July 31st
- Area 17: June 1st to August 8th
- Area 18: May 20th to July 31st
- Area 19: May 13th to July 22th
- Area 20: April 27th to July 4th
- Area 21: May 6th to July 15th
- Area 22: May 11th to July 11th

IV REGULATORY MEASURES

- 1) According to section 103 of the Atlantic Fisheries Regulations, observers must be taken on board at the request of the Department.
- 2) A lobster licensee cannot fish this species outside the area specified on his license. Furthermore, a lobster licensee, in areas 18, 19 or 20, cannot fish lobster outside the subarea specified on his license.
- 3) A lobster licensee cannot use more traps than indicated on his license.
- 4) According to section 62 of the Atlantic Fisheries Regulations, no person shall fish with a lobster trap unless a valid tag green-1987 or orange-1987, delivered by the Department, is attached to the trap.
- 5) A lobster boat, or in case of a mechanical failure, a boat of equivalent length, could be used by a licensee to set its lobster fishing gear on a fishing ground after 5 h AM, local time, two days prior to the opening date, as fixed for each fishing area. Fishermen shall ask their district's DFO office an authorization when a replacement boat is needed to set their lobster traps on a fishing ground.

APPENDIX I

Maximum number of licenses that can be issued in each area in 1987

<u>Areas</u>	<u>Maximum number of licenses</u>
15	76
16	8
17	15
18 <sup>1</sup>	4 and 5E <sup>2</sup>
19 <sup>1</sup>	7 and 3E
20 <sup>1</sup>	203
21	14
22	325
	<hr/>
	Total
	652 regular licenses and 8 exploratory licenses

<sup>1</sup> Description of subareas and the number of licenses that can be issued in each subarea are identified in Appendix II.

<sup>2</sup> E = Exploratory license.

APPENDIX II

Description of subareas in areas 18, 19 and 20 and maximum number of licenses that can be issued in 1987.

Subarea	Description	Maximum number of licenses in 1987
18-A	From Tadoussac (Pointe-Rouge) to Pointe-des-Monts	1E <sup>1</sup>
	48°08'06"N                      69°42'03"O (Pointe-Rouge)	
	48°02'30"N                      69°35'30"O	
	48°27'00"N                      69°00'00"O	
	49°09'45"N                      67°11'00"O	
	49°19'00"N                      67°22'52"O (Pointe-des-Monts)	
18-B	From Pointe-des-Monts to Pointe-Jambon	1E
	49°19'00"N                      67°22'52"O (Pointe-des-Monts)	
	49°09'45"N                      67°11'00"O	
	49°32'20"N                      66°00'00"O	
	49°55'12"N                      66°57'48"O (Pointe-Jambon)	
18-C	From Pointe-Jambon to Cap-du-Cormoran	1E
	49°55'12"N                      66°57'48"O (Pointe-Jambon)	
	49°32'20"N                      66°00'00"O	
	49°46'30"N                      65°15'00"O	
	50°16'30"N                      65°32'45"O (Cap-du-Cormoran)	
18-D	From Cap-du-Cormoran to Rivière St-Jean	1E
	50°16'30"N                      65°32'45"O (Cap-du-Cormoran)	
	49°46'30"N                      65°15'00"O	
	49°51'30"N                      65°00'00"O	
	50°06'30"N                      64°20'30"O	
	50°17'00"N                      64°20'30"O (Rivière St-Jean)	
18-E	From Rivière St-Jean to Rivière de la Corneille	1E
	50°17'00"N                      64°20'30"O (Rivière St-Jean)	
	50°06'30"N                      64°20'30"O	
	49°58'50"N                      62°54'00"O	
	50°17'00"N                      62°54'00"O (Rivière de la Corneille)	

<sup>1</sup>E= Exploratory license

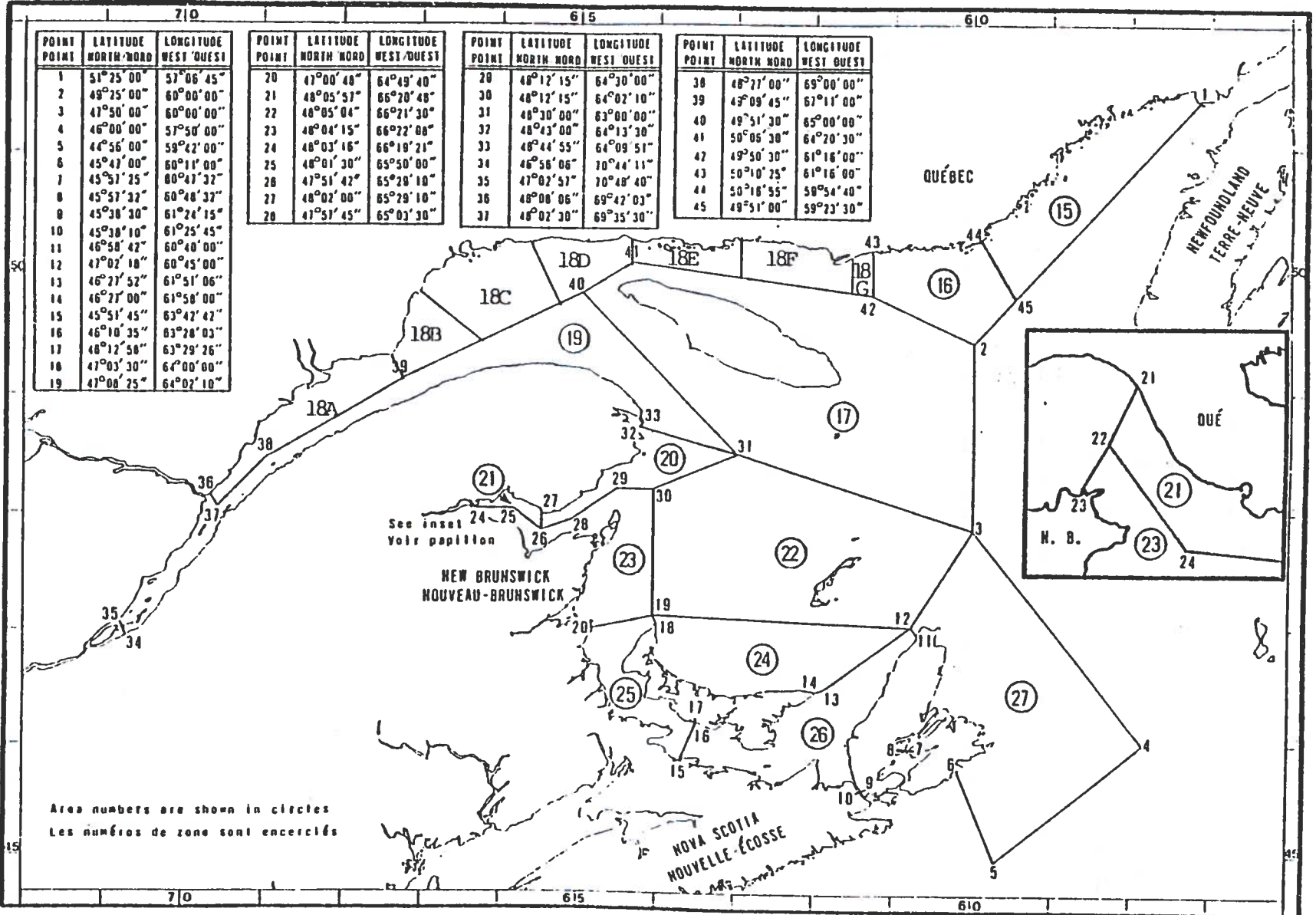
APPENDIX II (continued)

Subarea	Description	Maximum number of licenses in 1987
18-F	From Rivière de la Corneille to Rivière de l'Étang (at half distance between Natashquan and Kegaska)	4
	50°17'00"N                      62°54'00"O (Rivière de la Corneille)	
	49°58'50"N                      62°54'00"O	
	49°51'55"N                      61°31'42"O	
	50°08'30"N                      61°31'42"O (Rivière de l'Étang)	
18-G	From Rivière de l'Étang to Kegaska Point	0
	50°08'30"N                      61°31'42"O (Rivière de l'Étang)	
	49°51'55"N                      61°31'42"O	
	49°50'30"N                      61°16'00"O	
	50°10'25"N                      61°16'00"O (Kegaska Point)	
Access for this subarea will be restricted only to lobster fishermen based in area 16		
19-A	From the east point of Ile d'Orléans to Cap Blanc	3E
19-B	From Cap Blanc to Cap Nord-Est	3
19-C	From Cap Nord-Est to Cap Gaspé	4
20-A	From Cap Gaspé to the museum point of Gaspé	4
20-B	From the museum point of Gaspé to rivière Barachois	29
20-C	From rivière Barachois to Perce Rock's Needle	8

APPENDIX II (continued)

Subarea	Description	Maximum number of licenses in 1987
20-D	From Perce Rock's Needle to Bilodeau Road	8
20-E	From Bilodeau Road to the Anse-à-Beaufils wharf	8
20-F	From Anse-à-Beaufils wharf to Legriec brook	8
20-G	From Legriec brook to the Ste-Thérèse wharf	5
20-H	From the Ste-Thérèse wharf to the western boundary of Ste-Thérèse	6
20-I	From the eastern boundary of Grande-Rivière to the Ste-Adélaïde bridge	24
20-J	From the Ste-Adélaïde bridge to the Chandler bridge	9
20-K	From the Chandler bridge to the Bonaventure wharf	94

PART III/PARTIE III  
 FURBER FISHING AREAS/ZONES DE PÊCHE DU HOSIARD



LOBSTER MANAGEMENT PLAN

GULF REGION

1987

## MANAGEMENT PRINCIPLES

1. Conservation of the lobster resource.
2. Access to fishery will be regulated by seasons, trap limits and licences.
3. Promote priority access to the resource by full-time (W. Nfld) and bonafide (Southern Gulf) fishermen.

## LICENSING

### General

1. No new or additional licences will be issued in 1987.
2. Only those persons who held licences in 1986 will be issued licences in 1987.
3. Transfer of licences must be consistent with the current licensing policy for the lobster fisheries in the Gulf Region.

### Management Measures

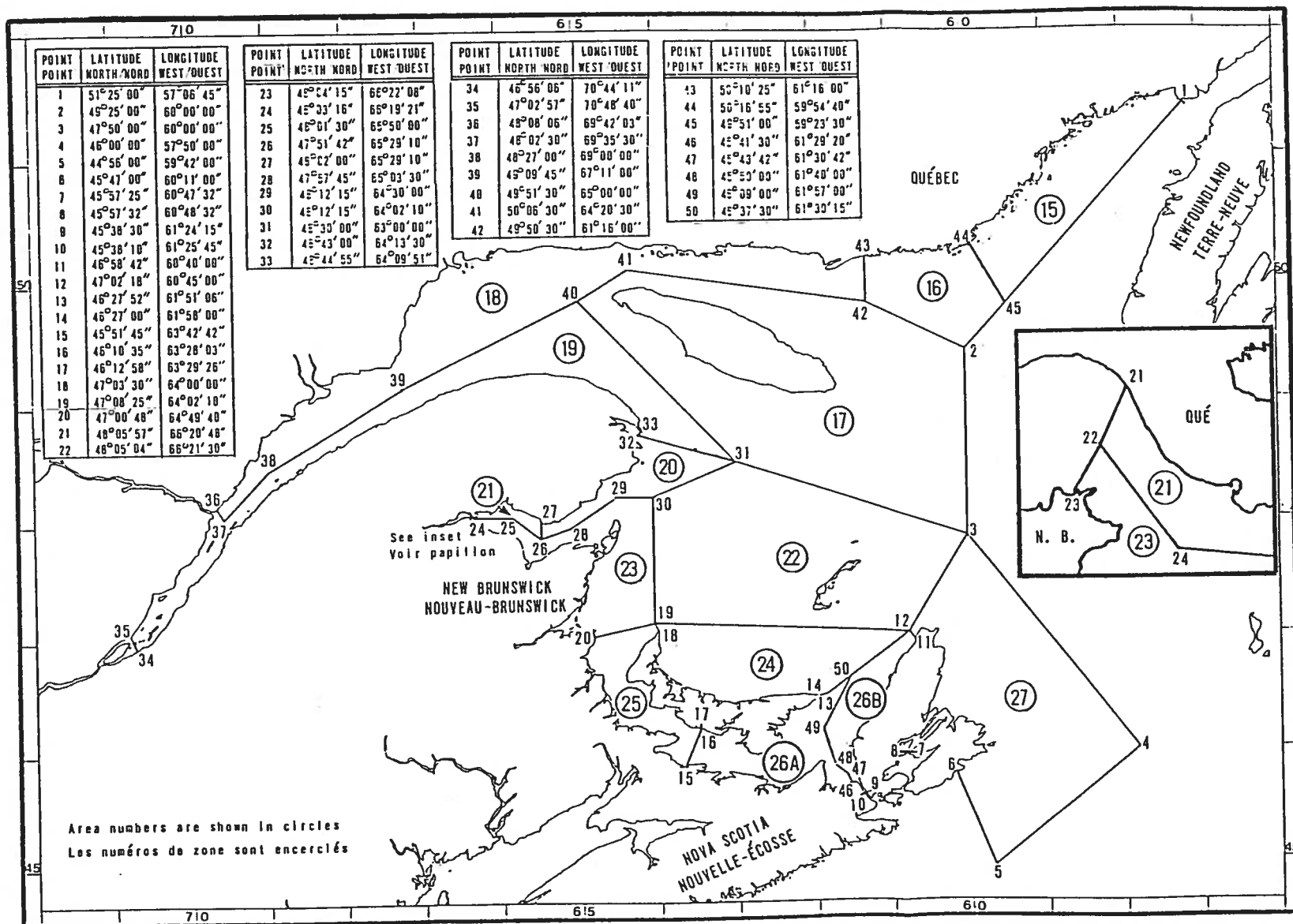
1. Minimum lobster carapace size restrictions specific to each fishing area will be in effect.
2. Possession of berried female lobster will be prohibited in all areas.
3. Lobster trap escape vents will be mandatory in all lobster fishing areas.
4. Regulation amendments will be instituted in support of a four year pilot project to gradually increase the minimum legal carapace size of lobster in a portion of Area 26 (Capc Breton).
5. As an interim measure, conditions of licence will be used to subdivide lobster fishing Areas 13 and 14 pending the adoption of regulation amendments.

<u>AREA</u>	<u>SEASON TIME / DATE</u>	<u>NO. OF TRAPS CATEGORY OF LICENCE</u>		<u>MINIMUM CARAPACE SIZE (M.M.)</u>
		<u>A/FULL-TIME</u>	<u>B/PART-TIME</u>	
12	0001 hrs Apr. 20 to 2400 hrs July 05	150	50	81.0
13(a)	0001 hrs Apr. 20 to 2400 hrs July 05	200	100	81.0
13(b)	0001 hrs Apr. 20 to 2400 hrs July 05	300	100	81.0
14(a)	0001 hrs May 05 to 2400 hrs July 10	400	100	81.0
14(b)	0001 hrs May 05 to 2400 hrs July 10	600	100	81.0
14(e)	0001 hrs May 05 to 2400 hrs July 10	400	100	81.0
23	0600 hrs Apr. 30 to 2400 hrs June 30	375	113	63.5
24	0600 hrs May 09 to 2400 hrs July 04	300	90	63.5
25	0600 hrs Aug. 06 to 2400 hrs Oct. 07	250	75	63.5
26A	0600 hrs May 09 to 2400 hrs July 04	300	90	63.5
26B	0600 hrs May 09 to 2400 hrs July 04	300	90	65.0

AREA                      DESCRIPTION (by condition of licence)

13(a)	Cape Ray to Cape St. George
13(b)	Cape St. George to Cape St. Gregory
14(a)	Cape St. Gregory to Point Riche
14(b)	Point Riche to West Point
14(e)	West Point to Cape Bauld

PART III/PARTIE III  
LOBSTER FISHING AREAS/ZONES DE PÊCHE DU HOMARD



**1987 INSHORE LOBSTER FISHERY MANAGEMENT PLAN**  
**SCOTIA-FUNDY REGION**

# 1987 Inshore Lobster Fishery Management Plan

## Table of Contents

<u>Section</u>	<u>Page</u>
1. 1987 Inshore Lobster Management Plan Objectives.....	1
2. 1987 Inshore Lobster Management, Measures.....	2
3. Historical Overview .....	4
4. Fishery Profile .....	5
5. Summary of Current Issues .....	7
6. Consultative Process .....	9
7. Licensing Policy .....	10

### Appendices

- I Current Scotia-Fundy Regional Lobster Advisory Committee (SFRLAC) Membership
- II Current Inshore Lobster Advisory Committee (ILAC) Memberships
- III Data on the Canadian Lobster Fishery
- IV Inshore Lobster Fishery Map



**Table I: Lobster Trap Limits - 1987**  
 (Maximum number of lobster traps that may be fished by a licence)

<u>LFA</u>	<u>Category A</u>	<u>Category B</u>	<u>Partnership</u>
27	275	83	413
28	250	75	375
29	275	83	413
30	275	83	413
31	250	75	375
32	250	75	375
33	250	75	375
34	375	113	563
35	300	90	450
36	375	113	563
38	300	90	450

**Table II: Lobster Fishing Area Close Times - 1987**

<u>LFA</u>	<u>Close Time</u>	<u>Minimum Lobster Length</u>
27	July 16 to 0500 h May 15	70 mm
28	July 10 to 0500 h May 9	81 mm
29	July 1 to 0500 h April 30	81 mm
30	July 21 to 0500 h May 19	81 mm
31	June 21 to 0600 h April 19	81 mm
32	June 21 to 0600 h April 19	81 mm
33	June 1 to 0700 h on the Last Monday in November	81 mm
34	June 1 to 0700 h on the Last Monday in November	81 mm
35	January 1 to 0800 h on the Last Day of February/August 1 to 0800 h October 14	81 mm
36	January 15 to 0800 h March 31/June 30 to 0800 h on the Second Tuesday in November	81 mm
38	Fourth Friday in June to 0800 h on Second Tuesday in November	81 mm

## HISTORICAL OVERVIEW

The harvesting of inshore lobster stocks can be traced back to the mid-1600's when North American Indians caught the species by hand. This primitive method of harvesting was displaced by spears and hooks in the eighteenth century. By the mid-eighteenth century, lobsters were landed in traps; this harvesting strategy culminated with the development of the parlour trap in the early 1900's. Throughout the twentieth century, the inshore lobster fishery has been marked by the introduction of various technologies, such as gas-powered boats, trap haulers and, in the post-World War II period, the use of electronic equipment (echo sounders, radio, loran and radar).

Up to the mid-1800's, lobsters were consumed locally; export markets were nominal. In 1884, the first lobster cannery in Canada was constructed in New Brunswick. The widespread processing of lobster in the Maritime provinces had begun. By 1851, five small canneries were operating in western Nova Scotia, the first large cannery was constructed in 1869. By 1900, over 760 canneries were active in the region, with most canned products being shipped to the United Kingdom. The cannery industry was a major catalyst for local economic growth. During the 1880's, markets for live lobsters in the United States were developed and secured. The shift away from processed to live lobsters, and corresponding contractions in the British market, led to the decline of the cannery industry. The international market for live lobsters has remained strong since World War II. More recently, Canadian companies have gained access to the lucrative live lobster markets in Europe.

The inshore lobster fishery has been highly regulated throughout its long history. Regulations have been used to preserve a heavily exploited species though most of the early regulations were based on market requirements and considerations and not on biological concerns. The first regulatory regime was introduced in 1873 when restrictions were placed on soft shell lobsters, berried females and lobster sizes. In 1879, closed seasons were enforced in the Bay of Fundy region, resulting in the creation of a part-time fishery. A minimum carapace size was set in 1934. Up to the late 1940's, enforcement of various regulatory measures was sporadic and inconsistent.

The inshore lobster industry has been plagued by cyclical fluctuations coming from weak year-classes, variations in catch rates and strong competition among fishermen. As a result of these factors, the industry has been exposed to frequent instability. In an effort to curb fishing capacity and infuse the industry with more stability, the Department of Fisheries and Oceans introduced several regulatory measures. Trap limits per vessel were introduced in 1968 and limited entry in 1967. Between 1978 and 1981, a government-funded buy-back program resulted in the retirement of 1,406 licences in Nova Scotia, and about 170 licences in Southwest New Brunswick. Between 1981 and 1986, substantial increases in lobster landings and prices occurred. Average catch per vessel and value of catch per vessel have increased as well.

**FISHERY PROFILE**

The inshore lobster waters in the Scotia-Fundy Region are divided into 11 Lobster Fishing Areas (LFA's). The area locations and number of licences follow.

LFA	Area	Issued Licences 1986
27	Eastern Cape Breton	465
28, 29, 30	Southern Cape Breton	91
31, 32	Halifax to Western Chedabucto Bay	294
33	Cape Sable to Halifax	760
34	Digby to Cape Sable	943
35, 36, 38	Bay of Fundy	382
Total		2,935

In 1986, approximately 3,000 lobster vessels participated in the inshore fishery, employing approximately 6,500 fishermen directly. The gross earnings per licensed lobster fishermen averaged between \$10,000 to \$70,000, depending on the LFA the fisherman fished in; expenses such as fuel, bait, crew and depreciation would have brought average net earnings down to about \$5,000 to \$35,000. The induced employment effects of the inshore lobster fishery cannot be precisely quantified, but income earned by fishermen has a positive and noticeable impact on the economic vibrancy of many small communities in Nova Scotia and New Brunswick. Many fishermen are heavily dependent on revenues from the lobster fishery and, given the cyclical nature of lobster stocks, the industry, as a whole, is vulnerable to periods of economic instability. The following table highlights landings and values for the inshore lobster fishery from 1982 to 1986.

**Table III: Inshore Lobster Landings and Values for Scotia-Fundy Region, 1982 to 1986;**

(Quantity in tonnes; Value in thousands of dollars)

Year	Quantity	Value
1982	7,356	43,334
1983	8,337	57,183
1984	9,897	73,037
1985	8,868	85,182
1986	14,086	120,941
Average	9,709	75,935

Table IV: Landings and Values for LFA's - Scotia-Fundy Region - 1982-1986  
(Quantity (Q) in tonnes; Value (V) in thousands of dollars)

LFA	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
27	1,151	5,319	1,564	7,830	1,421	7,526	1,630	10,281	2,317	14,214
28	27	140	61	354	69	468	60	475	85	680
29/30	44	235	57	312	74	428	113	880	153	1,221
31	94	469	179	748	140	900	180	1,318	284	2,044
32	70	346	109	677	169	956	183	1,316	223	1,567
33	764	3,260	784	5,745	1,477	11,319	2,072	16,528	2,661	24,577
34	4,040	27,685	4,923	36,365	5,750	44,880	5,797	47,328	7,486	68,904
35	148	984	131	936	203	1,711	228	1,984	259	2,519
36	235	1,550	211	1,517	230	1,834	301	2,525	293	2,525
38	406	2,824	367	2,669	365	3,015	304	2,546	321	2,785
Total	6,979	42,812	8,386	57,153	9,898	73,037	10,868	85,181	14,082	121,036

On average, LFA 27 has accounted for 16.7 percent of landings between 1982 and 1986 and 12.1 percent of the catches value. LFA's 28, 29 and 30 landings and values for these years have accounted for less than 1 percent. Areas 31 and 32 have recorded about 5 percent of the landings and 3 percent of the catches value. Significantly, LFA 33 has landed, on average, 15 percent of the inshore lobster catch and has received 15 percent of the revenues. In the past five years, landings for LFA 34 have constituted 53.5 percent of the catch and 60.4 percent of total revenues. LFA's 35, 36 and 38 have landed 8 percent of the catch and have registered 9 percent of revenues on average.

Landings in LFA 27 have increased sharply since the late 1970's and in 1986 were the highest in the 110 years for which records are available. Exploitation rates are high; they are marked at 80 percent.

LFA's 28, 29 and 30 landings in recent years have registered a five-fold increase since 1980, though the catch is still well below three previous periods of high landings during this century. Exploitation rates, at 43 percent, are the lowest of any estimated for the Scotia-Fundy Region.

LFA's 31 and 32 have recorded a five-fold increase in landings as well. Exploitation rates are about 52 percent.

LFA 33 landings have recorded a ten-fold increase since 1980. Exploitations are high, approximately 75 percent. For LFA 34, landings have increased in 1986. Effort has increased and the exploitation rate is marked at 80 percent or higher.

Finally, landings in LFA's 35, 36 and 38 have increased from the low levels in 1975-1982 to levels approaching the highest since the turn of the century. The current exploitation rate is pegged at 70 percent.

### SUMMARY OF CURRENT ISSUES

Many current issues affecting the inshore lobster fishery are specific to one or several LFA's and some issues are regional in scope. The fragmentary nature of the inshore lobster fishery requires the use of eight separate LFA Advisory Committees to address outstanding concerns and issues. Still, several issues impact all LFA's in varying degrees. Among the more pertinent issues are:

#### 1. Conservation and Protection

Only recently have the inshore lobster stocks begun to recover from chronic overexploitation and unfavourable environmental factors. DFO and industry members in the LFA's recognize the need to develop and introduce a conservation and management regime that will protect this lucrative species. Among the options under review are the introduction of escape vents, carapace length increases and efforts to restrict the disruptive impact of "ghost fishing", by which lost or abandoned traps continue to capture lobsters. DFO stresses that these measures have the potential to protect developing year classes and juveniles from overexploitation. The use of fishing seasons, for example, is intended, in part, to protect lobsters while molting, mating and extruding eggs, to reduce exploitation rates, and to adjust for seasonal marketing problems. The individual advisory committees for the various lobster fishing areas will continue to give consideration to possible conservation strategies.

#### 2. Issuance of Additional Licences

Requests continue to be received by DFO for additional licences in other lobster areas in the Scotia-Fundy Region. Lobster fishermen do not support the requests for additional licences. Biological evidence indicates that increasing effort would not produce a sustainable increase in catch in the inshore fishery. Industry members emphasize, as well, that the inshore lobster fishery is vulnerable to unpredictable stock fluctuations, which have a direct impact on the industry's economic stability. Lobster fishermen do recognize the need to make provisions for reasonable opportunity and access to younger fishermen. DFO will review options that do not result in additional effort in the fishery and yet may achieve these objectives.

3. Enforcement and Regulations

Concern has been expressed by fishermen that in some cases trap limits are being exceeded and there is a high incidence of poaching. DFO stresses that it will continue to closely monitor, subject to available resources, fishing activity in the inshore lobster fishing areas. The introduction of two new patrol vessels in southwestern Nova Scotia to enforce the trap limit for the fall fishery will heighten DFO enforcement capabilities. Similar inshore patrol vessel increases are planned for eastern Nova Scotia in 1988. DFO emphasizes that lobster tag violations do substantial damage to current efforts to protect and conserve the species. If the lobster tag program continues to be abused, alternate conservation measures will have to be developed.

Some lobster fishermen indicate that the existing regulatory regime is burdensome (such as CFV numbers on buoys). Regulatory amendments have been introduced to the normal regulatory process. They are designed to improve the level of consistency in DFO's enforcement and regulatory efforts.

4. Georges Bank Drilling

Representatives from the offshore and inshore lobster fisheries do not support oil exploration or drilling on Georges Bank, as has been recently proposed by Texaco. Industry members have asked DFO to support the fishermen in resisting the oil exploration proposal for Georges Bank. DFO has supported the activities of the Gulf of Maine Advisory Committee (GOMAC) to act as a regional industry forum to provide advice to the Minister on such concerns as oil and gas development.

5. Economic Viability

Recent increases in landings and prices have infused the inshore lobster industry with a reasonable level of economic vibrancy. Fishermen acknowledge that the economic benefits coming from the fishery should be optimally distributed among fishermen. Fishermen recognize that any level of economic security is dependent on the availability of healthy lobster stocks. Prudent harvesting of the resource will help protect the stocks and continue to provide income and employment opportunities to the fishermen as well as those involved in supplying the lobster fishing industry.

## 6. Partnerships

Partnership allow two full-time fishermen to harvest the lobster resource jointly. Two lobster licence holders combine their resources to fish from one vessel with 50 percent more traps than normally permitted for a single licence holder. Some fishermen do not favour partnerships because they complicate the enforcement of regulations. DFO stresses that, given constitutional considerations, any restrictions on partnerships must apply equally to all lobster fishing areas. The practice of partnerships varies from area to area as does the level of support. To date, partnerships continue to be a permissible feature of the inshore fishery, though several lobster advisory committees intend to review their desirability.

## 7. Offshore Lobster Fishery

Inshore fishermen have registered concerns that the high capture rate of small lobsters is attributable, in part, to the harvesting of most large lobsters by the offshore lobster fleet. Fishermen argue that the status of the inshore stocks are closely tied to the offshore stocks. Biological advice does not fully support this view, though there may be a relationship between the inshore and offshore stocks. DFO advises that it will seek further biological input to determine the extent of the relationship and whether or not appropriate management and conservation strategies will have to be considered to minimize the offshore fishery's impact on the inshore.

## 8. Biological Input and Assessment

Though the biological data base for the inshore lobster stocks is limited, existing evidence suggests that the resource cannot tolerate large increases in effort. The current peak in some LFA's may not be sustainable and there is concern that a significant reduction in landings may occur if a brood stock which previously provided recruitment is now being harvested. DFO emphasizes the need to fully incorporate biological advice into conservation and management strategies.

## CONSULTATIVE PROCESS

The Lobster Fishing Area Advisory Committees (LFAAC), the Offshore Lobster Advisory Committee (OLAC) and the Scotia-Fundy Regional Lobster Advisory Committee (SFRLAC) serve as the primary vehicles through which management initiatives for the offshore and inshore lobster fisheries are deliberated and developed. These committees are supported by a working group of DFO officers who consolidate scientific, economic, marketing and other information into draft fishing plans for the Committees' consideration. Sub-committees and issue-specific working groups can be established to address various concerns.

The Advisory Committees' general tasks are to provide recommendations and advice on fishing plans and comment on Regional policy issues affecting the inshore and offshore lobster fisheries. The specific functions of these Advisory Committees are to improve communication among all sectors of the lobster fishery, to provide a forum for input into the management of the lobster fishery, to review management proposals, particularly their legalities and impact and to identify and review current issues and needs of fishermen. The use of conservation measures such as escape vents and increases in carapace length are examined by the LFA committees. Membership on these committees mirrors representation on SFRLAC. Fishermen elect or nominate, depending on the LFA, their representatives to the committees every two years.

A Bay of Fundy inshore lobster workshop held in January 1987, attended by government and industry representatives, resulted in the successful phasing out of LFA 37 and LFA 39. The existence of these areas had been contentious. Fishermen charged that these buffer zones resulted in unequal access to Bay of Fundy lobster stocks. As a result of the consultative process, new, single boundary lines were proposed and accepted by various fishermen's organizations. The removal of the buffer zones will reduce the number of fishing areas in the Bay of Fundy from six to four. The management planning process for these areas should become less complicated.

## LICENSING POLICY

### Categories of Lobster Licences

Fishermen participating in the inshore lobster fishery are subject to limited entry conditions and pertinent regulations. The owner of a lobster vessel may hold multiple licences in respect of that vessel (for example, lobster and scallops), subject to the licensing policies of the other limited fisheries.

There are two categories of lobster licences, Category A and Category B. Category A licences are issued to persons who depend on the fishery for their livelihood and who are not fully employed outside the primary industry or have any full-time seasonal employment unless he can establish that his gross annual earnings during the 12-month period immediately preceding his application for the licence does not exceed what he would have earned if paid the minimum wage for 12 months plus 25 percent during that period.

Category B licences are issued to persons who were engaged in the lobster fishery in 1968 and in each subsequent year as principal operators and who do not fulfill the employment criteria of a Category A licence. Changes between categories is not permitted nor is the transfer of lobster privileges between Lobster Fishing Areas. Licences are transferrable only within a lobster fishing district.

## Partnerships

Partnerships may be created where both parties have a Category A licence. Both partners must be present in the boat at the same time during fishing operations. The number of lobster traps that can be fished by the partnerships cannot be greater than the legal number of traps plus 50 percent of the allocated or designated number of that lobster district.

In the event of the death of a person within a partnership, the partnership would be dissolved with the surviving partner and the spouse of the deceased - each offered a Category "A" licence.

In the event of sickness or injury to one of the partners, the local Fishery Officer may issue a "Temporary Permit" authorizing the local operation of the vessel by one person (the other partner).

In the event of a lobster violation, conviction which results in a recommendation for suspension of fishing privileges, the following conditions should be made clear to eligible persons considering forming a partnership. Upon conviction under applicable fishery regulations, both partners will be considered fully liable and responsible since the vessel and both partners are considered as a single fishing effort unit.

All partnerships will be normally established for two years.

**INSHORE/OFFSHORE  
SCOTIA-FUNDY REGIONAL LOBSTER ADVISORY COMMITTEE**

<u>Name</u>	<u>Organization</u>	<u>Address</u>
<b><u>Department of Fisheries and Oceans</u></b>		
J.R. Angel (John) Chairman	DFO	Halifax
G.E. Jefferson (Glen)	DFO	Halifax
J. Nelson (Jim)	DFO	Halifax
P.E. Partington (Peter)	DFO	Yarmouth
F.H. Allen (Fred)	DFO	Sydney
Area Manager	DFO	St. Andrews
J. Pringle (John)	DFO	Halifax
<b><u>Provincial Governments</u></b>		
G. Roache (Greg)	N.S. Dept. Fisheries	Halifax
J.E. Henri Legare	N.B. Dept. Fisheries	Fredericton
<b><u>Fishermen's Associations</u></b>		
A. Billard (Allan)	Eastern Fishermen's Federation	Dartmouth
S. Siegel (Sandy)	Maritime Fishermen's Union	Yarmouth
<b><u>Processors</u></b>		
R.C. Stirling (Roger)	Seafood Producers of Nova Scotia	Dartmouth
K. d'Entremont (Kim)	N.B. Fish Packers Assoc.	Moncton
J. Fontain	U.M.F.	Moncton
D.G. Robinson (Doug)	Clearwater Fine Foods Inc.	Bedford
J. Bateman (Jim)	National Sea Products	Shediac
<b><u>Representatives from Lobster Fishing Area Advisory Committees</u></b>		
P.C. McPherson (Paul)	LFA 36	Lepreau
N.E. Morse (Neil)	LFA 38	Grand Manan
R. Collins (Reg)	LFA 35	Alma
L. Nickerson (Leighton)	LFA 34	Woods Harbour
J. Fralic (Joseph)	LFA 33	Brooklyn
R. Baker (Randy)	LFA 31 and 32	Head Jeddore
B. Middleton (Bernard)	LFA 28, 29 and 30	Rockdale
M.F. Whitty (Maurice)	LFA 27	Ingonish
G. Hamilton (Greg)	LFA 35	Canada Creek
<b><u>Representatives from Offshore Lobster Advisory Committee</u></b>		
B. Blades (Basil)	Sable Fish Packers	Southside
P. Blades (Paul)	Port La Tour Fisheries	Halifax
G. Roome (Graham)	C.W. MacLeod Fisheries	Port Mouton
C. Roache (Curtis)	Donna Rae Fisheries	Lockeport

## LOBSTER ADVISORY COMMITTEE - AREA 27

<u>Name</u>	<u>Organization</u>	<u>Address</u>
Harvey Timmins	Lobster Fisherman	Bras d'Or
Fred King	Lobster Fisherman	Glace Bay
Philip Samson	Lobster Fisherman	Glace Bay
Gordon MacLeod	Lobster Fisherman	Ingonish
Maurice Whitty	Lobster Fisherman	Ingonish Beach
Lloyd MacInnis	Lobster Fisherman	Breton Cove
Thomas Bray	Lobster Fisherman	Port Morien
Leonard Marsh	Lobster Fisherman	Alder Point
Donald McDougall	Lobster Fisherman	Main Dieu
Edgar Shepard	Lobster Fisherman	Gabarus
Ervine Longelle	Lobster Fisherman	Louisbourg
John MacKinnon	Lobster Fisherman	St. Margarets
Ralph Head	Lobster Fisherman	New Waterford
Greg Roach	N.S. Dept. Fisheries	Halifax
Glen Jefferson	DFO	Halifax
Fred Allen	DFO	Sydney
Jim Nelson	DFO	Halifax
Dr. Bob Miller	DFO	Halifax

## LOBSTER ADVISORY COMMITTEE - AREAS 28, 29 &amp; 30

<u>Name</u>	<u>Organization</u>	<u>Address</u>
John MacKillop	Lobster Fisherman	Grand River
Bernard Middleton	Lobster Fisherman	Rockdale
Huntley David	Lobster Fisherman	Petit de Grat
Velma Babin	Lobster Fisherman	West Arichat
John Kehoe	Lobster Fisherman	D'Escousse
George Carter	Lobster Fisherman	St. Peters
Neil Grant	Lobster Fisherman	Mulgrave
Greg Roach	N.S. Dept. Fisheries	Halifax
Glen Jefferson	DFO	Halifax
Fred Allen	DFO	Sydney
Jim Nelson	DFO	Halifax
Dr. Bob Miller	DFO	Halifax

## LOBSTER ADVISORY COMMITTEE - AREAS 31 &amp; 32

<u>Name</u>	<u>Organization</u>	<u>Address</u>
Borden Dobson	Lobster Fisherman	Queensport
Gerald Bennett	Lobster Fisherman	Canso
Cyril Keating	Lobster Fisherman	Lake Charlotte
Randy Baker	Lobster Fisherman	Head Jeddore
Sheldon Doyle	Lobster Fisherman	Head Jeddore
Ronald Riley	Lobster Fisherman	Port Dufferin.
Gordon Hubley	Lobster Fisherman	Liscomb
Robert Davidson	Lobster Fisherman	Isaac's Harbour
Graham Barns	Lobster Fisherman	Sherbrooke
Colin MacKenzie	Lobster Fisherman	Tangier
Greg Roach	N.S. Dept. Fisheries	Halifax
Glen Jefferson	DFO	Halifax
Fred Allen	DFO	Sydney
Jim Nelson	DFO	Halifax
Dr. Bob Miller	DFO	Halifax

## LOBSTER ADVISORY COMMITTEE - AREA 33

<u>Name</u>	<u>Organization</u>	<u>Address</u>
Stan Purdy	Lobster Fisherman	Eastern Passage
Lionel Young	Lobster Fisherman	West Dover
Augustus Henneberry	Lobster Fisherman	Halifax
Harris Backman	Lobster Fisherman	Hubbards
Gordon Tanner	Lobster Fisherman	Lunenburg
Brian Hirtle	Lobster Fisherman	LaHave
Peter Bell	Lobster Fisherman	Petite Riviere
Joe Fralic	Lobster Fisherman	Brooklyn
Clifton Swim	Lobster Fisherman	Port Mouton
Frank Townsend	Lobster Fisherman	Lockeport
Tom Acker	Lobster Fisherman	Shelburne
Basil Acker	Lobster Fisherman	Ingomar
Donald Munroe	Lobster Fisherman	Port La Tour
Greg Roach	N.S. Dept. Fisheries	Halifax
Art Longard	N.S. Dept. Fisheries	Halifax
Peter Partington	DFO	Yarmouth
Glen Jefferson	DFO	Halifax
Jim Nelson	DFO	Halifax
John Pringle	DFO	Halifax
C. Thompson	DFO	Sydney

## LOBSTER ADVISORY COMMITTEE - AREA 34

<u>Name</u>	<u>Organization</u>	<u>Address</u>
Leighton Nickerson	Lobster Fisherman	Woods Harbour
Gordon Newell	Lobster Fisherman	Newellton
Richard Nickerson	Lobster Fisherman	Newellton
Gene C. Nickerson	Lobster Fisherman	North East Point
Sterling Belliveau	Lobster Fisherman	Lr. Woods Hbr.
Franklyn D'Entremont	Lobster Fisherman	Lr. West Pubnico
Murray W. Spinney	Lobster Fisherman	Glenwood
Raymond Boudreau	Lobster Fisherman	Lr. Wedgeport
Donald Nickerson	Lobster Fisherman	Overton
Robert Durkee	Lobster Fisherman	Yarmouth
Norman J. Comeau	Lobster Fisherman	Meteghan
Harold Graham	Lobster Fisherman	Westport
Bob MacLure	Offshore Lobster Representative	Shelburne
Sandy Siegel	Maritime Fishermen's Union	Yarmouth
Greg Roach	N.S. Dept. Fisheries	Halifax
Peter Partington	DFO	Yarmouth
Glen Jefferson	DFO	Halifax
Jim Nelson	DFO	Halifax
John Pringle	DFO	Halifax

## LOBSTER ADVISORY COMMITTEE - AREA 36

<u>Name</u>	<u>Organization</u>	<u>Address</u>
Warren Seeley	Fundy North Fishermen's Assoc.	Black River
Matthew Mawhinney	Fundy North Fishermen's Assoc.	Lepreau
Eugene Maguire	Fundy North Fishermen's Assoc.	Lorneville
Maxwell Calder	Fundy North Fishermen's Assoc.	Welshpool
Jerome D. Parker	Fundy North Fishermen's Assoc.	Lords Cove
Herbert Matthews	Fundy North Fishermen's Assoc.	L'Etete
Wayne Janes	Fundy North Fishermen's Assoc.	Lepreau
Allison Chesley	Fundy North Fishermen's Assoc.	Pennfield
Ronald Anderson	Fundy North Fishermen's Assoc.	Seeley's Cove
William Groom	N.B. Dept. Fisheries	Fredericton
Area Manager	DFO	St. Andrews
Glen Jefferson	DFO	Halifax
Dr. A. Campbell	DFO	St. Andrews
Jim Nelson	DFO	Halifax

## LOBSTER ADVISORY COMMITTEE - AREA 38

<u>Name</u>	<u>Organization</u>	<u>Address</u>
Theodore Green	Grand Manan Fishermen's Assoc.	Seal Cove
Gary Guptill	Grand Manan Fishermen's Assoc.	Grand Harbour
Barry Russell	Grand Manan Fishermen's Assoc.	White Head
David Carroll	Grand Manan Fishermen's Assoc.	White Head
John Rayner	Grand Manan Fishermen's Assoc.	Seal Cove
Ivan Green	Grand Manan Fishermen's Assoc.	Ingalls Head
Sherman Kinghorne	Grand Manan Fishermen's Assoc.	North Head
Neil E. Morse	Grand Manan Fishermen's Assoc.	Grand Harbour
David Benson	Independent Fisherman	Seal Cove
Theodore Frost	Independent Fisherman	Seal Cove
William Groom	N.B. Dept. Fisheries	Fredericton
Area Manager	DFO	St. Andrews
Glen Jefferson	DFO	Halifax
Dr. A. Campbell	DFO	St. Andrews
Jim Nelson	DFO	Halifax

## DATA ON THE CANADIAN LOBSTER FISHERY

Market Trends and Forecasts

Lobster sales in 1987 are projected to increase to 25,600 t from 25,300 t for 1986, an increase of less than one percent. An increase is anticipated for live lobster and meat sales while frozen in brine sales are expected to decline. Canned sales are projected to remain at the 1986 level.

Between 1985 and 1986, Canadian lobster landings increased from 32,500 t to about 35,300 t (+9 percent). Given limited biological data to forecast landings, the 1987 catch is marked at the 1986 level. Domestic consumption is calculated by DFO to be about 2,000 t. The industry is expected to continue to market a higher volume of lobsters in the live form because of higher profitability. European markets remain promising if price levels remain high as in 1986. Further penetration of the Japanese live lobster market is also anticipated.

DFO projects that processors will pack a lower volume of lobsters in brine because of overproduction and weak prices in the European and American markets. Marketing efforts will concentrate on frozen lobster meat sales instead. The volume of canned lobster meat sales is expected to remain at a relatively low level. The following tables highlight market developments for the past three years.

Table V: Canadian Atlantic Coast Lobster Landings, 1984 to 1986  
(Live Weight - Tonnes)

Province	1984	1985	1986 <sup>1</sup>
Nova Scotia	12,119	13,756	17,164
New Brunswick	5,963	6,727	5,881
Prince Edward Island	5,966	7,143	8,153
Quebec	1,875	2,110	2,258
Newfoundland	2,446	2,564	1,852
Total	28,369	32,327	35,308

1 Preliminary

Table VI: Canadian Atlantic Coast Lobster Production, 1984 to 1986  
(Product Weight - Tonnes)

Province	1984	1985	1986 <sup>1</sup>
Fresh/Frozen in Shell <sup>2</sup>	15,922	17,633	19,505
Fresh & Frozen Meat	2,111	2,500	3,200
Canned	181	260	259
Other	507	105	746
Total	18,721	20,498	23,710

<sup>1</sup> Preliminary

<sup>2</sup> Includes claws and tails.

Table VII: Canadian Exports of Lobster in Shell, Fresh or Frozen, by  
Country, 1984 to 1986  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
United Kingdom	139	1,249	67	734	83	1,058
Belgium-Luxembourg	159	866	193	1,400	178	1,106
France	829	3,309	1,392	7,587	1,269	6,380
F.R.G.	106	573	76	627	78	880
Netherlands	61	539	35	317	52	671
Sweden	214	979	112	780	316	2,214
Japan	36	202	36	236	283	2,328
United States	1,258	6,169	1,165	6,205	937	6,053
Other	103	507	210	1,161	303	1,750
Total	2,905	14,393	3,286	19,047	3,504	22,440

Overall, the value of lobster exports has increased by 36 percent from 1984 to 1986, while sales volume has increased by only 17 percent. From 1984 to 1986, the value of sales to the United States has dropped by 2 percent. More significantly, the volume of values has dropped sharply by 26 percent. Japanese sales for value and volume have increased by 91 percent and 87 percent, respectively. European markets remain strong despite a small contraction from 1985 to 1986.

Table VIII: Canadian Exports of Live Lobster, by Country  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
United Kingdom	68	952	126	1,638	192	2,701
Belgium-Luxembourg	212	2,443	245	3,192	372	5,222
France	269	3,020	231	2,891	393	5,599
F.R.G.	100	1,385	205	2,828	233	3,567
Netherlands	285	2,885	275	2,905	335	3,800
Switzerland	64	970	75	1,131	70	1,179
Japan	113	1,997	166	2,877	314	5,788
United States	10,161	93,561	12,236	116,529	13,795	141,032
Other	75	771	95	1,224	154	2,091
Total	11,347	107,984	13,654	135,215	15,858	170,979

Overall, the value and volume of sales in the export of live lobsters increased by 28 and 37 percent respectively. Growth in the European, Japanese and American markets was significant.

Table IX: Canadian Exports of Frozen Lobster Meat, by Country, 1984 to 1986  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
United Kingdom	35	550	37	539	44	518
Belgium-Luxembourg	38	382	37	170	30	288
France	38	284	170	586	292	1,920
F.R.G.	8	137	18	253	56	800
Netherlands	17	207	21	109	3	93
Sweden	78	754	74	712	113	1,464
Japan	25	138	36	267	53	478
United States	1,878	34,565	2,022	43,774	2,371	54,540
Other	5	61	39	281	10	173
Total	2,122	37,078	2,454	46,691	2,971	60,274

Sale of frozen lobster meat in all markets increased by 29 percent in volume and by 38 percent in value. Slight contractions were recorded in the British and Dutch markets. American markets for the past three years account for 84 percent of sales in volume and 92 percent in value. Recent trends indicate more market diversity for frozen lobster meat exports.

Table X: Canadian Exports of Lobster Meat, Fresh/Chilled/Boiled, by Country  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
United States	294	4,915	403	7,662	669	15,185
Other	0	12	60	386	36	868
Total	294	4,927	463	8,048	705	16,053

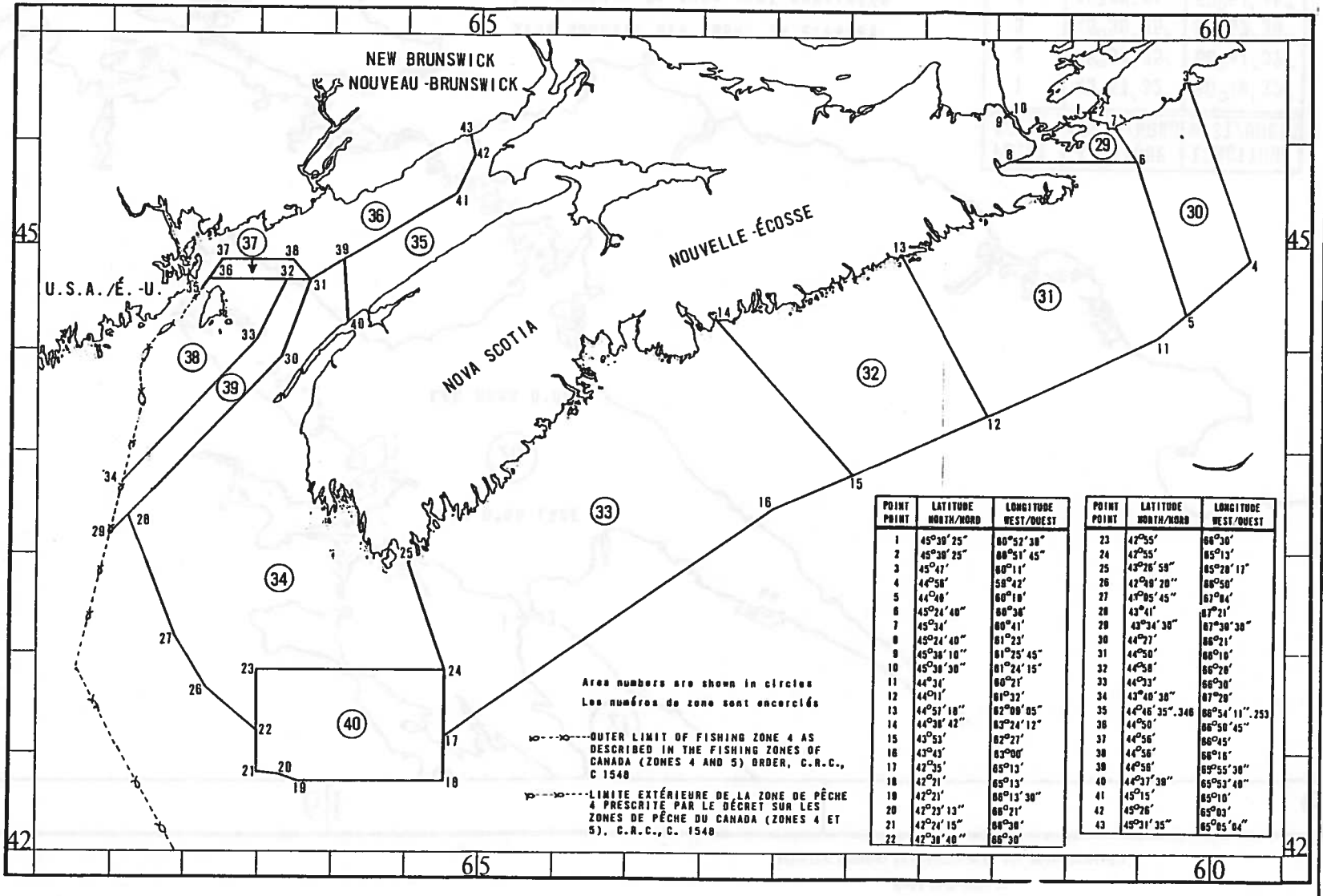
Big increases in sales, volume and value have been recorded for lobster meat exports to the United States (56 and 69 percent). American markets accounted in 1986 for 95 percent of sales in volume and value.

Table XI: Canadian Exports of Canned Lobster, by Country  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
Belgium-Luxembourg	9	162	17	130	2	10
France	34	394	3	27	-	-
F.R.G.	21	375	34	592	18	431
Netherlands	1	28	9	143	-	-
Sweden	13	311	6	145	3	69
Japan	2	35	4	26	14	85
United States	131	2,749	114	2,427	36	804
Other	27	455	4	92	5	221
Total	238	4,509	191	3,582	78	1,620

The canned lobster market has contracted sharply from 1984 to 1986 (a 67 percent drop in volume and a 64 percent drop in value). In particular, sales to the United States in volume and value have fallen by 81 percent and 71 percent respectively. Exports of canned lobster to Japan have increased slightly.

PART V/PARTIE V  
LOBSTER FISHING AREAS/ZONES DE PÊCHE DU HOMARD



Area numbers are shown in circles  
Les numéros de zone sont encerclés

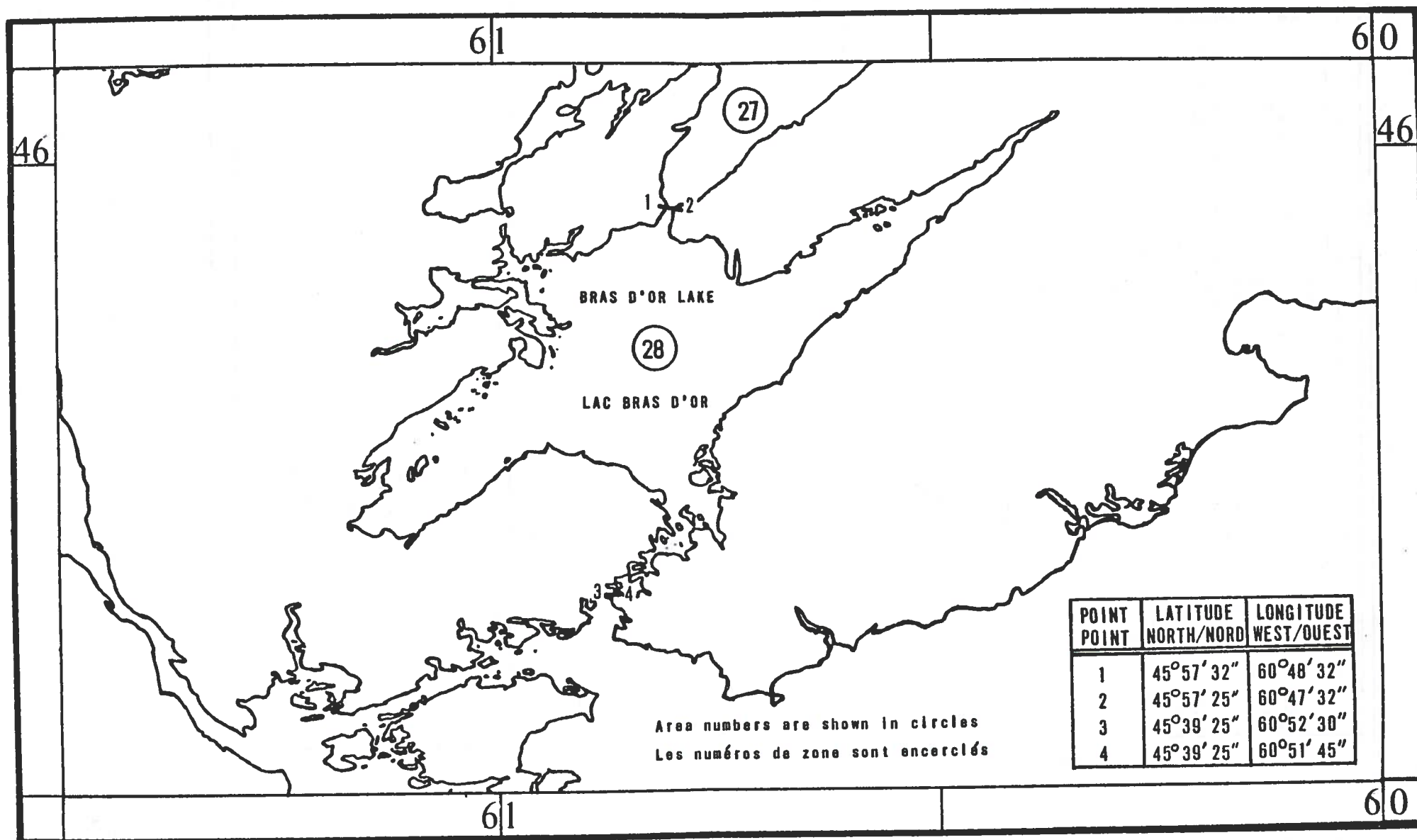
--- OUTER LIMIT OF FISHING ZONE 4 AS DESCRIBED IN THE FISHING ZONES OF CANADA (ZONES 4 AND 5) ORDER, C.R.C., C 1548

--- LIMITE EXTÉRIEURE DE LA ZONE DE PÊCHE 4 PRÉSCRITE PAR LE DÉCRET SUR LES ZONES DE PÊCHE DU CANADA (ZONES 4 ET 5), C.R.C., C. 1548

POINT POINT	LATITUDE NORTH/NORD	LONGITUDE WEST/OUEST	POINT POINT	LATITUDE NORTH/NORD	LONGITUDE WEST/OUEST
1	45°30'25"	06°52'38"	23	47°55'	06°30'
2	45°30'25"	06°51'45"	24	47°55'	05°13'
3	45°41'	06°11'	25	47°26'58"	05°28'17"
4	44°58'	58°42'	26	47°08'20"	06°50'
5	44°46'	06°18'	27	47°05'45"	07°04'
6	45°24'40"	06°38'	28	43°41'	07°21'
7	45°34'	06°41'	29	43°34'38"	07°30'30"
8	45°24'40"	01°23'	30	44°21'	06°21'
9	45°38'10"	01°25'45"	31	44°50'	06°10'
10	45°38'30"	01°24'15"	32	44°58'	06°20'
11	44°34'	06°21'	33	44°33'	06°30'
12	44°11'	01°32'	34	43°40'38"	07°20'
13	44°51'18"	02°09'05"	35	44°46'35".348	06°54'11".253
14	44°38'42"	03°24'12"	36	44°50'	06°58'45"
15	43°53'	02°27'	37	44°56'	06°45'
16	43°43'	03°00'	38	44°58'	06°18'
17	42°35'	05°13'	39	44°58'	05°53'38"
18	42°21'	05°13'	40	44°37'38"	05°55'48"
19	42°21'	06°13'30"	41	45°15'	05°10'
20	42°25'13"	06°21'	42	45°26'	05°03'
21	42°24'15"	06°30'	43	45°21'35"	05°05'04"
22	42°38'40"	06°30'			

## PART IV/PARTIE IV

## LOBSTER FISHING AREAS/ZONES DE PÊCHE DU HOMARD



# THE 1987 INSHORE LOBSTER MANAGEMENT PLAN

## 1987 INSHORE LOBSTER MANAGEMENT PLAN OBJECTIVES

A vibrant, stable inshore lobster industry is dependent upon the availability of a healthy, secure stock. Inshore lobster industry members recognize the need to develop and promote management strategies that are sensitive to biological and economic realities. Accordingly, the inshore lobster management process affirms the following objectives and principles:

### 1. Conservation and Protection

Current biological data indicate that exploitation rates for most lobster fishing areas are high. The Department of Fisheries and Oceans (DFO) stresses that most management measures for the inshore lobster fishery are designed to conserve and protect the species. DFO and industry members agree that conservation and protection of the inshore lobster stocks must be unequivocal. Consideration by industry and DFO should be given to the introduction of resource conservation measures, including the use of escape vents, increases in carapace lengths, restrictions on gear types, and stricter enforcement of trap tag programs. Without adequate conservation and protection the industry may become more vulnerable to periods of economic instability.

### 2. Economic Viability

The international and domestic lobster markets are lucrative. Industry members believe that economic benefits coming from the fishery should be fairly distributed among all participants. In short, fishermen should receive solid levels of earnings and vessel owners should record reasonable rates of return on capital investments. Achieving these objectives has been problematic in recent years. Higher landings and revenues in 1985 and 1986 are positive indicators that returns to capital and labour are improving.

DFO stresses that the management planning process for the inshore fishery should be sensitive to socioeconomic realities. Many coastal communities in Nova Scotia and New Brunswick are highly dependent on employment and incomes generated by the inshore lobster industry. Widespread and equitable access for full-time fishermen must be provided if these communities are to continue benefiting from this fishery.

## 1987 INSHORE LOBSTER MANAGEMENT MEASURES

### Managing the Inshore Lobster Fishery

Prior to the consolidation of the Atlantic Fishery Regulations, 1985, and subsequent amendments, the lobster fishing districts were divided by lines extending from shore to seaward with no termination point at sea. These fishing districts were adequate in the past because fishing usually occurred in areas close to shore. In recent years, the vessels have become larger and more efficient and fishermen are travelling greater distances to fish depending upon the levels of stock abundance. This increased mobility of the fleet combined with the seasonal lobster movements are contributing to the complexity in managing the fishery. Of the various conservation measures now being implemented, there are three key management measures which significantly contribute to stock conservation as well as improve yield and economic benefit to fishermen. They are as follows:

1. restricted number of lobster licences and traps per fisherman;
2. legal minimum size of lobsters retained using carapace length measurement;
3. restricted fishing season; and
4. berried lobsters are to be returned to the water.

In turn, these management measures must be sensitive to the following considerations:

1. stock characteristics;
2. traditional areas of fishing by lobster fishermen;
3. proximity of fishing area to home port and port of landing;
4. seasonality of fishing activity; and
5. catch and statistical systems.

Based generally on these measures and considerations, the 11 lobster fishing areas are subject to the following regulations:

**1987 OFFSHORE LOBSTER FISHERY MANAGEMENT PLAN**  
**SCOTIA-FUNDY REGION**

# 1987 Offshore Lobster Fishery Management Plan

## Table of Contents

<u>Section</u>	<u>Page</u>
1. 1987 Offshore Lobster Plan Objectives .....	1
2. 1986-1987 Offshore Lobster Fishing Plan .....	1
3. Historical Overview .....	5
4. Fishery Profile .....	6
5. Summary of Current Issues .....	7
6. Consultative Process .....	9
7. Licensing Policy .....	9

### Appendices

- I Current Scotia-Fundy Regional Lobster Advisory Committee (SFRLAC) Membership
- II Current Offshore Lobster Advisory Committee (OLAC) Membership
- III Offshore Lobster Fishery Map
- IV Data on the Canadian Lobster Fishery

## THE 1987-1988 OFFSHORE LOBSTER MANAGEMENT PLAN

### 1987-1988 OFFSHORE LOBSTER PLAN OBJECTIVES

A vibrant, stable offshore lobster industry is dependent on the availability of a healthy, secure stock. Members of the Offshore Lobster Advisory Committee (OLAC) recognize the need to develop and promote management strategies that are sensitive to these biological and economic considerations. On this front, the 1987-88 Offshore Lobster Management Plan affirms the following objectives and principles:

#### 1. Conservation and Protection

Biological knowledge on the state of the offshore lobster biomass and stock conditions are incomplete. Biological advice stresses that the management planning process should be cognizant of this information gap. OLAC members recognize that, given the limited biological information, capacity in the offshore lobster fishery must be strictly controlled and monitored to ensure the effective conservation and protection of the resource. Overexploitation can expose the industry to unnecessary instability.

#### 2. Economic Viability

The international and domestic lobster markets are lucrative. OLAC members agree that economic benefits coming from the fishery should be optimally distributed among all participants. In short, fishermen and shore workers should receive solid levels of earnings and vessel owners should record reasonable rates of return on capital investments. Achieving the latter objective has been problematic in recent years. Higher landings and revenues in 1985 and 1986 are positive indicators that economic returns to the industry are improving.

#### 3. Management of New Fishing Zones

The 1984 International Court of Justice (ICJ) ruling on the Gulf of Maine boundary dispute provided Canada with security of access to several lobster areas on Georges Bank. OLAC members are committed to the development of management strategies that will sponsor the prudent harvesting of this valuable resource. Committee members are sensitive to biological realities and appreciate the need to tie management of these new fishing zones to available scientific advice.

### 1987-1988 OFFSHORE LOBSTER FISHING PLAN

#### Introduction

A new management plan for the offshore lobster fishery was introduced in 1985. For the first time, the plan introduced into this fishery the concept of enterprise allocations. The plan also carried a commitment to a three-year, interim period during which the principles and the details would be subject to ongoing review by both industry and government.

A review of the operations to date was conducted at the April 15, 1986, meeting of the Offshore Lobster Advisory Committee (OLAC). From this review arose a proposal to change the administrative date of the fishing year from the current August 1 to October 15/October 14. This change, and the means by which it will be achieved, is the only change to the original 1985/86 plan incorporated in the following.

Measures Established For 1986/87

Licensing.

1. No new licences to be issued at this time.
2. It is the intent of this plan to introduce those measures seen to be necessary and achievable to permit the licences currently authorized in the offshore fishery to be operated in an economically viable manner.
3. The ability of the offshore fishery in the newly-acquired Canadian zone to support a given number of licences shall be subject to ongoing review.
4. The current restrictions on licences as to permitted areas of fishing shall continue during the period of introduction and review of this plan.

Total Allowable Catch and Allocation

1. A total allowable catch (TAC) shall be established in the whole of Canadian offshore Lobster District A (Lobster Fishing Area 41).

Note 1: TAC's normally are based upon the results of a production model of a fishery. Biomass estimates thus derived are currently not feasible in lobster fisheries. The offshore lobster TAC is, therefore, preemptive and is based upon a history of past catches, combined with an assessment of available biological data, with a view to the conservation objective of the plan.

2. The TAC shall be administered on the basis of an October 15 - October 14 fishing year.
3. The TAC for 1986/87 shall be 720 t.

Note 1: This TAC is derived as follows:

Pre-Plan TAC - NAFO 4X	408 t
Average Canadian Catch 1977 to 1984 - NAFO 5Z	212 t
Interim Allocation in Newly Canadian Portion of NAFO 4X+5	<u>100 t</u>
TOTAL	720 t

Note 2: The set TAC is seen to be sufficient to achieve economic viability for the current participants. The interim allocation represents a conservative estimate of the catch available in the new Canadian zone within the Gulf of Maine.

Note 3: It is specifically not the intention of this plan to permit an overfishing situation to develop on areas such as Browns Bank. Provision is thus hereby made in this plan to close Subarea 4X to fishing, should the catch appear to be excessive in view of the above derivations.

4. The TAC shall be allocated to companies on the basis of licences currently held in the offshore lobster fishery, as follows:

	<u>Licences</u>	<u>Allocation</u>
C.W. McLeod Fisheries Ltd.	1	90 t
Donna Rae Fisheries Ltd.	1	90 t
Sable Fish Packers Ltd.	1	90 t
Port La Tour Fisheries Ltd.	<u>5</u>	<u>450 t</u>
TOTAL	8	720 t

Note: The relevance of this basis of allocation is to be reviewed annually.

#### Other Effort Control Mechanisms

5. The 1,000 trap limit per licence shall be retained during the 1986/87 fishing year. This limit is subject to ongoing review and may be modified at some future time.

Note: The following trap tag replacement policy is recommended for the offshore fishery:

One-for-one replacement for lost tags based upon a signed affidavit as to the number lost.

6. The area on Browns Bank currently closed to fishing shall remain unchanged for 1986/87.

Note: The conservation value of this area is currently being assessed; the results of this assessment may allow for a future redefinition of the boundaries of the area.

## Administrative Rules For Allocations

The following administrative rules are put forward as guidelines for consideration and discussion during the review period. Other options are possible, thus these proposals are subject to additions, deletions, or substantial modifications through consultations between industry and government.

### Carry-Over of TAC's

1. Normally, there shall be no carry-over of any uncaught portion of the TAC from one fishing year to the next. Adoption of the fishing year period decided upon allows for benefits in operational planning when compared to the more normal calendar year format. One benefit perceived is that the likelihood of need for a carry-over is reduced to a minimum.

### Transfers of Allocations

1. While the principle of Enterprise Allocations suggests that provisions may be made for the sale or permanent transfer of allocations in the long term, such provisions will be deferred pending the further development of guidelines for such transfers in full consultation with industry. In the interim, it is suggested that transfer of a licence privilege will carry with it the transfer of the allocation associated with that licence.
2. It is a widely accepted principle that access to a common property resource should not become the exclusive preserve of a single private company or a single management enterprise.
3. Temporary inter-company transfers may be necessary during a given fishing year. To ensure that such transactions are accurately recorded and properly understood by all participants, the parties involved must submit their request for such a "temporary" transfer in writing to the Chairman of the Offshore Lobster Advisory Committee, or his designate (or, if time is limited, an oral request to be followed by written communication). The Department will respond to such requests as quickly as possible.
4. Mid-year reallocations of uncaught quota by the Department is seen to be inconsistent with the enterprise allocations approach. Once an enterprise allocation is made, it usually would be the responsibility of the company to decide how this quota is to be used. Hence, the Department would not normally undertake a mid-year review of "surplus" quota unless it was requested by all concerned.

## HISTORICAL OVERVIEW

The growth of an offshore lobster fishery in the United States during the 1960's encouraged research in Canada. The research indicated some potential for developing a similar fishery on Georges Bank. In July 1971, the Minister of Fisheries and Oceans announced the opening of the Canadian offshore lobster fishery, with operations to begin in August of that year.

Entry into the fishery was limited initially to Nova Scotia swordfish fishermen-whose operations had been halted due to changes in regulations governing the permissible content of mercury in swordfish. Relatively few vessel owners opted to acquire offshore licences and by 1972 only six swordfish fishing vessels had entered the new fishery. Between 1973 and 1975, two additional licences were granted. The fleet has been held to eight vessels since this time.

From 1971 to 1984, offshore lobster fishing was conducted in Lobster District A, an area described in regulations as being located outside a boundary line 92 kilometers (50 miles) from the Nova Scotian coast. Initially, fishing occurred on known grounds of southern Georges Bank but later, as good grounds were discovered, closer to port, activity shifted to the northeast of Georges Bank and the Browns Bank area. Since 1977, six of the eight vessels participated in the Browns Bank fishery; the remaining two were restricted to Georges Bank. These restrictions were enforced in response to pressures from inshore lobster fishermen who believed the offshore effort was disrupting the migration of lobsters to the inshore fisheries. A quota of 408 t, subdivided among the six vessels, was enforced for Browns Bank from 1977 to 1984. No quotas were in place for Georges Bank. Browns Bank was closed to all lobster vessels in 1977. Total annual landings from 1977 to 1984 averaged 600 t, valued at about \$2 million. These landings constituted approximately three percent of the total lobster catch for the Scotia-Fundy Region.

In October 1984, the International Court of Justice (ICJ) established an international boundary in the Gulf of Maine. On Georges Bank itself, the ICJ decision did not alter the known trap fishing grounds that were available to Canadian fishermen, and no American trap effort was eliminated because these had been fished exclusively by Canadians since the early 1970's. There was, however, some reduction of the total catch of lobsters from the Canadian portion of the Bank since American trawlers had taken a certain amount, as by-catch, or directed catch.

The new boundary line resulted in the elimination of American trap effort in two areas north of Georges Bank, and hence increased the opportunities for Canadians in Crowell and Georges Basins. It is likely that the Canadian catch from Georges and Crowell Basins is now similar to the combined catch by both countries from the Basins, prior to the ICJ decision. The estimated total catch in 1983 was somewhat less than 300 t (66 t by Canada and an estimated 200 t by the United States), while the 1986 Canadian catch was 331 t. The ICJ decision set the stage, as well, for the introduction of effective conservation and management strategies in this fishery.

In 1985-86, the first management plan for this fishery was tabled by the Offshore Lobster Advisory Committee (OLAC). The plan called for the use of enterprise allocations (EA's) for a three-year period. EA's gave the eight participating vessels quasi-property rights in the fishery. Each vessel was given an annual quota of 90 t, based on a total allowable catch of 720 t. This management approach encourages vessel owners to exploit their share of the resource in the most efficient manner possible. The Enterprise Allocation Program is to be reviewed by OLAC after the three-year period. Currently, seven of the eight offshore licences are controlled by a single enterprise through three subsidiaries and one licence is held by an independent operator. Increases in the total allowable catch (TAC), provided by the Enterprise Allocation Program, have resulted in historically high landings by the Canadian offshore lobster fleet (777 t in 1985 and 799 t in 1986).

### FISHERY PROFILE

The small offshore lobster fleet is based primarily along the southwestern Nova Scotia coast in the ports of Shelburne, Lockeport and Port Mouton. Vessels are of wooden (2) and steel (6) hull construction, ranging in length overall (LOA) from 18.3 m to 42.3 m (60 to 141 feet), with an average of 32.5 m (107 feet). The mean gross tonnage is 120 t ranging from 56 t to 210 t. The average age of the fleet in 1986 was 22 years. All of the vessels have diesel marine engines and carry electronic equipment for offshore navigation. Special storage facilities to keep lobsters alive on long trips are standard equipment for the fleet. Some of these vessels are licensed to fish other species such as groundfish and scallops, but revenues generated from these species are small compared to lobster.

Table I: Age and LOA of Offshore Lobster Vessels - 1986

Vessel Name	DONNA RAE	HANNAH ATLANTIC	RYAN ATLANTIC	MATTHEW ATLANTIC	EASTERN PROVIDER	LIVERPOOL BAY	KRISTINE POLARIS	ISLAND PRIDE
Year Built	1955	1964	1964	1965	1967	1967	1975	1978
LOA (m)	18.3	43	43	37.5	34.1	34.1	34	27.4

Recent economic data indicates that the level of fleet profitability and incomes of captains and crews have been improving from the situation of the early 1960's. Approximately 49 fishermen are engaged in the fishery on a full-time basis. (One vessel restricts its efforts to the spring fishery.) The average number of crew per vessel is seven including the captain. Crews

are recruited primarily in Shelburne and Queens counties. Crew members collectively receive about 40 percent of total earnings from offshore lobster landings. In 1986, each crew member, including captains, would have averaged \$41,100; in 1984 earnings averaged \$18,800 per crew member and the average for 1981 was \$16,400.

Table II: Quantity/Value of Catch of Offshore Lobster Landings\*, 1981 to 1986

Year	Quantity Landed (tonnes)	Value of Landings(\$)
1981	572	2,302
1982	463	2,190
1983	489	2,649
1984	440	2,634
1985	777	5,407
1986	779	5,763

\* Lobsters landed by the offshore fleet are largely jumbos and are sold primarily to American markets. (For additional information on the Canadian lobster fishing industry, see Appendix IV.)

### SUMMARY OF CURRENT ISSUES

The offshore lobster effort constitutes a small fraction of total lobster landings on the Atlantic Coast. Still, this fishery is of paramount significance to the fishermen and vessel owners who participate in it. OLAC members stress that effort and capacity in this fishery must be controlled if overexploitation is to be avoided and reasonable economic benefits are to be secured. OLAC members are committed to the implementation of management strategies that will encourage the orderly, prudent harvesting of the resource. To this end, the following issues will require debate and deliberation.

#### 1. Issuance of New Licences

DFO has been subject to frequent requests for new licences in the offshore lobster fishery. To date, the number of licences has been held at eight. OLAC's industry members oppose the issuance of new licences, arguing that the fishery cannot tolerate increased effort. Scientific advice to OLAC calls for a cautious, conservative approach to harvesting. Biological information on the offshore lobster biomass is incomplete. Representatives from the inshore lobster industry have informed OLAC and DFO that they do not favour the issuance of new licences.

## 2. Inshore-Offshore Concerns

Since its inception in 1971, the offshore lobster fishery has been worrisome to some inshore lobster fishing interests. The decline in inshore lobster catches in the mid 1970's heightened these concerns. Inshore catches in Lobster Fishing Areas 33 and 34 rebounded to over 14,500 t in 1984 from less than half this level in the 1970's. Still, inshore interests continued to express concern about the 1986/1987 offshore lobster fishery. Inshore representatives argue that exploitation of the offshore lobster biomass has a direct impact on the state of the inshore fishery. Effort on Browns Bank, they say, constitutes a threat to the supply of larvae to inshore waters. They believe that the egg-bearing females offshore were responsible for a substantial portion and perhaps the majority of this supply. This argument has not been fully resolved by the available biological data base.

OLAC stresses that it intends to promote conservation and harvesting strategies that will enable a well-controlled and managed offshore fishery. Consequently, the offshore effort's impact on the inshore fishery should be nominal.

In response to the fishermen's concerns, the 1979 closure of Browns Bank stopped all lobster fishing on a large and rich fishing grounds. Prior to the closure of the Bank, this area accounted for one-third of the offshore catch on the Scotian Shelf and an unknown percentage of earnings for southwestern Nova Scotia lobster fishermen.

## 3. Gear Conflicts

Swordfish fishermen have registered concern with OLAC about the potential for gear conflict between the swordfish and offshore lobster fisheries. In particular, gear conflicts and entanglements have occurred just below the peak of Browns Bank. OLAC industry members have stated their willingness to inform swordfish fishermen about lobster gear locations, and of any changes in those locations in the areas of concern.

## 4. Biological Input and Assessment

Biological review of the offshore lobster populations will be a factor in any assessment of the three-year experimental Enterprise Allocation (EA) Program. Biological information will help determine if the established TAC identified in the EA Program adequately provides for stock stability and survival. Biologists are currently collecting and processing the necessary data. OLAC members recognize the role biological data will play in any assessment of the EA Program.

## CONSULTATIVE PROCESS

The Offshore Lobster Advisory Committee (OLAC) serves as the primary vehicle through which the Offshore Lobster Management Plan is deliberated and developed. OLAC is one of approximately 35 species specific management advisory committees sponsored by DFO in the Scotia-Fundy Region. In turn, OLAC is supported by a working group of DFO officers who consolidate scientific, economic, marketing and other information into draft fishing plans for the Committee's consideration. Sub-committees and working groups can be established to address specific concerns. Issues that are regional in scope are reviewed by the Scotia-Fundy Regional Lobster Advisory Committee (SFRLAC). SFRLAC's membership includes representatives from the offshore and inshore lobster fisheries, the federal and provincial governments, and other affected interests. SFRLAC's general tasks are to provide recommendations and advice on Regional policy issues affecting the inshore and offshore lobster fisheries, to review recommendations put forth by inshore and offshore lobster advisory committees in regard to their impact on other areas, to provide input and advice on annual plans and allocation issues at the Regional level and to review licensing policies and regulatory measures that shape activities in the offshore and inshore lobster fisheries.

## LICENSING POLICY

The following licensing policy applies to vessels participating in the offshore lobster fishery:

1. Offshore lobster licences are subject to limited entry conditions and regulations.
2. Licences must be renewed on an annual basis or are subject to cancellation.
3. The owner of a lobster vessel may hold multiple licences, subject to the licensing policies of other limited entry fisheries.
4. Six of the eight active vessels are permitted to fish Browns Bank; all vessels are permitted to fish Georges Bank.
5. In the event that a vessel is replaced, replacement size and time frames will be subject to the guidelines that exist in the other limited fisheries for which licences have been issued.
6. Each vessel is restricted to a maximum of 1,000 lobster traps.  
(Additional licensing policy is cited on Page 2.)

INSHORE/OFFSHORE  
SCOTIA-FUNDY REGIONAL LOBSTER ADVISORY COMMITTEE

<u>Name</u>	<u>Organization</u>	<u>Address</u>
<b><u>Department of Fisheries and Oceans</u></b>		
J.R. Angel (John) Chairman	DFO	Halifax
G.E. Jefferson (Glen)	DFO	Halifax
J. Nelson (Jim)	DFO	Halifax
P.E. Partington (Peter)	DFO	Yarmouth
F.H. Allen (Fred)	DFO	Sydney
Area Manager	DFO	St. Andrews
J. Pringle (John)	DFO	Halifax
<b><u>Provincial Governments</u></b>		
G. Roache (Greg)	N.S. Dept. Fisheries	Halifax
J.E. Henri Legare	N.B. Dept. Fisheries	Fredericton
<b><u>Fishermen's Associations</u></b>		
A. Billard (Allan)	Eastern Fishermen's Federation	Dartmouth
S. Siegel (Sandy)	Maritime Fishermen's Union	Yarmouth
<b><u>Processors</u></b>		
R.C. Stirling (Roger)	Seafood Producers of Nova Scotia	Dartmouth
K. d'Entremont (Kim)	N.B. Fish Packers Assoc.	Moncton
J. Fontain	U.M.F.	Moncton
D.G. Robinson (Doug)	Clearwater Fine Foods Inc.	Bedford
J. Bateman (Jim)	National Sea Products	Shediac
<b><u>Representatives from Lobster Fishing Area Advisory Committees</u></b>		
P.C. McPherson (Paul)	LFA 36	Lepreau
N.E. Morse (Neil)	LFA 38	Grand Manan
R. Collins (Reg)	LFA 35	Alma
L. Nickerson (Leighton)	LFA 34	Woods Harbour
J. Fralic (Joseph)	LFA 33	Brooklyn
R. Baker (Randy)	LFA 31 and 32	Head Jeddore
B. Middleton (Bernard)	LFA 28, 29 and 30	Rockdale
M.F. Whitty (Maurice)	LFA 27	Ingonish
G. Hamilton (Greg)	LFA 35	Canada Creek
<b><u>Representatives from Offshore Lobster Advisory Committee</u></b>		
B. Blades (Basil)	Sable Fish Packers	Southside
P. Blades (Paul)	Port La Tour Fisheries	Halifax
G. Roome (Graham)	C.W. MacLeod Fisheries	Port Mouton
C. Roache (Curtis)	Donna Rae Fisheries	Lockeport



## DATA ON THE CANADIAN LOBSTER FISHERY

Market Trends and Forecasts

Lobster sales in 1987 are projected to increase to 25,600 t from 25,300 t for 1986, an increase of less than one percent. An increase is anticipated for live lobster and meat sales while frozen in brine sales are expected to decline. Canned sales are projected to remain at the 1986 level.

Between 1985 and 1986, Canadian lobster landings increased from 32,500 t to about 35,300 t (+9 percent). Given limited biological data to forecast landings, the 1987 catch is marked at the 1986 level. Domestic consumption is calculated by DFO to be about 2,000 t. The industry is expected to continue to market a higher volume of lobsters in the live form because of higher profitability. European markets remain promising if price levels remain high as in 1986. Further penetration of the Japanese live lobster market is also anticipated.

DFO projects that processors will pack a lower volume of lobsters in brine because of overproduction and weak prices in the European and American markets. Marketing efforts will concentrate on frozen lobster meat sales instead. The volume of canned lobster meat sales is expected to remain at a relatively low level. The following tables highlight market developments for the past three years.

Table V: Canadian Atlantic Coast Lobster Landings, 1984 to 1986  
(Live Weight - Tonnes)

Province	1984	1985	1986 <sup>1</sup>
Nova Scotia	12,119	13,756	17,164
New Brunswick	5,963	6,727	5,881
Prince Edward Island	5,966	7,143	8,153
Quebec	1,875	2,110	2,258
Newfoundland	2,446	2,564	1,852
Total	28,369	32,327	35,308

<sup>1</sup> Preliminary

Table VI: Canadian Atlantic Coast Lobster Production, 1984 to 1986  
(Product Weight - Tonnes)

Province	1984	1985	1986 <sup>1</sup>
Fresh/Frozen in Shell <sup>2</sup>	15,922	17,633	19,505
Fresh & Frozen Meat	2,111	2,500	3,200
Canned	181	260	259
Other	507	105	746
Total	18,721	20,498	23,710

<sup>1</sup> Preliminary

<sup>2</sup> Includes claws and tails.

Table VII: Canadian Exports of Lobster in Shell, Fresh or Frozen, by  
Country, 1984 to 1986  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
United Kingdom	139	1,249	67	734	88	1,058
Belgium-Luxembourg	159	866	193	1,400	178	1,106
France	829	3,309	1,392	7,587	1,269	6,380
F.R.G.	106	573	76	627	78	880
Netherlands	61	539	35	317	52	671
Sweden	214	979	112	780	316	2,214
Japan	36	202	36	236	283	2,328
United States	1,258	6,169	1,165	6,205	937	6,053
Other	103	507	210	1,161	303	1,750
Total	2,905	14,393	3,286	19,047	3,504	22,440

Overall, the value of lobster exports has increased by 36 percent from 1984 to 1986, while sales volume has increased by only 17 percent. From 1984 to 1986, the value of sales to the United States has dropped by 2 percent. More significantly, the volume of values has dropped sharply by 26 percent. Japanese sales for value and volume have increased by 91 percent and 87 percent, respectively. European markets remain strong despite a small contraction from 1985 to 1986.

Table VIII: Canadian Exports of Live Lobster, by Country  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
United Kingdom	68	952	126	1,638	192	2,701
Belgium-Luxembourg	212	2,443	245	3,192	372	5,222
France	269	3,020	231	2,891	393	5,599
F.R.G.	100	1,385	205	2,828	233	3,567
Netherlands	285	2,885	275	2,905	335	3,800
Switzerland	64	970	75	1,131	70	1,179
Japan	113	1,997	166	2,877	314	5,788
United States	10,161	93,561	12,236	116,529	13,795	141,032
Other	75	771	95	1,224	154	2,091
Total	11,347	107,984	13,654	135,215	15,858	170,979

Overall, the value and volume of sales in the export of live lobsters increased by 28 and 37 percent respectively. Growth in the European, Japanese and American markets was significant.

Table IX: Canadian Exports of Frozen Lobster Meat, by Country, 1984 to 1986  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
United Kingdom	35	550	37	539	44	518
Belgium-Luxembourg	38	382	37	170	30	288
France	38	284	170	586	292	1,920
F.R.G.	8	137	18	253	56	800
Netherlands	17	207	21	109	3	93
Sweden	78	754	74	712	113	1,464
Japan	25	138	36	267	53	478
United States	1,878	34,565	2,022	43,774	2,371	54,540
Other	5	61	39	281	10	173
Total	2,122	37,078	2,454	46,691	2,971	60,274

Sale of frozen lobster meat in all markets increased by 29 percent in volume and by 38 percent in value. Slight contractions were recorded in the British and Dutch markets. American markets for the past three years account for 84 percent of sales in volume and 92 percent in value. Recent trends indicate more market diversity for frozen lobster meat exports.

Table X: Canadian Exports of Lobster Meat, Fresh/Chilled/Boiled, by Country  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
United States	294	4,915	403	7,662	669	15,185
Other	0	12	60	386	36	868
Total	294	4,927	463	8,048	705	16,053

Big increases in sales, volume and value have been recorded for lobster meat exports to the United States (56 and 69 percent). American markets accounted in 1986 for 95 percent of sales in volume and value.

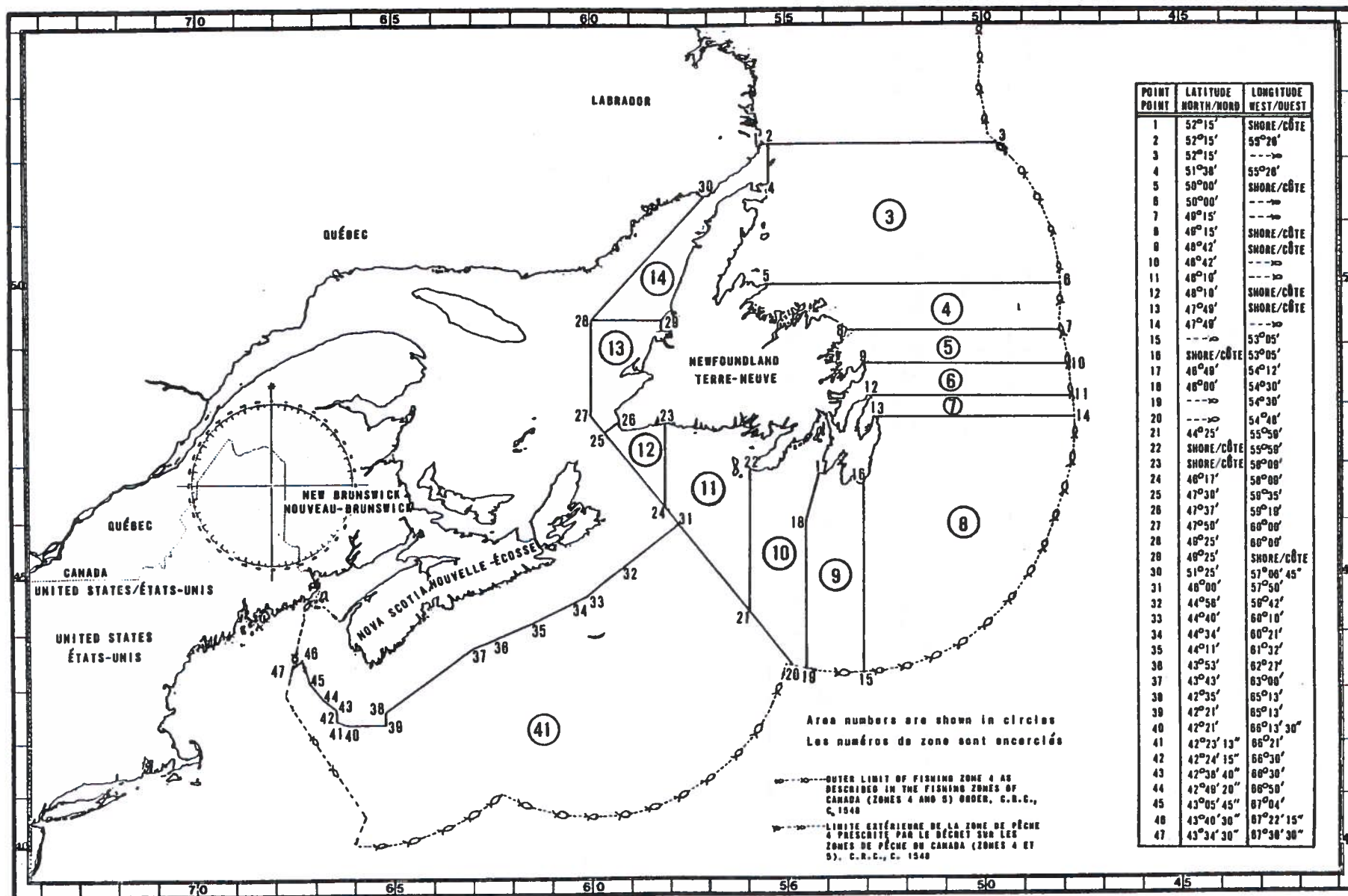
Table XI:- Canadian Exports of Canned Lobster, by Country  
(Quantity (Q) in tonnes, Value (V) in thousand dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
Belgium-Luxembourg	9	162	17	130	2	10
France	34	394	3	27	-	-
F.R.G.	21	375	34	592	18	431
Netherlands	1	28	9	143	-	-
Sweden	13	311	6	145	3	69
Japan	2	35	4	26	14	85
United States	131	2,749	114	2,427	36	804
Other	27	455	4	92	5	221
Total	238	4,509	191	3,582	78	1,620

The canned lobster market has contracted sharply from 1984 to 1986 (a 67 percent drop in volume and a 64 percent drop in value). In particular, sales to the United States in volume and value have fallen by 81 percent and 71 percent respectively. Exports of canned lobster to Japan have increased slightly.

## PART II/PARTIE II

## LOBSTER FISHING AREAS/ZONES DE PÊCHE DU HOMARD



1987 SCALLOP MANAGEMENT  
PLAN IN AREAS 15, 16, 17, 18, 19 AND 20

DEPARTMENT OF FISHERIES AND OCEANS  
QUEBEC REGION

FEBRUARY 1987

Approved by: \_\_\_\_\_



Denis Martin, Director General  
Quebec Region

SUMMARY OF MANAGEMENT PLAN

This management plan is based upon consultations with fishermen associations and producers involved in this fishery. The objectives of the plan are as follows: the conservation and restoration of scallop stocks and an allocation of the resource based on equity between coastal communities of the province of Quebec.

The waters administered by the Quebec Region are subdivided in 6 scallop fishing areas, as described in the Atlantic Fishery Regulations. Furthermore, in 1987, area 16 has been subdivided in 7 subareas and area 18 in 2 subareas, in order to favour the exploitation of all scallop beds.

In all areas, with the exception of area 18 (Anticosti Island), the scallop fishery will be limited to fishing boats smaller than 50 feet (15.2 m) LOA. In area 18, where fishing conditions are rougher, the scallop fishery can be conducted with fishing vessels smaller than 65 feet (19.8 m) LOA.

No new license will be issued in 1987. Furthermore, in area 20, to favour the restoration of scallop stocks, licenses not renewed in 1987 will not be reissued.

Access to subarea 16-G will be restricted to scallop fishermen based in area 15. Moreover, regular license holders of subareas 16-D and 16-E will also have access to subarea 18-A while exploratory permit holders of subarea 16-E will also have access to subareas 16-F and 18-A.

In area 15, a scallop licensee will be authorized to renew his scallop license in 1988 if he uses it in 1987 and catches at least 500 lb (227 kg) of scallop meat in 1986 or 1987. Catches during these two years will not be cumulative. Aiming at a better use of all licenses, this measure will allow some flexibility to fish other species.

At last, in all areas, with the exception of area 20, the fishing season will start on January 1st and will end on December 31st 1987. In area 20, the fishery will be allowed from April 1st to September 30th 1987.

DETAILED MANAGEMENT PLAN

BASIC PRINCIPLES

- i) Conservation and restoration of scallop stocks.
- ii) Access to all scallop stocks will be regulated by the following means:  
number of fishing licenses, areas, subareas, fishing seasons and boat sizes.
- iii) The scallop fishery, being identified as an inshore fishery, the resource will be allocated on a basis of equity, taking into account adjacency to the resource, dependency of coastal communities and economic efficiency of the fishing fleet.

1987 MANAGEMENT PLAN

The waters administered by the Quebec Region are subdivided in 6 scallop fishing areas, as described in the Atlantic Fishery Regulations. Furthermore, in 1987, area 16 has been subdivided in 7 subareas and area 18, in 2 subareas in order to favour the exploitation of all scallop beds (Appendix I).

I- LICENSING POLICY

- 1) In all areas, to the exception of area 18 (Anticosti Island), the scallop fishery will be limited to fishing boats smaller than 50 feet (15.2 m) LOA.
- 2) In area 18, where rougher fishing conditions are encountered, fishing vessels not exceeding 65 feet (19.8 m) LOA will be permitted to fish for scallops.
- 3) No new license will be issued in 1987. Furthermore, non renewed licenses in 1987 in area 20 will not be reissued.

The maximum number of licenses, that can be issued in 1987 in each area or subarea is identified in Appendix II.

- 4) Access to subarea 16-G will be restricted to scallop fishermen based in area 15.
- 5) Regular scallop license holders of subareas 16-D and 16-E will also have access to subarea 18-A.
- 6) Exploratory scallop permit holders of subarea 16-E will also have access to subareas 16-F and 18-A.
- 7) In area 15, a scallop licensee will be authorized to renew his scallop license in 1988 if he meets the two following conditions:
  - a) Utilization of his license in 1987; AND
  - b) Catch of at least 500 lb (227 kg) of scallop meat in 1986 or 1987. Catches during these two years will not be cumulative.

II- FISHING SEASONS

Areas 15, 16, 17, 18 and 19

The fishing season will begin January 1st 1987 and will end December 31st 1987.

Area 20

The fishing season will begin April 1st 1987 and will end September 30th 1987.

III- REGULATORY MEASURES

- 1) According to section 103 of the Atlantic Fishery Regulations, observers must be taken on board at the request of the Department.
- 2) According to section 48 of the Fisheries Act, maintenance of accurate log records will be enforced.
- 3) A scallop licensee cannot fish this species outside the area (s) and/or subarea (s) specified on his license.

APPENDIX I

Subareas description in scallop fishing areas 16 and 18

Subarea 16-A: From Tadoussac (Pointe-Rouge) to Pointe-des-Monts

48°08'06"N	69°42'03"W (Pointe-Rouge)
48°02'30"N	69°35'30"W
48°27'00"N	69°00'00"W
49°09'45"N	67°11'00"W
49°19'00"N	67°22'52"W (Pointe-des-Monts)

Subarea 16-B: From Pointe-des-Monts to Pointe Jambon

49°19'00"N	67°22'52"W (Pointe-des-Monts)
49°09'45"N	67°11'00"W
49°32'20"N	66°00'00"W
49°55'12"N	66°57'48"W (Pointe Jambon)

Subarea 16-C: From Pointe Jambon to Cap-du-Cormoran

49°55'12"N	66°57'48"W (Pointe Jambon)
49°32'20"N	66°00'00"W
49°46'30"N	65°15'00"W
50°16'30"N	65°32'45"W (Cap-du-Cormoran)

Subarea 16-D: From Cap-du-Cormoran to Rivière St-Jean

50°16'30"N	65°32'45"W (Cap-du-Cormoran)
49°46'30"N	65°15'00"W
49°51'30"N	65°00'00"W
50°06'30"N	64°20'30"W
50°17'00"N	64°20'30"W (Rivière St-Jean)

Subarea 16-E: From Rivière St-Jean to an eastbound point close to the Mingan Islands (Baie de la Grande Hermine)

50°17'00"N	64°20'30"W (Rivière St-Jean)
50°06'30"N	64°20'30"W
49°59'30"N	63°00'00"W
50°18'30"N	63°00'00"W (Baie de la Grande Hermine)

Subarea 16-F: From an eastbound point close to the Mingan Islands (Baie de la Grande Hermine) to Rivière de l'Étang (at half-distance between Natashquan and Kégaska).

50°18'30"N	63°00'00"W (Baie de la Grande Hermine)
49°59'30"N	63°00'00"W
49°51'55"N	61°31'42"W
50°08'30"N	61°31'42"W (Rivière de l'Étang)

Subarea 16-G: From Rivière de l'Étang to the Kegaska Point

50°08'30"N	61°31'42"W (Rivière de l'Étang)
49°51'55"N	61°31'42"W
49°50'30"N	61°16'00"W
50°10'25"N	61°16'00"W (Kegaska Point)

Subarea 18-A: North-Anticosti

49°51'30"N	64°31'30"W (West Point of Anticosti)
49°51'30"N	65°00'00"W
50°06'30"N	64°20'30"W
49°50'30"N	61°16'00"W
49°25'00"N	60°00'00"W
49°08'25"N	60°00'00"W
49°08'25"N	61°40'15"W (East Point of Anticosti)

Subarea 18-B: South-Anticosti

49°08'25"N	61°40'15"W (East Point of Anticosti)
49°08'25"N	60°00'00"W
47°50'00"N	60°00'00"W
48°30'00"N	63°00'00"W
49°51'30"N	65°00'00"W
49°51'30"N	64°31'30"W (West Point of Anticosti)

APPENDIX II

Maximum number of licenses that can be issued for each area and subarea in 1987.

Areas or subareas

Maximum number of licenses

15	31
16-A	1E <sup>1</sup>
16-B	2
16-C	2
16-D	12
16-E	3 <sup>2</sup> et 2E <sup>3</sup>
16-F	2E
16-G <sup>4</sup>	0
17	2
18-A	1E
18-B	1E
19	7
20	23 (Freeze and attrition)
	<hr/>
Total	71 regular licenses and 7 exploratory permits

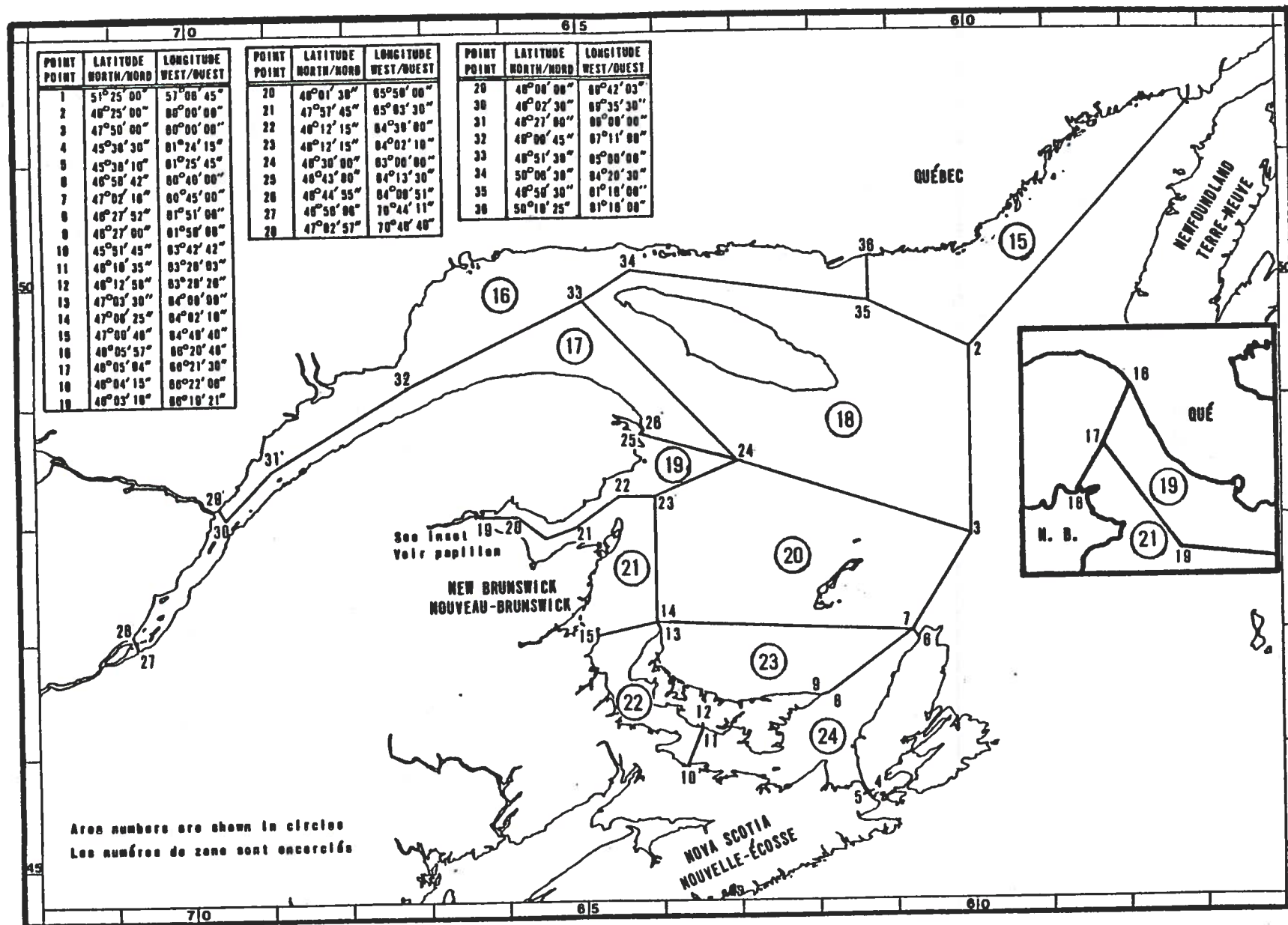
<sup>1</sup> E = Exploratory permits.

<sup>2</sup> Scallop licensee of subarea 16-D and the three (3) regular licenses holders of subarea 16-E will also have access to subarea 18-A.

<sup>3</sup> Exploratory permits holders of subarea 16-E will also have access to subareas 16-F and 18-A.

<sup>4</sup> Access to subarea 16-G will be restricted to scallop licensees based in area 15.

PART III/PARTIE III  
SCALLOP FISHING AREAS/ZONES DE PÊCHE DU PÉTONCLES



**SCALLOP MANAGEMENT PLAN**

**GULF REGION**

**1987**

## SUMMARY OF MANAGEMENT PLAN

The Gulf Region administers seven (7) scallop fishing areas as described in the Atlantic Fishery Regulations. These include three areas along the coast of Western Newfoundland and Southern Labrador, and four areas in the Southern Gulf along the coast of the Maritime Provinces.

In the Southern Gulf the specie fished is the "giant or sea scallop". However, two species of scallops, the giant or sea scallop and the icelandic scallop, are harvested by fishermen of Western Newfoundland and Southern Labrador. Generally, giant scallops are harvested in the Bay St. George and Port au Port Bay areas and icelandic scallops are harvested in the area from Flowers Cove north through the Strait of Belle Isle. There are, however, small populations of the other species in each area with some economic importance attributed to each.

There will also be three exploratory/experimental fisheries in 1987 and all conditions applicable to the regular fishery (season, drag size, etc.) will also apply for the experimental fisheries.

There will be four (4) experimental permits issued for Area 23 (P.E.I.), three (3) permits for Area 12 (W.Nfld.), and forty (40) permits issued for Area 14.

## MANAGEMENT PRINCIPLES

1. Conservation of the scallop resource.
2. Promotion of an equitable distribution of the resource between users.
3. Management measures will generally be specific to the individual scallop fishing areas inasmuch as these measures conform to the current licensing policies.
4. Maximize development opportunities to the harvesting and processing sectors.

MANAGEMENT MEASURES

The season, drag size and meat count for the various scallop fishing areas will be as follows:

<u>AREA</u>	<u>SPECIES</u>	<u>SEASON</u>	<u>DRAG SIZE*</u>	<u>MAX MEAT COUNT</u>
12,13, & 14	Icelandic	Jan. 01 - Dec. 31	13 ft	nil
12	Giant	July 01 - Dec. 31	13 ft	nil
13	Giant	July 06 - Dec. 31	13 ft	nil
14	Giant	July 11 - Dec. 31	13 ft	nil
21	Giant	May 01 - Dec. 31	20 ft	47 mpp
22	Giant	Apr. 27 - June 27	16 ft	47 mpp
23	Giant	Apr. 01 - Dec. 15	21 ft	nil
24	Giant	Apr. 13 - July 04 (Spring) Oct. 01 - Dec. 31 (Autumn)	nil n i	47 mpp

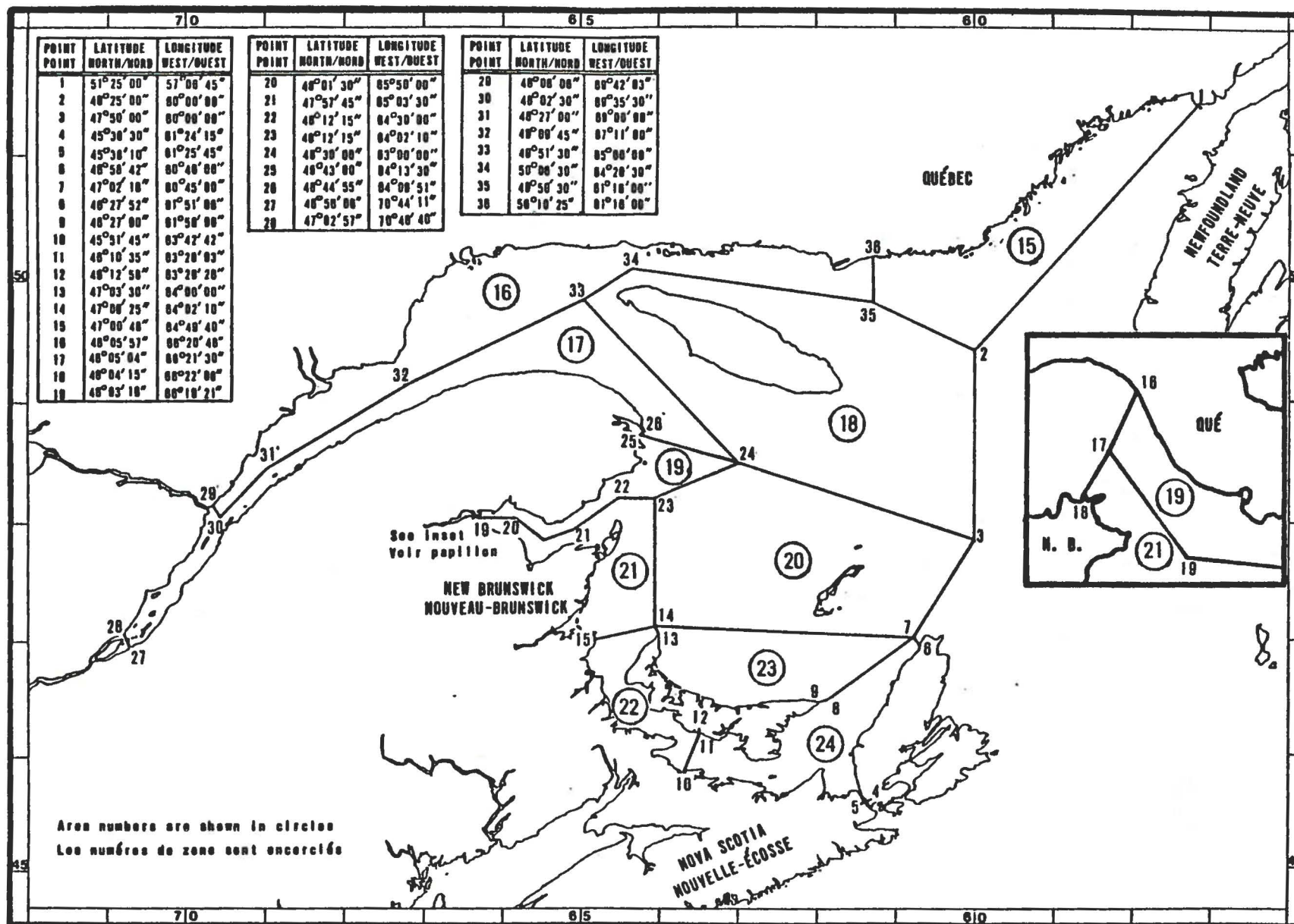
In Areas 12, 13 and 14

\* Drag size does not apply to scallop fishermen who hold a groundfish otter trawl licence. For these fishermen, a vessel quota is in effect and as such the total combined shucked scallop meat for both sea scallops and icelandic scallops is 10,000 lbs.

LICENSING

1. Individuals who held commercial scallop licences in 1986 are eligible for licences in 1987.
2. There are no new licences being issued in the scallop fishery, however, temporary licences (experimental permits) will be issued for 1987 only in areas 12, 14, and 23.
3. Transfer of existing scallop licences must conform to the current licensing policies in the Gulf Region. In Areas 12, 13, 14 (W.Nfld) transfers will only be permitted to fishermen who have been categorized as "full-time" and have a vessel registered. In Areas 21-24, transfers will only be permitted to "bonafide" fishermen.
4. An individual will be licensed to fish one area only.

PART III/PARTIE III  
 SCALLOP FISHING AREAS/ZONES DE PÊCHE DU PÉTONCLES



**1987 INSHORE SCALLOP FISHERY MANAGEMENT PLAN**  
**SCOTIA-FUNDY REGION**

# 1987 Inshore Scallop Fishery Management Plan

## Table of Contents

<u>Section</u>	<u>Page</u>
1. 1987 Inshore Scallop Management Plan Objectives .....	1
2. 1987 Inshore Scallop Fishing Plan .....	2
3. Historical Overview .....	4
4. Fishery Profile .....	5
5. Summary of Current Issues .....	9
6. Consultative Process .....	11
7. Licensing Policy .....	12

### Appendices

- I Current Inshore Scallop Advisory Committee (ISAC) Membership
- II Inshore Scallop Fishery Maps
- III 1987 Inshore Scallop Management Plan Press Release

## THE 1987 INSHORE SCALLOP MANAGEMENT PLAN

### 1987 INSHORE SCALLOP MANAGEMENT PLAN OBJECTIVES

Inshore scallop stocks, notably in the Bay of Fundy, have been critically depleted in recent years. Both the Department of Fisheries and Oceans (DFO) and industry members recognize the need to design and introduce management strategies that will heighten stability and protect the fragile scallop resource. On this front, the 1987 Inshore Scallop Management Plan, as recommended by the Inshore Scallop Advisory Committee (ISAC), stresses the following objectives:

#### 1. Restoration and Conservation

Restoration and conservation of the scallop stocks is the foremost concern of ISAC members. Industry representatives concede that the recent fishing effort in the inshore has not been sensitive to conservation concerns. DFO notes that an adequate regulatory base to enforce effective conservation measures is not in place. To this end, ISAC is engaged in a continuous consultative process from which will come a package of substantive restoration and conservation policies.

#### 2. Reduction in Fleet Capacity

Restoration and conservation efforts could be made impotent if the excessive harvesting capacity of the inshore fleets is not properly addressed. Current fleet sizes far exceed the level necessary for efficient prosecution of the available resource. Without a significant reduction in capacity, the potential for future overexploitation will remain, impeding the prospects for sustained economic viability.

#### 3. Eliminating Inter-Fleet Animosity

Recent tensions between the inshore and offshore fleets have detracted from efforts to restore and conserve the various scallop beds. The phasing out of the inshore effort has pushed forward the search for effective conservation and rational harvesting measures in the inshore fishery.

#### 4. Implementation of New Regulations

The current regulatory regime will require substantial amendment and change to accommodate pending management initiatives in the inshore scallop fishery. DFO is committed, within its available resources, to the implementation of regulations that will provide for the effective and consistent application of restoration and conservation strategies.

#### 5. Improved Consultation

The successful implementation of new, complex management programs in the inshore scallop fishery will depend on clear lines of communication so misunderstandings and misinterpretation can be avoided. Effective

consultation will be pivotal. DFO and industry members are committed to improving and strengthening the consultative process so that strong, lasting consensus can be forged.

The inshore scallop industry encompasses several distinct fleets and sets of interest. The fragmentation makes it difficult to blend the various conservation and management proposals favoured by industry members into a single, comprehensive plan. An improved consultative process will lessen the disruptive influence of the fragmentation.

### 1987 INSHORE SCALLOP FISHING PLAN

The bulk of the 1987 Inshore Scallop Management Plan came from the October 1986 Inshore/Offshore Agreement. In turn, this agreement was based on a set of recommendations tabled at the September 1986 scallop seminar sponsored by DFO. The 1987 Inshore Scallop Management Plan has five main facets.

1. The establishment of exclusive access for the traditional Bay of Fundy fleet in waters north of 43°40' and the expansion of the area of validity for coastal New Brunswick fishermen from seven miles to the middle of the Bay. (See maps, Appendix III, for description.)
2. The expansion of the six-mile conservation zone on the Nova Scotia side of the Bay of Fundy between Parkers Cove and Sandy Cove to eight miles and the establishment of a new two-mile conservation zone, with a closed season for all methods of scallop fishing from April 1 to the second Tuesday in January each year for most of the New Brunswick side. This two-mile zone will be extended from Grand Manan to much of the New Brunswick mainland coast (Appendix III).
3. ISAC members successfully negotiated a series of conservation and restoration measures designed to protect the scallop resource in the Bay of Fundy.
  - (a) A size limit of 55 meats/500 g (50/lb) will apply from October 1 to April 30. The count will be 72/500 g (65/lb) from May 1 to September 30. The necessary regulations will be drafted and introduced to the normal regulatory process. Until the appropriate regulations are promulgated, it is anticipated that the affected scallop licence holders will adhere to the meat counts to ensure the protection of a strong year class of scallops in the Bay of Fundy and particularly in the "eight-mile conservation zone" along the Nova Scotia coast.
  - (b) A maximum gear width of 18' will be reintroduced.

- (c) "Offshore" and "Green sweep" scallop rakes will be banned from Bay of Fundy waters.

Further consultation among ISAC members will take place on the possible cut backs on the maximum width of drags, on the legislation of increased ring size minimums to allow for the escapement of juvenile scallops and on mechanisms that lead to the downsizing of the inshore fleets or shortening the length of time a vessel may fish.

- 4. The two-year phase-out of the inshore effort on Georges Bank gives eight percent of the Total Allowable Catch (TAC) to the inshore fleet in 1987 (548 t) and four percent in 1988. The following conditions will apply to inshore scallop vessels fishing on Georges Bank:
  - (a) 33 meats per 500 g (30/1b).
  - (b) One trip per week, under written authorization. The week being Sunday 0001 hours to Saturday 2359 hours, beginning May 15, 1987.
  - (c) Maximum 907 kg (2,000 lb) shucked weight per week. A tolerance of 10% on shellstock landings is authorized but overruns will be deducted from the next week's trip limit.
  - (d) A requirement to hail 12 hours in advance of the time and place of landing. A violation of the plan will have occurred if hails are not made, or if scallops are offloaded before the time or at a place other than that specified in the hail.
  - (e) Gear must be unshackled and stowed when traversing any closed area.
  - (f) Convictions under regulations governing access to Georges Bank in 1987 will result in withholding of privileges of access in 1988.
- 5. The Digby "eight-mile zone" will remain closed until an effective conservation plan can be developed.

## HISTORICAL OVERVIEW

Scallop beds in the Bay of Fundy have been prosecuted commercially since the late 1880's. Scallop stocks off Digby, Nova Scotia, supported almost all the fishing effort by the Bay of Fundy fleet until the late 1970's. High variability in stock recruitment and expanded fishing effort have contributed to great fluctuations in catch levels over the years.

In 1972, limited entry was introduced in the Bay of Fundy as a conservation measure and as a means of controlling harvesting capacity. Fleet expansion continued as a result of a number of vessel owners providing sufficient evidence to the Department of Fisheries and Oceans (DFO) of historical effort in the fishery. The Bay of Fundy fleet expanded from 54 vessels in 1972 to 96 vessels in 1986. Most vessels fish from the Nova Scotia side of the Bay; 14 licences operate from the New Brunswick side. In recent years, vessel sizes have expanded, on average, to just under 19.8 m (65 feet). Increases in vessel tonnage and brake-horsepower have occurred as well. During the late 1970's the expanding fishing capacity of the Bay of Fundy fleet was sustained by the exploitation of further grounds, Browns Bank, then German/Lurcher, then the Brier Island area. Almost concurrently, a good recruitment pulse appeared on the traditional Digby scallop beds, starting in 1981. Before too long, this large fishing capacity had difficulty maintaining high catch levels because the stocks of the distant grounds had become depleted and the traditional ones were decreasing rapidly.

Between 1972 and 1977, the fleet's effort was restricted to the Bay of Fundy and adjacent waters on the Scotian Shelf. The offshore fleet had exclusive access to Georges Bank. In 1977-78, the depletion of the Bay of Fundy scallop stock resulted in a request from the inshore fleet for access to Georges Bank. Despite the offshore fleet's resistance, the inshore was given an annual quota by the Department of Fisheries and Oceans of 2.9 percent of the previous year's catch on Georges Bank.

In 1980, a seven-mile zone extending from the New Brunswick coast was declared. The zone prevented the "seven-mile" fleet from gaining access to the scallop stocks traditionally fished by the Bay of Fundy fleet.

After the latest peak in productivity for the Bay of Fundy stocks in 1981-1983, fishery performance, both in terms of catches and catch rates, has decreased steadily as no appreciable stock replenishment has taken place. In the summers of 1985 and 1986, some vessels in the Bay of Fundy fleet violated regulatory and quota restrictions used to control their fishing effort on Georges Bank. Relations between the offshore and inshore fleets became inflamed. Following a series of inter-fleet meetings and seminars, hosted by DFO, an agreement was negotiated in October 1986. The agreement called for the permanent separation of the two fleets and a phasing out of the inshore effort on Georges Bank. The conditions of the October 1986 agreement will require the Bay of Fundy fleet to adopt effective restoration and conservation strategies if the scallop resource is to sustain an economically viable industry. Furthermore, the agreement included the expansion of the coastal New Brunswick fishing district from seven miles to the mid-Bay of Fundy and the elimination of inactive scallop licences.

Scallop beds in the Bay of Fundy are also exploited by other fleets. Vessels from southwestern New Brunswick holding inshore or 7-mile New Brunswick licences fish the coastal waters of the Bay on the New Brunswick side. There are about 250 licensed vessels in this fleet. Up until 1980 this fishery was small but regular, yielding about 5% of the total landings for the Bay. A strong recruiting pulse brought drastic changes to the fishery in 1980 with the start of well above average landings for the area. Landings peaked in 1981 to decline afterwards but remain at relatively high levels nevertheless. Catch rates have generally followed a declining trend.

Scallop stocks in the Bay are also harvested by the Upper Bay of Fundy fleet which has 15 licensed vessels; half of these vessels have been active in recent years. In the East of Baccaro region, there are 348 licensed vessels in 1986. This fleet has been relatively dormant since the early 1970's. With the exception of the East of Baccaro vessels, the various inshore fleets are highly dependent on revenues from the scallop fishery.

### FISHERY PROFILE

All scallop stocks in the inshore waters have been overfished in recent years. This biological reality impedes the economic vibrancy of the inshore scallop fishery. Estimated annual catch rates for the Bay of Fundy scallop fishery have declined substantially from 1979 to 1987. The catch rate between 1979 and 1986 (defined as catch per hour per total width of the drags in meters) has declined steadily from 7.0 kg/hm to 2.4 kg/hm. The fishery has relied, over the years, on older scallops and the relative numbers of scallops of these ages have declined in research surveys, as have the total number of scallops per tow. Poor recruitment was recorded between 1981 and 1985. For 1986, there was a significant increase in the number of juvenile scallops, and it would appear that a few commercial fishermen have started to exploit these small scallops. The Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) notes that the fishery, in 1987, for the traditional size of scallops will not improve but that smaller scallops could contribute to total catches to the extent that the fleet is prepared to handle them. These young scallops, if not caught, will continue to grow rapidly for two or more years, so potential benefits from this recruitment pulse will be sacrificed if the juveniles are harvested in 1987 and 1988.

Landings by the Bay of Fundy fleet (vessels) between 14 and 19 meters length overall) between 1976 and 1986 have averaged 611.3 t. Landings have ranged from 403.8 t in 1986 to 1044.6 t in 1983. In the late 1970's, landings averaged 426 t and 802 t between 1980 and 1985. Catch rates for this period (1976 to 1986) have averaged 4.79 kg/hm; 5.7 kg/hm for the late 1970's and 4.5 kg/hm between 1980 and 1985. Landings and the catch rate for 1986 (404 t and 2.3 kg/hm) are the lowest recorded for the ten year period. (Landing data for the Bay of Fundy fleet in and out of the Bay of Fundy waters between 1982 and 1986 are cited in Table I.)

Landings by mid-Bay fleet (vessels under 14 meters length overall) in Southern New Brunswick have averaged 176.3 t between 1977 and 1986. These landings

have ranged from 4.2 t in 1977 to a peak of 451.7 t in 1981. Between 1981 and 1986, the catch rate for this fleet has averaged 2.62 kg/hm. The catch rate has declined steadily from 4.27 in 1981 to 1.5 in 1986. (Additional statistics on landings by the mid-Bay fleet are cited in Table I.)

The various inshore fleets are highly dependent on revenues from scallop landings; 50 to 70 percent of the fleet's revenues come from this single resource. Most vessels, though, are licensed and equipped to fish groundfish and other species. Scientific and economic evidence suggest that, if significant restoration and conservation measures are not introduced, the available resource in coming years will not be sufficient to support a viable industry. The following tables provide an overview of the available information on inshore catches and fleets.

**Table I: Annual Inshore Scallop Catches 1982 to 1986**  
(Quantity (Q) in Metric Tonnes\*, Value (V) in Thousand Dollars)

Fleet	1982		1983		1984		1985		1986 <sup>1</sup>	
	Q	V	Q	V	Q	V	Q	V	Q	V
Bay of Fundy <sup>1</sup>	1,140	10,163	891	11,885	720	10,183	722	9,188	626	8,020
Mid-Bay of Fundy/ <sup>2</sup>										
Upper Bay of Fundy	317	2,277	326	4,067	278	4,237	249	3,675	209	3,200

\* Scallop meats.

1 Landings by vessels 14 to 19.8 m LOA (Bay of Fundy fleet), on an annual basis.

2 Landings for vessels under 14 m LOA, mainly mid and upper Bay of Fundy licensed vessels, on an annual basis.

Based on landings officially reported to DFO, the East of Baccaro fleet traditionally has fished less than 10 metric tonnes of scallops, valued between \$100,000 and \$200,000. Scallop landings represent about 17 percent of the total landed values of the fleet.

**Table II: Inshore Scallop Fleets by Vessel LOA (1985)**  
Length Overall (LOA) Class in Metres

Fleet	Less Than 6.1	6.1 - 10.6	10.7 - 14.9	15 - 19.8	Total
Bay of Fundy	0	0	27	68	95
Mid-Bay of Fundy	18	38	174	17	247
Upper Bay of Fundy	0	1	14	0	15
East of Baccaro	27	199	120	2	348
Total	45	238	335	87	705

Bay of Fundy vessels range from 10.7 m to 19.8 m in length with most vessels approaching the 19.8 m range. The mid-Bay of Fundy fleet varies in length from less than 6.1 m to 19.8 m. Most vessels come under the 10.7 m to 14.9 m range. Vessels in the Upper Bay of Fundy fleet go from 6.1 m to 14.9 m; with three exceptions, all vessels exceed 10.7 m in length. The East of Baccaro fleet (the inshore Scotian Shelf scallop fishery) ranges from 6.1 m to 19.8 m. Most vessel lengths are concentrated in the 6.1 m to 14.9 m range. (See Table II.)

**Table III: Inshore Scallop Fleets - Breakdown by Age (1985)**  
(Number of Vessels by Age Class)

Fleet	0-5 Yrs	6-10 Yrs	11-20 Yrs	21-35 Yrs	35+ Yrs	Total
Bay of Fundy	28	26	18	23	0	95
Mid-Bay of Fundy	61	59	79	47	1	247
Upper Bay of Fundy	5	5	5	0	0	15
East of Baccaro	81	91	114	59	3	348
<b>Total</b>	<b>175</b>	<b>181</b>	<b>216</b>	<b>129</b>	<b>4</b>	<b>705</b>

The Bay of Fundy fleet is relatively new, about 30% of the vessels have been built in the last six years. Approximately one-quarter of the fleet is more than twenty years old. In the mid-Bay of Fundy fleet, about half the vessels have been introduced in the last ten years, while the remainder is approaching the end of its useful life. Vessels in the Upper Bay of Fundy fleet range in age from twenty years to less than five years. Generally, the bulk of the fleet is new to the inshore fishery. A high number of vessels (50 percent) in the East of Baccaro fleet are over eleven years old. (See Table III.)

**Table IV: Active Licences Versus Issued Licences in the Inshore Scallop Fleet 1985**

Fleet	Issued Licences	Active Licences	Percentage
Bay of Fundy	95	75	79%
Mid-Bay of Fundy	247	124	50.2%
Upper Bay of Fundy	15	7	46.7%
East of Baccaro	348	28	8%
<b>Total</b>	<b>705</b>	<b>243</b>	

The most active vessels in the inshore scallop fishery come from the Bay of Fundy fleet. Approximately half the available licence holders in the mid-Bay of Fundy fleet and the Upper Bay of Fundy fleet have reported landings in recent years. The East of Baccaro fleet is relatively dormant. (See Table IV).

The smaller vessels in the inshore fleets employ one to two fishermen, while the larger vessels require two to three crew members. About 300 crew members are employed in the Bay of Fundy fleet. Crew earnings have averaged \$20,000 in recent years, with skippers receiving somewhat higher levels of compensation. Inshore scallops are processed and exported by a number of large and small companies, concentrated in southwestern Nova Scotia. A significant number of indirect jobs result from the inshore scallop fishery. The fishery is a traditional source of employment in many communities along the Bay of Fundy coast.

Market Trends and Forecasts

Strong demand conditions for scallops are expected to prevail in Canada and the United States. Strong demand though has not ensured price stability. High import levels in the United States and higher scallop landings in the United States and Canada in recent years, leading to higher than normal inventory levels in the United States, have served to depress current prices. As compared to 12,370 t in 1984 and 19,067 t in 1985, the United States imported 21,735 t of scallops in 1986, primarily from Canada, Japan, Peru and Iceland. Specifically, the United States imported 6,086 t of scallops from Canada. In 1984, 5,000 t of scallop meats were processed on the Canadian Atlantic coast, 5,600 t in 1985 and 6,800 t in 1986. Canada's share of the United States scallop market has declined rapidly since 1982 when it stood at 72 percent. Competition from Peru and Japan and in 1986 from Panama has pushed the Canadian share of the American market below 30 percent despite recent increases in scallop landings in Canada.

Increases in recent offshore scallop catches by Canadian vessels and variability of supply from other exporting nations could result in some resurgence in Canada's share of the American scallop market.

**Table V: Canadian Exports of Frozen Scallops by Country 1984-1986**  
(Quantity (Q) in Tonnes, Value (V) in Thousand Dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
France	19	121	20	129	-	-
West Germany	0	2	29	290	-	-
Switzerland	11	136	-	-	10	68
Japan	10	100	7	54	8	44
Bermuda	2	44	0	1	-	-
U.S.A.	2,940	45,777	4,068	59,153	4,213	64,837
Other	2	32	3	53	16	271
<b>Total</b>	<b>2,984</b>	<b>46,212</b>	<b>4,127</b>	<b>59,677</b>	<b>4,247</b>	<b>65,220</b>

Table VI: Canadian Export of Fresh/Chilled Scallops by Country 1984-1986  
(Quantity (Q) in Tonnes, Value (V) in Thousand Dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
U.S.A.	1,046	16,474	1,510	21,597	1,853	27,736
Other	14	135	0	1	1	28
Total	1,060	16,609	1,510	21,598	1,854	27,764

### SUMMARY OF CURRENT ISSUES

Recent efforts to stabilize the inshore scallop fishery through conservation and restoration initiatives have sparked a host of issues and concerns that will require debate and resolution.

#### 1. Restoration and Conservation

The current state of the inshore scallop fishery is precarious. Overexploitation and a large variability in recruitment make the restoration of the inshore scallop stock a long-term process. Restoration and conservation efforts will be a foremost feature of coming management plans.

#### 2. New Regulations

Recent and pending management initiatives that focus on the restoration and conservation of the inshore scallop stocks require new regulations or amendments to existing ones. Regulations are required for the reestablishment of limits on gear width and the introduction of scallop size limits. Furthermore, the Inshore Scallop Advisory Committee (ISAC) has drafted a suggested penalty schedule that should serve as a credible deterrence to overfishing.

#### 3. Licence Cancellation

The October 1986 agreement called for the cancellation of inactive licences in the inshore fishery. The cancellation program was a first step in reducing the harvesting capacity of the inshore fleets. Resistance to the program has come from several groups of inshore fishermen, particularly the southwestern New Brunswick and East of Baccaro fishermen. A comprehensive licence appeal process to address the concerns of the affected licence holders is in place.

4. Enforcement and Surveillance

Illegal fishing activity on Georges Bank by vessels from the Bay of Fundy fleet was the primary factor contributing to inshore/offshore tensions throughout the 1985 and 1986 fishing seasons. The phasing out of the inshore effort on the Bank should help tame these tensions. DFO is firmly committed to the enforcement of the October 1986 agreement. In addition, DFO will enforce the various changes made to the inshore boundaries, including the establishment of extended conservation zones.

5. Shellstocking

The practice of shellstocking involves the stocking or holding of scallops in their shells on the deck of vessels until they are shucked close to shore. Shellstocking is a permitted practice but it has the potential to create conservation and quality problems. As well, it minimizes the effectiveness of enforcement activities related to trip limits and scallop size limits.

6. Overcapacity

Most participants in the inshore fleets recognize overcapacity as a serious impediment to conservation, orderly fishing and to sustained economic viability for fishermen. The licence cancellation program is a cautious move towards reducing the inshore fleet's harvesting capacity.

Other initiatives under review by the industry include limitations on dual licences, a fishermen/ government-funded buy-back program, participation clauses and firmer restrictions on transfers of licences and vessel replacement guidelines.

7. Improving the Consultative Process

In 1986, industry members expressed dissatisfaction with the consultative process used to develop the inshore scallop management plan. Concern was expressed about the frequency and location of meetings, the adoption of regulatory or policy changes without adequate consultation, unsatisfactory explanation from DFO when recommended advice from ISAC is not followed, the need for balanced representation among the various inshore fleets and better inter-fleet communication. Significant changes to the process, including a restructured committee (the Bay of Fundy fleet will elect its representatives) and more frequently held meetings, are being implemented in 1987.

8. Closure of New Brunswick Two-Mile Zone

Recreational divers object to the nine-month, two-mile closure in New Brunswick. The decision is strongly supported by ISAC members, who favoured a commercial fishery only in this sector.

## CONSULTATIVE PROCESS

The Inshore Scallop Advisory Committee (ISAC) serves as the primary vehicle through which the Inshore Scallop Fishing Management Plan is deliberated and developed. ISAC is one of approximately 35 regional management advisory committees sponsored by DFO. In turn, ISAC is supported by a working group of DFO officers who consolidate scientific, economic, marketing and other information into draft fishing plans for the Committee's consideration. Sub-committees and working groups can be established to address specific concerns.

Throughout the summers of 1985 and 1986, tensions between the offshore and inshore scallop fleets reached critical levels. The spark for these tensions was illegal fishing activity on Georges Bank by some inshore vessels. Despite a series of inter-fleet meetings hosted by DFO no resolution to this conflict was found. Following ministerial intervention, DFO organized a three-day scallop seminar from September 16 to 18, 1986. Representatives of both fleets conceded that this conflictive environment was retarding the restoration and conservation of the offshore and inshore scallop stocks. At the scallop seminar, a tentative deal was struck between the two fleets. The deal called for the immediate and permanent separation of the two fleets along the 43°40' line and the phasing out of the inshore effort on Georges Bank. This agreement was ratified formally by both fleets in October 1986 and was announced by the Minister on October 30, 1986. The agreement serves as the centerpiece of the 1987 Inshore Scallop Management Plan.

Following the October 1986 agreement, the inshore fishery cautiously embraced a package of restoration and conservation measures designed to rebuild the scallop stocks in the Bay of Fundy and adjacent waters. Among other issues reviewed by ISAC members in 1986-87 were:

1. Whether the inshore scallop fishery's preference for a government/industry-funded buy-back program was reasonable, given economic indicators from DFO that the scheme was not likely to raise sufficient revenue to reduce the Bay of Fundy scallop fleet by more than a few vessels.
2. The protection of juvenile scallops from overfishing until gear and scallop size regulations can be introduced, as well as regulations prohibiting the use of offshore and Green sweep type gear in the inshore fishery.
3. The introduction of an enforceable meat count regime, the development of a conservation zone along the New Brunswick shore and the enforcement of a mid-Bay of Fundy line for the "seven-mile" fleet.
4. Approaches to reductions in fleet and harvesting capacities that go beyond the licence cancellation program. Current fleet capacity will threaten the stability of even fully restored scallop stocks.

5. The phasing out of the inshore effort on Georges Bank must be consistent with the conditions of the October 1986 agreement.
6. The introduction of a strict package of deterrents and penalties to prevent violations of current (and pending) restoration and conservation measures.
7. Improving and strengthening the ISAC consultative process so that the interests of the different inshore fleets can be clearly communicated and assessed prior to the adoption of Inshore Scallop Management Plans.

## LICENSING POLICY

### Licence Non-Renewal

The October 1986 agreement called for the cancellation of inactive licences in the inshore scallop fishery. Scallop licence holders in the Scotia-Fundy Region who did not use their licences to participate in the fishery for the past five years will not be eligible to renew these licences. The non-renewal of inactive licences has been identified by government and the scallop industry as necessary to reduce the capacity in the fishery.

Departmental catch records were used to identify active participants in 1984, 1985 and up to September 15, 1986. Licence holders who have fished scallops between September 15, 1981, and December 31, 1984, will be requested to clearly document that they have used their licences during the period in order to be eligible for a 1987 scallop licence. To qualify for licences, fishermen must have documented landings of at least \$350 in any year over the five-year base period. In addition, documentation that a significant financial commitment was made between January 1, 1985, and September 15, 1986, toward activity in the scallop fishery, may also be considered as terms for licence qualification.

Appeals on Departmental licensing rulings will be heard through the existing appeal mechanism and, if necessary, the Minister's Atlantic Fishermen's Licence Appeal Board. Persons wishing to renew their licences for 1987 were to apply by June 30, 1987. Applications were not to be accepted after this date.

The various licensing policies for the different inshore fleets follow. See the maps, Appendix III, for the description of the areas.

The Bay of Fundy scallop fishery is prosecuted by vessels less than 19.8 m which fish scallops from parts within Division 4X of Subarea 4 north of 43°40'. Limited participation on Georges Bank will occur in 1987 and 1988 under the October 1986 Inshore/Offshore Agreement.

The Upper Bay of Fundy scallop fishery encompasses those waters in the Bay of Fundy, east of a straight line drawn from the coast at the Annapolis/Kings County boundary line, Nova Scotia, to the coast of the Albert/Saint John County boundary line, New Brunswick. The fishery is prosecuted by vessels less than 13.7 m.

The inshore mid-Bay of Fundy fishery is exploited by vessels less than 19.8 m which fish scallops in coastal New Brunswick waters to a line in the middle of the Bay of Fundy.

The inshore Scotian Shelf (East of Baccaro) scallop fishery is prosecuted by vessels less than 19.8 m, which are restricted to fishing scallops in Divisions 4WX east of 65°30'W. longitude.

All inshore scallop fleets are subject to limited entry regulations. All limited fishery licences must be renewed on a calendar year basis or are subject to cancellation and they are not transferrable. The owner of an inshore scallop vessel may hold multiple licences in respect of that vessel subject to the licensing policies of the other fisheries.

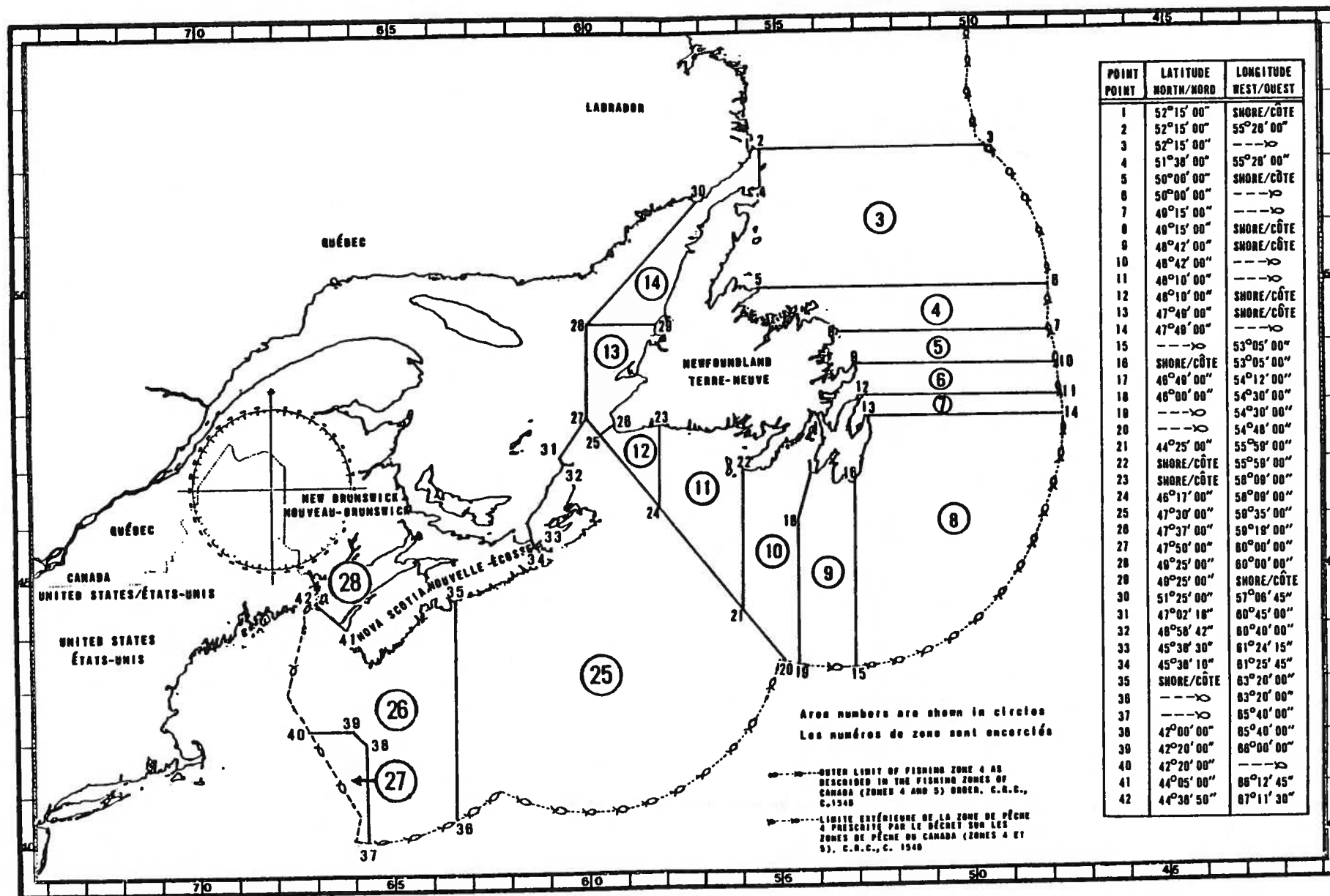
In the event that a vessel is replaced in the Bay of Fundy scallop fishery or the mid-Bay of Fundy fleet, the replacement vessel shall not exceed 125% of the length overall (LOA), up to 19.8 m. The replacement vessel may not itself be replaced for a period of five years with a vessel greater than the length of the original replacement vessel. Replacement vessels in the Upper Bay of Fundy fishery cannot exceed 13.7 m LOA. Finally, replacement vessels in the East of Baccaro fishery cannot exceed 13.7 m LOA if the original vessel was less than 13.7 m, and 19.8 m LOA if the replaced vessel was between 13.7 m and 19.8 m LOA.

The current licence policy in the inshore scallop fishery is designed to make optimum use of available resources in accordance with sound biological and economic resource management principles.

INSHORE SCALLOP ADVISORY COMMITTEE MEMBERSHIP

<u>Name</u>	<u>Organization</u>	<u>Address</u>
H. Scarth, Chairman	DFO	Halifax
D. MacClafferty, Chairman	DFO	Digby
B. Jones	N.S. Department of Fisheries	Fredericton
G. Roach	N.B. Department of Fisheries	Halifax
K. Sonnenberg	Grand Manan Fishermen's Assoc.	Seal Cove
R. Anderson	Fundy North Fishermen's Assoc.	Seeley's Cove
H. Mitchell	Fundy North Fishermen's Assoc.	Lord's Cove
D. Matheson	Fundy North Fishermen's Assoc.	Wilson's Beach
P. Amirault	Nova Scotia Fishermen's Assoc.	Yarmouth
R. Hazelton	Digby Inshore Scallop Fishermen's Assoc.	Barton
A. Halliday	N.S. Bay of Fundy Fisherman	Annapolis Royal
F. Kay	N.S. Bay of Fundy Fisherman	Granville Ferry
K. Longmire	N.S. Bay of Fundy Fisherman	Granville Ferry
L. Longmire	N.S. Bay of Fundy Fisherman	Granville Ferry
R. Magarvey	N.S. Bay of Fundy Fisherman	Granville Ferry
V. Hazelton	N.S. Bay of Fundy Fisherman	Digby
R. Robicheau	N.S. Bay of Fundy Fisherman	Digby
S. Kinghorne	N.B. Bay of Fundy Fisherman	North Head
F. Small	N.B. Bay of Fundy Fisherman	White Head
G. Urquhart	Mid-Bay of Fundy Fisherman	Woodward's Cove
T. Robarts	Upper Bay of Fundy Fisherman	Advocate Harbour
R. Collins	Upper Bay of Fundy Fisherman	Alma
J. Casey	Casey Fisheries Limited	Digby
T. O'Neill	O'Neill Fisheries Limited	Digby
G. Jefferson	DFO	Halifax
J. Nelson	DFO	Halifax
G. Robert	DFO	Halifax
G. Stevens	DFO	Halifax
P. Partington	DFO	Yarmouth
J. Southall	DFO	Yarmouth
Area Manager	DFO	St. Andrews

PART II/PARTIE II  
SCALLOP FISHING AREAS/ZONES DE PÊCHE DU PÉTONCLES



**1987 OFFSHORE SCALLOP FISHERY MANAGEMENT PLAN**  
**SCOTIA-FUNDY REGION**

# 1987 Offshore Scallop Fishery Management Plan

## Table of Contents

<u>Section</u>	<u>Page</u>
1. 1987 Offshore Scallop Plan Objectives .....	1
2. The 1987 Offshore Scallop Fishing Plan .....	2
3. Historical Overview .....	5
4. Fishery Profile .....	6
5. Summary of Current Issues .....	9
6. Consultative Process .....	11
7. Licensing Policy .....	12

### Appendices

- I Glossary Of Terms
- II Current Offshore Scallop Advisory Committee (OSAC) Membership
- III Offshore Scallop Fishery Map
- IV 1987 Offshore Scallop Management Plan Press Releases

## THE 1987 OFFSHORE SCALLOP MANAGEMENT PLAN

### 1987 OFFSHORE SCALLOP FISHERY PLAN OBJECTIVES

The 1987 Offshore Scallop Management Plan is oriented toward two general objectives as developed by the Offshore Scallop Advisory Committee (OSAC). First, the conservation and prudent management of a limited and valuable fishery resource. Second, to provide reasonable access to Georges Bank for current participants in the offshore scallop fishery, given the available resource. From these general objectives come five more specific concerns and considerations.

#### 1. Increased Stability

Industry representatives on OSAC have expressed concern about the recent instability in annual landings. This instability was highlighted by the 1984 catch (1,945 t), the lowest landing on record. OSAC's endorsement of the Total Allowable Catch/Enterprise Allocation (TAC/EA) regime in the 1985-86 management plan gives full support to the design and intent of this harvesting strategy. Lower meat counts have not only proven to be a useful conservation measure, but they have also allowed for the optimal use of different year classes. Annual landings on Georges Bank should be marked by relative stability due to the gradual and continuous restocking of the scallop beds. Some fluctuations in TAC's will always occur, given the wide variability in recruitment patterns inherent in scallop populations.

#### 2. Improved Biological Input and Advice

OSAC members recognize the need to tie the setting of TAC's and EA's to sound, reliable biological data. The Canadian Atlantic Fisheries Scientific Advisory Committee's (CAFSAC) advice on the 1987 TAC was a key facet of the Offshore Scallop Management Plan. Detailed information on scallop stocks improves industry's capacity to make long-term investment decisions, and it assists the Department in executing its conservation policies. Finally, biological advice can assist industry in its efforts to achieve the optimal use of annual yields and pending year classes.

#### 3. Reduction in Harvesting Capacity to Improve Economic Viability

A strong consensus exists among OSAC members that the current number of available licences and vessels does not represent the optimal level of harvesting capacity. A reduction in harvesting capacity is needed. The 1987 Scallop Management Plan recognizes this objective by favouring the continued use of the EA program. EA's can provide the spark for eventual fleet rationalization and a lessening of overcapitalization in the offshore scallop fishery. The EA Program encourages companies to harvest their share of the allowable catch in the most efficient manner. Over time, this approach can result in a level of harvesting capacity that is more closely matched to the available scallop resource. If the TAC/EA regime sponsors fleet rationalization, economic viability can become a dominant feature of the offshore scallop industry. Fleet owners should begin to receive a reasonable rate of return on their investments.

Fishermen employed in the offshore fishery should receive, in turn, higher average incomes and participate in a less regimented and exhausting work environment.

4. Introduction of New Initiatives and Programs

The industry and the Department of Fisheries and Oceans (DFO) are committed to the identification and introduction of programs which will generate economic wealth by improving product quality, resource utilization and increase market shares. Maximum benefits can be acquired by fishing to optimum market size and minimizing incidental mortality. On this front, the 1987 Scallop Management Plan provides for the cautious development of a roe fishery, subject to DFO monitoring and guidelines.

THE 1987 OFFSHORE SCALLOP FISHING PLAN

The Interim Plan

In December 1986, OSAC provided advice on an interim management plan for 1987. The interim plan was to be reviewed in April 1987 when formal CAFSAC advice became available. The interim plan, announced on January 13, 1987, had four main features.

1. Interim Total Allowable Catch (TAC)

An interim TAC of 5,378 t was set, eight percent of which (430 t) was to be allocated to the Bay of Fundy inshore fleet, as per the October 1986 Inshore-Offshore Agreement. The offshore fleet was left a TAC of 4,948 t. This quota was subject to the experimental Enterprise Allocation Program (for more information, see the document "Enterprise Allocations in the Offshore Scallop Fishery").

2. Meat Count Limits

For 1987, the meat count remained at 33/500 g for 4X+5, and an interim meat count of 44/500 g was set for 4VW. The St. Pierre plan would be finalized following consultation on the impact of the boundary question. Until then, 3Ps would remain voluntarily closed.

3. Administration and Enforcement

The administrative and enforcement rules used in 1986 would apply in 1987, including the voluntary hail mechanism. The special provisions for 4VW trips remained in place.

## The Final Plan

Advice for the final 1987 Offshore Scallop Management Plan was tabled by OSAC in late April 1987. The plan was announced by the Minister on June 4, 1987. The plan has six principle features.

### 1. Harvesting Strategy

In response to the newness of the CAFSAC process on TAC advice and concern over harvest levels by American and Bay of Fundy fleets, a conservative harvesting strategy was favoured by OSAC members. The harvesting strategy was set close to  $F_{0.1}$  rather than  $F_{max}$ . This strategy represents a decrease in fishing effort over earlier years. This tamed fishing effort should assure some level of stability in future years with the potential of less important year classes entering the fishery.

### 2. Revised TAC

The final TAC for 1987 was set at 6,850 t, eight percent of which (548 t) going to the Bay of Fundy inshore fleet. This level of harvest ( $F_{max}$  was 9,249 t) should contribute to the rebuilding of the biomass for the long-term benefit of the industry.

### 3. Enterprise Allocations (EA's)

The Enterprise Allocation Program will continue as described in the document "Enterprise Allocations in the Offshore Scallop Fishery" (dated June 1986, as amended). 1987 is the second year of the three-year trial introduction program.

### 4. Meat Count Limits

33/500 g for 4X+5  
44/500 g for 4VW  
33/500 g for 3Ps<sup>1</sup>

### 5. Trip Limitations

13,700 kg/trip, 12 days dock-to-dock.

---

<sup>1</sup> 3Ps was closed until further notice on May 29, 1987, with the concurrence of the industry, due to small scallops in the catches.

6. Roe Fishery

The plan allows for the careful, orderly development of a roe fishery. Three caveats are included. Efforts in the roe fishery should be sensitive to the possible presence of paralytic shellfish poisoning (PSP); they should not upset the integrity of the size limits and they should be consistent with TAC/EA enforcement. DFO will develop the necessary safeguards and procedures with interested companies.

In the interim, DFO will authorize up to two experimental/developmental projects. The projects will allow for the orderly testing of PSP and the establishment of handling procedures that will minimize the possibility of mixing inshore scallops (where PSP levels are known to be very high) with offshore scallops.

7. Inshore Access to Georges Bank

In response to OSAC's concerns, DFO affirmed its commitment and responsibility to monitor inshore activity on Georges Bank. (For details, see the 1987 Scotia-Fundy Inshore Scallop Fishing Management Plan.)

8. Administrative Procedures

To ensure the integrity of the plan, OSAC advised that the administrative and enforcement packages used in 1986 remain in effect for 1987. They are highlighted as follows (details can be found in "Enterprise Allocations in the Offshore Scallop Fishery").

(a) Hail Requirements

The operator of an offshore fishing vessel shall not land or permit to be landed any scallops or scallop meats from any fishing area unless he first notifies a Fishery Officer as to when and where the landing will take place. A notification of 12 hours must be given by the vessel. (Vessel owners and skippers have been advised of local contact numbers. In the Newfoundland Region hails are to be announced by contacting DFO at 1-709-772-4089.) A violation of the plan will have occurred if scallops are landed before that time or at a place other than those stated in the hail.

(b) Licensing Procedures for 3Ps and 4VW

Vessels fishing in 3Ps or 4VW are to restrict their efforts to a single sector per trip. Trips to 3Ps or 4VW shall only be made after a condition of licence is issued to the owner of the affected vessel and affixed to the licence. The condition of licence renders the vessel's licence valid for Area 3Ps or 4VW as applicable. It must be signed by a signing officer of the company and it must be on board the vessel for the duration of the trip. Departmental officers should be provided with as much warning as possible in order that trips are not unnecessarily delayed.

## HISTORICAL OVERVIEW

Canadian participation in the offshore scallop fishery on Georges Bank began in the mid-1940's. The bulk of the offshore fleet was constructed between 1962 and 1967 (58 wooden vessels). Since 1976, 9 new steel vessels and 2 new wooden vessels have been introduced to the fleet. Fishing strategies and gear types remained essentially unchanged until 1986. In 1972, limited entry was introduced based on economic and biological advice that registered concern about the level of capital investment in the fishery relative to the available resource. The number of licences is now set at 76; there were 69 active vessels in the fleet during the 1986 fishing year.

Between 1960 and 1972, catches on Georges Bank averaged 5,200 t. Fishing activity was concentrated on the northeast part of the Bank, though the Canadian fleet had access to all scallop beds on Georges Bank. In 1977, the United States and Canada declared 200-mile fishing zones. Canadian access to the Bank became limited to a disputed zone. Landings between 1977 and 1984 dropped from 13,000 t to 2,000 t, a combined result of overfishing and poor recruitment to the fishery. The 1984 landing was the lowest catch on record since 1957.

In October 1984, the International Court of Justice (ICJ) established an international boundary in the Gulf of Maine. The division awarded the northeast portion of Georges Bank to Canada. This portion is considered to host the most lucrative scallop resource on the Banks. The ICJ decision set the stage for the introduction of more effective conservation and management strategies.

Up to 1985, the primary conservation method, consistent with biological advice, was size limits (meat counts). Meat counts were introduced in 1977, based on recommendations from the Offshore Scallop Advisory Committee (OSAC). (OSAC was set up in 1972, with representation from fishermen, owners/processors, and provincial government and DFO advisors, to provide advice on the management of the fishery.) The meat count limit has been reduced in steps from 66/500 g to the current level of 33/500 g.

In October 1986, an agreement was struck between the inshore and offshore scallop fisheries. This agreement calls for the permanent separation of the fleets and the phasing out of the inshore effort on Georges Bank by 1989. (Since 1977, the inshore could land 2.9 percent of the offshore's catch from the previous year.) This agreement pushed forward the use of total allowable catches (TAC's--first introduced for the 1986 fishing year) and the experimental use of enterprise allocations (EA's) for three years in the offshore scallop fishery. A TAC was introduced to allow for the effective conservation and restoration of the resource. The EA harvesting strategy should lead to the much needed and desired rationalization of the offshore fleet.

The current conservation and management strategies have been relatively effective. Since 1984, the scallop beds in Georges Bank have begun to recover from overexploitation. The 1985 landings were 3,800 t, 4,900 t for 1986 and 1987 catches are projected, under current management strategies, to reach some 6,900 t. The long-term annual average landing of the offshore scallop fishery from the Canadian portion of Georges Bank is estimated to be about 6,000 t.

### FISHERY PROFILE

Over the last decade, the physical dimensions of scallop grounds used by Canadian fishermen on Georges Bank have decreased so that a little over 50 percent of the potential scallop production remains available to Canada east of the ICJ line. Recent productivity of the Canadian sector has averaged about 6,000 t per year; strong recruitment pulses have allowed peak landings, over 11,000 t in 1977-78. Continuous high effort over diminishing stocks led, in 1984, to the lowest catches since 1959.

Historically, the offshore fleet has depended more heavily on Georges Bank than the inshore fleet. In financial terms, the scallop resource represents the most important component of the Georges Bank fishery. In recent years, it has accounted for more than 70 percent of the total landed value for all species taken from the Bank.

**Table I: Annual Offshore Fleet<sup>1</sup> Scallop Catches 1983-1987 (All Areas)**  
(Quantity (Q) in Metric Tonnes, Value (V) in Thousand Dollars)

Year	Q	V
1983	4,377	48,060
1984	2,738	33,639
1985	3,920	40,593
1986	5,367	55,757
1987*	6,850	70,000

<sup>1</sup> Offshore scallop fleet consists of vessels all greater than 19.8 m in length.

\* The Quantity and Value for 1987 are projected figures.

### Fleet Profile

The condition of the offshore scallop fleet is deteriorating with many vessels approaching the end of their useful life. To pass vessel inspection standards, these vessels will require major capital investments. Two new wooden vessels were added to the fleet in 1986, and a number of older steel vessels were licensed to fish scallops as replacements for older wooden

vessels. In 1986, 33 percent (23) of the active scallop fleet was comprised of wooden vessels over 20 years old and 33 percent (23) of the active vessels were made of wood and built after 1965. The remainder (28 percent) of the fleet is comprised of steel vessels, nine of which were constructed after 1976 and the other seven vessels were constructed prior to 1976.

Table II: Active\* Vessels by Class 1982-1987

Class	1982	1983	1984	1985	1986	1987 <sup>1</sup>
1	9	9	9	9	10	9
2	7	7	7	7	13	7
3	28	27	26	25	23	20
4	32	31	31	27	23	14
Total	76	74	73	68	69	50

Class 1 - new steel vessels built in 1976 or later.  
Class 2 - older steel vessels built before 1976.  
Class 3 - wooden vessels built in 1965 or later.  
Class 4 - wooden vessels built before 1965.

\* Active is defined as having a recorded landing of scallops during the fishing year.

<sup>1</sup> Up to April, 1987.

The offshore scallop fishery is currently prosecuted by about 60 vessels in the 29 m to 41 m range, operating from Riverport, Lunenburg, Yarmouth, Liverpool, Port Mouton, Lockeport and Saulnierville, Nova Scotia (nine other vessels landed scallops but spent less than 50 days at sea in 1986). The fleet is dependent exclusively on scallops. It is not licensed for other species.

Each vessel employs 15 to 16 crew members and, depending on fishing success, stays at sea for up to 12 days. Approximately 870 to 920 crew members are employed on the active vessels. Each active vessel, while in port, may be serviced by up to eight employees and a number of other jobs result from indirect or induced economic effects. Crew members receive approximately 41 percent of the value of the landed catch. In 1986, crew members would have earned, on average, \$25,040.

#### Companies and Plant Locations

The following companies currently process fresh and frozen scallops from the offshore fishery:

<u>Company</u>	<u>Plant Location</u>
Scotia Trawler & Equipment Ltd.	Lunenburg
Mersey Seafoods Ltd.	Liverpool
Clearwater Fine Foods Inc. (C.W. MacLeod Ltd.) (Pierce Fisheries Ltd.) (Island Pride Fisheries)	Central Port Mouton/Lockeport
L. Sweeney Fisheries Ltd.	Yarmouth
Comeau's Seafoods	Saulnierville

Fishery Products International and Adams and Knickle vessels participate in the offshore scallop fishery. Catches are processed by independent plants.

The Georges Bank scallop fishery is of paramount importance to communities in Southwestern Nova Scotia. It is a traditional source of employment and pivotal to the vibrancy of local economies.

#### Market Trends and Forecasts

Strong demand conditions are expected to prevail in Canada and the United States. Strong demand though, has not ensured price stability. High import levels in the United States and higher scallop landings in the United States and Canada in recent years, leading to higher than normal inventory levels in the United States, have served to depress current prices. As compared to 12,370 t in 1984 and 19,067 t in 1985, the United States imported 21,735 t of scallops in 1986, primarily from Canada, Japan, Peru and Iceland. Specifically, the United States imported 6,086 t of scallops from Canada. Canada's share of the United States scallop market has declined rapidly since 1982 when it stood at 72 percent. Competition from Peru and Japan and in 1986 from Panama has pushed the Canadian share of the American market below 30 percent despite recent increases in scallop landings in Canada.

Increases in recent Canadian catches and variability of supply from other exporting nations should result in some resurgence in Canada's share of the American market. Recent efforts to promote scallop meats and "roe-on" products in European markets may result in alternate opportunities for Canadian exporters.

**Table III: Canadian Atlantic Coast Scallop Production 1984-1986**  
(Product Weight-Tonnes)

Scallops	1984	1985*	1986*
Fresh/Frozen Shucked	5,027	5,600	6,800

\* Preliminary

**Table IV: Canadian Exports of Frozen Scallops by Country 1984-1986**  
(Quantity (Q) in Tonnes, Value (V) in Thousand Dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
France	19	121	20	129	-	-
West Germany	0	2	29	290	-	-
Switzerland	11	136	-	-	10	68
Japan	10	100	7	54	8	44
Bermuda	2	44	0	1	-	-
U.S.A.	2,940	45,777	4,068	59,153	4,213	64,837
Other	2	32	3	53	16	271
<b>Total</b>	<b>2,984</b>	<b>46,212</b>	<b>4,127</b>	<b>59,677</b>	<b>4,247</b>	<b>65,220</b>

**Table V: Canadian Export of Fresh/Chilled Scallops by Country 1984-1986**  
(Quantity (Q) in Tonnes, Value (V) in Thousand Dollars)

Country	1984		1985		1986	
	Q	V	Q	V	Q	V
U.S.A.	1,046	16,474	1,510	21,597	1,853	27,736
Other	14	135	0	1	1	28
<b>Total</b>	<b>1,060</b>	<b>16,609</b>	<b>1,510</b>	<b>21,598</b>	<b>1,854</b>	<b>27,764</b>

**SUMMARY OF CURRENT ISSUES**

The offshore scallop sector has recorded some impressive results in the rebuilding of the Georges Bank scallop stocks. Through a variety of effective conservation and management strategies, the overexploited scallop beds have begun to recover. The restoration and maintenance of a healthy scallop stock for the offshore fishery remains a preeminent concern of the industry and DFO. Among other issues affecting the offshore scallop fishery:

1. The 1984 ICJ decision gave Canada 50 to 60 percent of the available stock on Georges Bank. The delineation of a United States-Canada boundary in the Gulf of Maine provided the thrust for the introduction of a more rational, comprehensive approach to the management of the offshore scallop fishery. OSAC will continue to identify strategies that may sponsor long-term stability in this fishery.

2. The implementation of TAC's and EA's in 1986-1988 has introduced the possibility of long-term economic viability for the owners, processors and fishermen who will participate in the offshore fishery. Reasonable rates of return on capital investments and higher annual incomes should become dominant features of the fishery. EA's, as well, should lead to a process of fleet rationalization and a long-sought reduction in harvesting capacity.
3. Tensions between the offshore and inshore sectors have not fully abated, despite the separation of fleets in the October 1986 Inshore/ Offshore Agreement. Industry members and DFO remain committed to the implementation and enforcement of the agreement. OSAC members continue to petition DFO for adequate enforcement and surveillance measures to enforce the 43°40' line and the conditions governing the inshore fleet's access to Georges Bank during the 1987-1988 phase out.
4. TAC's, EA's, a strengthened consultation process and improved intersector communications have infused the offshore fishery with more stability than in recent years. Annual landings between 1985 and 1987 have not been marked by erratic fluctuations, compared to the 1972-1984 period. In addition, two significant year classes will be available in 1987-1988, improving catch stability. OSAC members remain concerned about the possibility of future poor recruitment. The need for improved biological investigation and input has been stressed by OSAC industry members.
5. The pending development of a roe fishery has the potential to improve resource utilization. DFO has advised industry members it will closely monitor PSP (Paralytic Shellfish Poisoning) content and it stressed the need to monitor the integrity of size limits and TAC/EA enforcement. Mechanisms for sampling will be introduced by the Department when they become available.
6. A small by-catch of groundfish is a traditional feature of the offshore scallop fishery. DFO has expressed concern that current by-catch landings may be exceeding historical averages. If so, resistance from groundfish fishermen may develop. DFO intends to monitor the situation closely.
7. Fishermen's opposition to enterprise allocations remains on the offshore fishery agenda. The possibility of employment reduction concerns some offshore crews.
8. The setting of 33/500 g meat count for 3Ps in 1987 should prevent the overexploitation of this sector. Consequently, there should be a significant fishery on St. Pierre Bank in 1988.

9. Industry members charge that the introduction of new regulations or amendments to the Atlantic Fishery Regulations, 1985 has not kept pace with recent changes in the management of the offshore scallop fishery. In particular, they note that an adequate regulatory base has not been set up to permit the displacement of the voluntary hail system with a mandatory one. DFO stresses that a detailed package of regulations designed to ensure the successful attainment of conservation and economic objectives has been submitted to the normal regulatory process. Industry members have requested a package of strict penalties to deter overfishing. The package can be used by the courts when reviewing violations of fishery regulations.
10. The "soaking" of shucked scallops with fresh water to increase product weight by offshore vessels concerns DFO and the industry. Such techniques violate the Fish Inspection Regulations.
11. Progressive conservation and restoration strategies introduced into the offshore scallop fishery greatly diminish the need to maintain the Scallop Certification Program. DFO has advised American offshore scallop authorities of this progress and will seek the elimination of the Program.
12. OSAC's concern about a possible Texaco oil exploration program on Georges Bank is to be presented to the company via the Gulf of Maine Advisory Committee (GOMAC).
13. DFO stresses the need to use access fees to cover some of the management costs for the offshore scallop industry. The introduction of access fees will be reviewed by OSAC.

### CONSULTATIVE PROCESS

The Offshore Scallop Advisory Committee (OSAC) serves as the primary vehicle through which the Offshore Scallop Fishing Management Plan is deliberated and developed. OSAC is one of eleven inter-regional management advisory committees sponsored by DFO. In turn, OSAC is supported by a working group of DFO officers who consolidate scientific, economic, marketing and other information into draft fishing plans for the Committee's consideration. Sub-committees and working groups, such as the Long-Term Issues Working Group of 1985 to 1986, can be established to address specific concerns. Between January 1986 and April 1987, the 1986-87 Scallop Management Plans were the product of nine OSAC meetings and at least five joint meetings between the Offshore and Inshore Scallop Advisory Committees. The provisions of the 1987 Scallop Management Plan are fully consistent with OSAC advice (see Appendix II for OSAC Terms of Reference).

## LICENSING POLICY

Current licensing policy for the offshore scallop fishery is subject to the conditions of the three-year trial period for enterprise allocations.

Enterprise allocations (EA's) represent a company's percentage of the total allowable catch for a specific fishing year. The following general licensing conditions apply during the enterprise allocation period.

1. No permanent transfer of a portion of a company's EA to another company. The entire EA and all relevant licences must be transferred. All transfers must be approved by DFO.
2. Should the EA Program prove not to be a viable management strategy in the offshore scallop fishery, the fishery may revert to a competitive fishery based on the 1986 level of 76 licences.
3. Should an enterprise withdraw a licensed offshore scallop vessel from the fishery during the trial EA period, such non-participation would not constitute cause for removal of that vessel's offshore scallop fishing privilege. If the EA Program is not continued beyond the trial period (1986-1988), owners would have until December 31, 1989, to show a documented commitment to build or replace vessels removed from the fishery.
4. The temporary vessel replacement policy applies to offshore vessels permanently removed or rendered unserviceable for a period of four months or more. A maximum of two year's duration is allowed. Vessels must operate on a similar fishing plan as the vessel replaced and they must deliver their catch to the same plant as the original vessel. Vessel replacements require DFO approval. During the trial EA period, short-term vessel charters are permitted, subject to DFO policy and approval.
5. During the EA period, companies must renew their vessels' licences annually. If the EA Program is not continued, each company would be permitted to use those licences held on January 1, 1986.

More detail on the EA Program and related licensing policy can be found in the document "Enterprise Allocations in the Offshore Scallop Fishery - June 1986" (as amended).

GLOSSARY OF TERMS

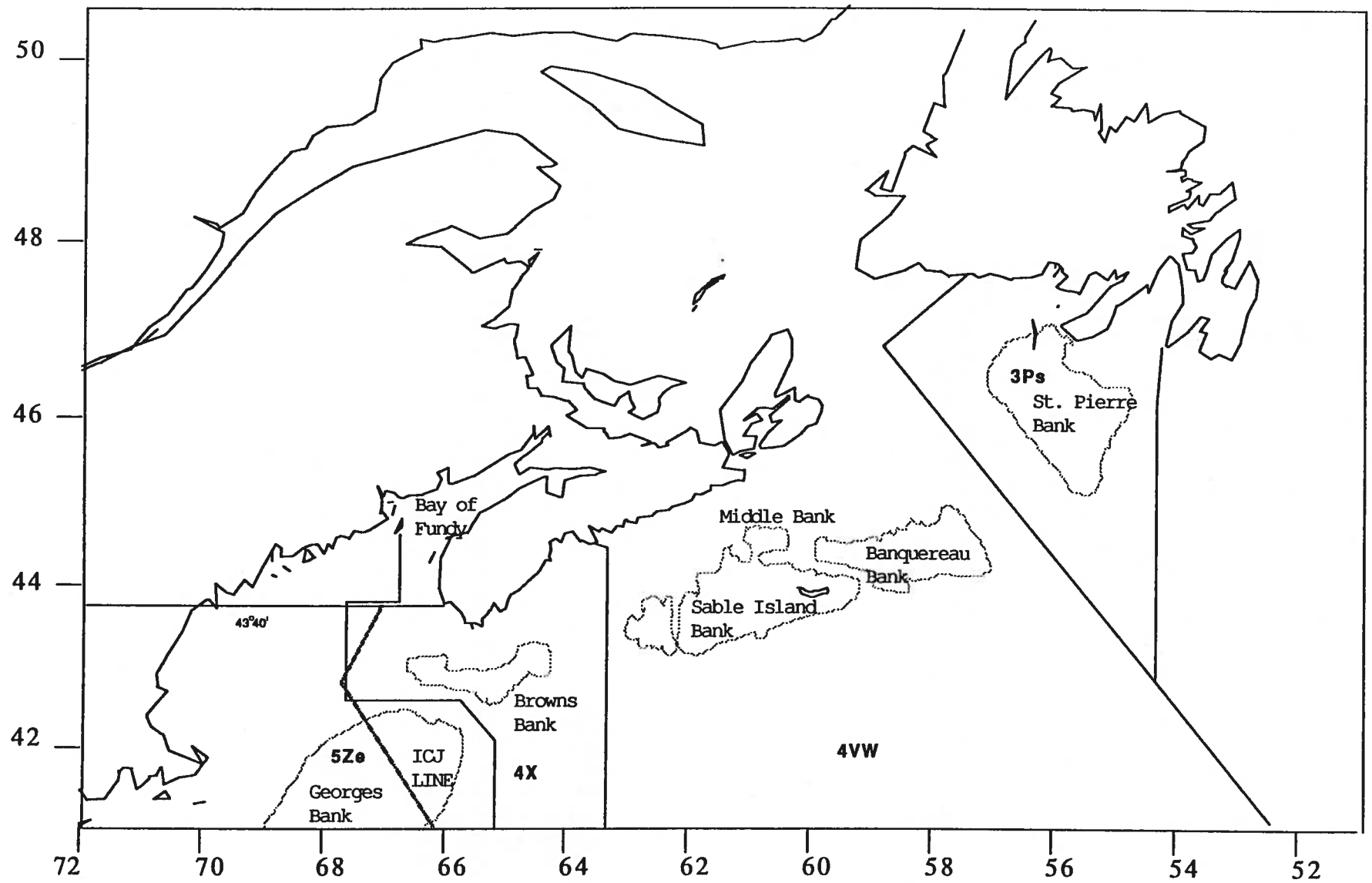
Access Fees	An access fee is defined as the annual fee paid by an enterprise for access to the offshore scallop resource. Access fees are based on the TAC enterprise allocations held in respect of a company.
Allocation	The portion of the TAC allocated to a particular individual, fleet or company for harvesting purposes.
Enterprise	An enterprise is the sum of the investment in vessels, gear, shore facilities and operating capital by an individual or company involved in the fishery.
Enterprise Allocation	The total level of allocation of scallops assigned to an individual enterprise expressed in percentage terms or as portions of the TAC.
Length Overall (LOA)	Length overall means the horizontal distance measured between the perpendiculars erected at the extreme ends of the outside of the main hull of a vessel.
Recruitment	Recruitment is defined generally as increases in the current scallop stocks which may become available for harvest, subject to existing management strategies.
TAC	Total allowable catch of a scallop for any one year; the portion of the available biomass which may be harvested.

Appendix II

OFFSHORE SCALLOP ADVISORY COMMITTEE - CURRENT MEMBERSHIP

<u>Name</u>	<u>Organization</u>	<u>Address</u>
H.H. Scarth, Chairman	DFO	Halifax
Greg Roach	N.S. Department of Fisheries	Halifax
Graham Knickle	Adams & Knickle	Lunenburg
Earl Kaiser	Lawrence Sweeney Fisheries Ltd.	Yarmouth
M.R. Comeau	Comeau's Seafoods Ltd.	Saulnierville
P. Matthews	Clearwater Fine Foods Inc.	Bedford
Dr. William Murphy	Mersey Seafoods Ltd.	Liverpool
Douglas Mosher	Scotia Trawler Equipment Ltd.	Lunenburg
Sheldon Mossman	Fishery Products International	Riverport
D. Janes	C.B.R.T. & G.W.	Halifax
Boyd Lee	C.B.R.T. & G.W.	Halifax
Leo McCormick	Fishermen Food & Allied Workers Un.	Lunenburg
Paul Fogarty	Fishermen Food & Allied Workers Un.	Lunenburg
Capt. Bob Mayo	Lunenburg Master Mariners Assoc.	Lunenburg
Gary Hartman	Lunenburg Master Mariners Assoc.	Lunenburg
Roger Stirling	S.P.A.N.S.	Dartmouth
Pat Amirault	N.S. Fishermen's Association	Yarmouth
Reg Hazelton	ISAC	Barton
G.E. Jefferson	DFO	Halifax
Ginette Robert/Bob Mohn	DFO	Halifax
Greg Stevens	DFO	Halifax
J. Nelson	DFO	Halifax
P.E. Partington	DFO	Yarmouth
J. Southall	DFO	Yarmouth
K.S. Naidu	DFO	Newfoundland
G. Brocklehurst	DFO	Newfoundland
J.M. O'Brien	Office of the Auditor General	Halifax

NOTE: Various other DFO officials may attend at the request of the Chairman.



OFFSHORE SCALLOP FISHERY MAP

Fisheries  
and OceansPêches  
et Océans

# News Release Communiqué

NR-HQ-87-63E

FOR IMMEDIATE RELEASE  
Thursday June 4, 1987

## 1987 OFFSHORE SCALLOP FISHERY MANAGEMENT PLAN ANNOUNCED

OTTAWA -- Fisheries and Oceans Minister Tom Siddon today announced the 1987 Offshore Atlantic Scallop Fishery Management Plan. The quota for the 1987 offshore scallop fishery in the Scotia-Fundy Region will increase by more than 50 per cent over the 1986 quota. This is the highlight of the plan establishing a total allowable catch (TAC) of 6,850 t in NAFO Divisions 4X+5, the area comprised primarily of the scallop fishing grounds of Georges and Browns Banks.

Eight per cent of this TAC (548 t) is allocated to the Bay of Fundy fleet under a 1986 inshore/offshore agreement that includes the phase-out of inshore effort on Georges Bank through 1987 and 1988.

Mr. Siddon noted that the increase reflects two important year classes of scallops entering the fishery and the self-restraint of the offshore industry under the 1986 management plan.

"The consistent advice from the Offshore Scallop Advisory Committee over the past three years and since the 1984 establishment of the Georges Bank maritime boundary has been to manage the fishery conservatively for the long-term benefit of all participants," said Mr. Siddon. "This approach has meant considerable short-term pain for the industry but the results are now becoming self-evident as the portion of the resource banked under previous plans is resulting in a significant strengthening of the stock."

.../2

**Canada**

The plan also calls for size limits of 33/500 g in 4X+5 and 3Ps (St. Pierre Bank) and 44/500 g in 4VW (the eastern Scotian Shelf). The size limits, expressed in the maximum number of meats permitted in 500 g samples of the catch, prevent the overharvesting of juvenile scallops so they can reach sizes at which they contribute to spawning. They also increase the yield and, thereby, return to the industry from the resource.

This is the second year of a trial Enterprise Allocation or company quota system in the offshore scallop fishery. The program allocates a certain portion of the offshore quota to each offshore company. Mr. Siddon noted that the first year of the program was considered successful in that it allowed each company to fish its allocation according to its own schedule, thereby increasing the efficiency of the harvest over the previous competitive system. As well, fisheries enforcement staff noted virtually 100 per cent compliance with the provisions of the program.

The administrative and legal framework of the offshore scallop plan remains mostly unchanged from 1986.

"The offshore scallop fishery is a bright light in the overall fishery management picture on the Atlantic coast," said Mr. Siddon. "Through the development of sound management plans, the fishery should continue to provide a relatively stable source of employment and income for the participants and for the general benefit of the economy of the area."

The offshore scallop fishery is fished by about 60 vessels in the 27.4 m (90 ft.) to 41 m (135 ft.) range operating primarily out of Riverport, Lunenburg, Yarmouth and Saulnierville, Nova Scotia. Each vessel employs 15 to 16 crew members and, depending on fishing success, stays at sea for up to 12 days. Canadian landings in the

fishery, which is carried out predominantly on Georges Bank, hit a historic low figure of 1,945 t in 1984 with an approximate value of \$24,000,000. Landings rebounded to 3,811 t in 1985 (\$39,000,000), 4,900 t (estimated) in 1986 (\$47,000,000) and, subject to 1987 prices, the 6,850 t TAC in 1987 may produce landings in excess of \$70,000,000.

FOR FURTHER INFORMATION:

H.H. Scarth  
Scotia-Fundy Region  
Dept. of Fisheries and Oceans  
P.O. Box 550  
Halifax, Nova Scotia  
B3J 2S7

(902) 426-5952

Fisheries  
and OceansPêches  
et Océans

# News Release Communiqué

NR-SF-87-04E

FOR IMMEDIATE RELEASE

January 13, 1987

## 1987 Offshore Scallop Management Plan Released

HALIFAX - Jean-Eudes Haché, Director-General of the Scotia-Fundy Region of Fisheries and Oceans today released details of the 1987 Offshore Scallop Management Plan. Mr. Haché commended the Offshore Scallop Advisory Committee for their collective efforts in its development. He stated that "this fishery is a major contributor to the economy of the region and, with careful management, future projections for its success are promising". Principal elements of the plan include:

1. An interim total allowable catch will be set at 5378 t, of which 430 t or 8 percent is allocated to the inshore Bay of Fundy fleet. The inshore share will be fished under terms of the inshore/offshore agreement made last Autumn. The offshore share, 4948 t, is to be divided into company quotas (enterprise allocations), as negotiated in the 1986 management plan.
2. After final analysis of 1986 scientific and commercial fishing data, the total allowable catch will be revised by April 30.
3. The scallop meat count remains at 33 meats per 500g for divisions 4X and 5. The meat count for division 4W will be provisionally set at 44 meats per 500 g.
4. Scallop fishermen have been asked to abide by a voluntary closure of division 3Ps until further consultations in February. The St. Pierre Bank scallop management plan will be finalized following further consultations.

5. Fisheries and Oceans is now preparing a discussion paper on the impact of alternative management strategies. Once this is completed, members of the Offshore Scallop Advisory Committee will be asked to review the material and advise the Department on long-term fishing strategies for the future.
6. Administrative and enforcement elements of the 1986 plan will apply in 1987. This includes the mechanism employed for reporting catches.

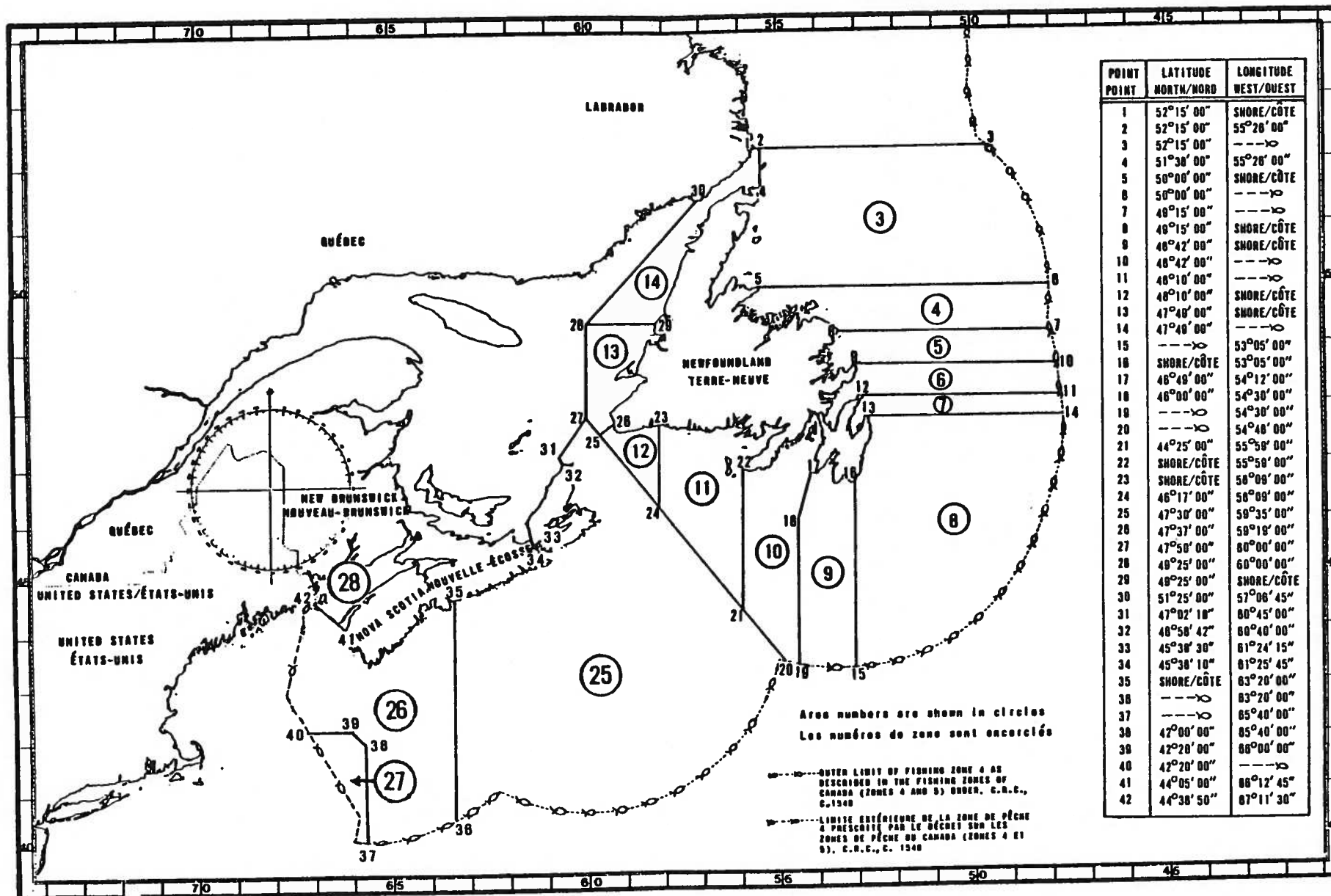
DEPARTMENTAL CONTACT:

Carl Myers  
Communications Branch  
Fisheries and Oceans  
P.O. Box 550  
Halifax, N.S.  
B3J 2S7

(902) 426-3550

## PART II/PARTIE II

## SCALLOP FISHING AREAS/ZONES DE PÊCHE DU PÉTONCLES



1987 MANAGEMENT PLAN  
MID-SHORE SNOW CRAB FISHERY  
GULF OF ST. LAWRENCE (ZONE 12)

DEPARTMENT OF FISHERIES AND OCEANS

MARCH 1987

DETAILED MANAGEMENT PLAN

DETAILED MANAGEMENT PLAN

BASIC PRINCIPLES

- i) Preservation of crab stocks.
- ii) Access to snow crab stocks will be regulated by means of the following factors: fishing licences, zones, season, quota, size and number of traps.
- iii) The fishing of snow crab will be prohibited when the average meat yield is less than 20%.
- iv) This management plan applies to the mid-shore fleet in divisions 4RST with the exception of the inshore zones of Quebec, Cape Breton Island, Prince Edward Island and western Newfoundland.

## 1987 MANAGEMENT PLAN

### I - Licence issuance policy

- 1) As indicated on the fishing licence, mid-shore fleet fishing activities are authorized in Crab Fishing Area 12, except in those waters enclosed by the coastline of Prince Edward Island and the straight lines joining the following points in the order in which they are presented:

Point	Latitude North	Longitude North	Points on the appended map
1	47°03'30"	64°00'00"	33
2	47°15'00"	64°00'00"	34
3	46°45'00"	62°00'00"	35
4	46°37'30"	61°30'15"	28
5	46°09'00"	61°57'00"	27
6	46°18'01"	62°20'00"	36

- 2) Notwithstanding No. 1 above, mid-shore crab fishermen who have historically fished within the two P.E.I. zones will have access to these zones from May 28 until June 20, 1987. The list of eligible fishermen established in 1986 will also apply in 1987.
- 3) Mid-shore fishermen are authorized to use a maximum of 150 standard traps. A standard trap is the equivalent of a rectangular trap 1.8 m x 1.8 m x 0.6 m (6' x 6' x 2') or any other type of trap (with the exception of Japanese traps) having a maximum volume of 2.1 cubic metres (72 cubic feet).
- 4) Two (2) Japanese traps (i.e. conical type) having a maximum base diameter of 122 cm (48 inches or less) are considered to be equivalent to one standard trap. However, the limit of 150 traps will apply when fishermen decide to use both types of traps simultaneously (e.g. rectangular and pyramidal).

### II - Season

The fishing of snow crab is authorized from April 12 to June 20, 1987. However, if ice conditions are such that the opening date must be postponed or brought forward, it will be done according to the recommendation of a sub-committee made up of one fisherman and <sup>one</sup> producer from the Gaspé, the Magdalen Islands and New Brunswick.

Fishermen will be allowed to set traps from April 8 onward, but no landings are permitted before April 12 and after June 20. All traps must be out of the water by midnight, June 21, 1987. However, should the TAC not be fully harvested, trap removal with landings will be permitted from June 21 to midnight, June 24, 1987.

### III. Total allowable Catch (TAC)

A reference TAC of 26,000 tonnes will be used as a safety valve to protect the resource. If it appears that the resource is being harvested too rapidly, a review will be undertaken to see whether the fishery can be safely continued.

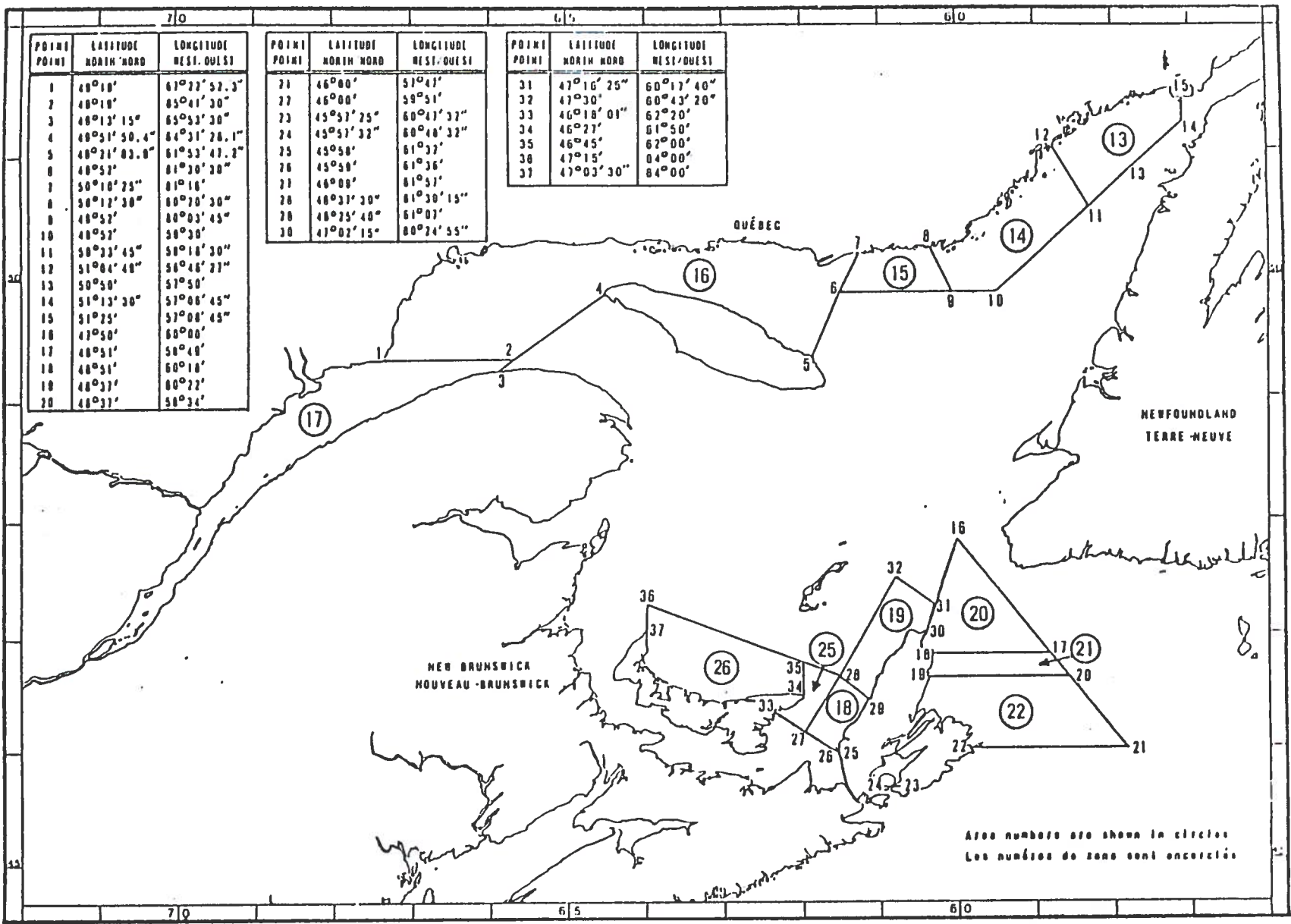
### IV. Regulatory measures

- 1) In accordance with section 103 of the 1985 Atlantic Fishery Regulations, vessels must accept observers on board.
- 2) In accordance with section 48 of the Fisheries Act, maintenance of log records will be strictly enforced.
- 3) In accordance with section 35 of the 1985 Atlantic Fishery Regulations, there will be strict enforcement of the marking of buoys with the vessel registration number shown on the licence.
- 4) There will be strict enforcement of Schedule III of the Fish Inspection Regulations, in order to improve the landed quality of crab.
- 5) In accordance with section 56 of the 1985 Atlantic Fishery Regulations, it is prohibited to fish with a crab trap which does not have attached to it a white or turquoise tag (1987) issued by the Department of Fisheries and Oceans.

POINT POINT	LATITUDE NORTH-NORD	LONGITUDE WEST-OUEST
1	48°18'	67°22' 52.3"
2	48°18'	65°41' 30"
3	48°13' 15"	65°53' 30"
4	48°51' 50.4"	64°31' 28.1"
5	48°21' 03.8"	61°33' 47.2"
6	48°53'	61°30' 20"
7	50°18' 25"	61°16'
8	50°12' 30"	60°10' 30"
9	48°53'	60°03' 45"
10	48°53'	58°38'
11	50°33' 45"	58°18' 30"
12	51°04' 48"	56°46' 27"
13	50°58'	57°50"
14	51°13' 30"	57°06' 45"
15	51°25'	57°08' 45"
16	47°50'	60°00'
17	48°51'	58°48'
18	48°51'	60°18'
19	48°31'	60°22'
20	48°31'	58°34'

POINT POINT	LATITUDE NORTH-NORD	LONGITUDE WEST-OUEST
21	46°00'	57°41'
22	46°00'	59°51'
23	45°57' 25"	60°41' 32"
24	45°57' 32"	60°48' 32"
25	45°58'	61°37'
26	45°58'	61°36'
27	46°08'	61°53'
28	48°31' 30"	61°30' 15"
29	48°25' 48"	61°01'
30	47°02' 15"	60°24' 55"

POINT POINT	LATITUDE NORTH-NORD	LONGITUDE WEST-OUEST
31	47°16' 25"	60°17' 40"
32	47°30'	60°43' 20"
33	46°18' 01"	62°20"
34	46°27'	51°50'
35	46°45'	62°00'
36	47°15'	64°00'
37	47°03' 30"	64°00'



Area numbers are shown in circles  
 Les numéros de zone sont encerclés

1987 CRAB MANAGMENT PLAN  
NEWFOUNDLAND REGION

April 15, 1987

## MANAGEMENT PRINCIPLES

1. To protect and conserve the crab stocks.
2. To provide access to the resource where possible, subject to the constraints imposed by 1.

## MANAGEMENT AREAS

1. The fishery will continue to be managed by zones which coincide with NAFO Divisions as follows:

NAFO Division 2J: Southern Labrador (Makkovik-Double Island)

NAFO Division 3K: Northeast Coast (Double Island-Cape Freels)

NAFO Division 3L: East Coast (Cape Freels-Cape St. Mary's)

NAFO Division 3Ps: South Coast (Cape St. Mary's-Boar Island)

## LICENCING POLICY

1. Crab licences are available for the Management Areas as follows:

### Full-time Licences

2J

3K

3L

-

### Supplementary Licences

2J

3K

3Ps

2. Full-time Fishery

Licences to fish 800 traps are available only to those fishermen in Divisions 3K and 3L who held such licences prior to July 22, 1985.

Also, a maximum of six (6) licences will be issued to full-time fishermen in Division 2J to use 800 traps in that Division.

3. Supplementary Fishery

Licences to fish 150 traps are available to full-time fishermen who meet the following criteria:

- (a) are residents of the Management Area for which licences are available.
- (b) own/operate a registered commercial fishing vessel that is at least 35 ft. LOA or 10 gross tons and does not exceed 65 ft. LOA.
- (c) possess a groundfish licence for Sector 1.

4. Area of Validity

Full-time and supplementary crab licences are valid for the entire Division for which they are issued.

5. Allowable Catch Levels

Catch levels will apply to each fleet sector, by Management Area, as follows:

1987 Allocations  
(metric tons)

Management Area	Full-time Fishery	Supplementary Fishery
2J	725	200
3K	3000	1000
<u>3L</u>		
Bonavista Bay	500	-
Trinity Bay	100	-
Conception Bay	200	-
Eastern/Southern Avalon	2000	-
3Ps	-	200 (spring) 400 (fall)

Allowable catch levels are designed to promote greater stability in landings over time. When recruitment improves the allocations will decrease exploitation rates as recommended by CAFSAC, thus allowing more stable and higher catch rates. If recruitment improves to the point that exploitation rates fall below CAFSAC recommended levels, the allocations could be increased.

## 7. Fishing Seasons

The season for the crab fishery in each Management Area is as follows:

<u>Management Area</u>	<u>Full-time Fishery</u>	<u>Supplementary Fishery</u>
2J	May 1-November 30	May 1-August 31
3K	May 1-November 30	May 1 - June 15
3L	April 1-November 30 <sup>1</sup>	-
3Ps	-	May 1-June 15 Sept. 1-Oct. 31

### NOTE:

<sup>1</sup> Bonavista Bay will be closed to all crab fishing between July 1 and August 31.

## 8. Logbooks

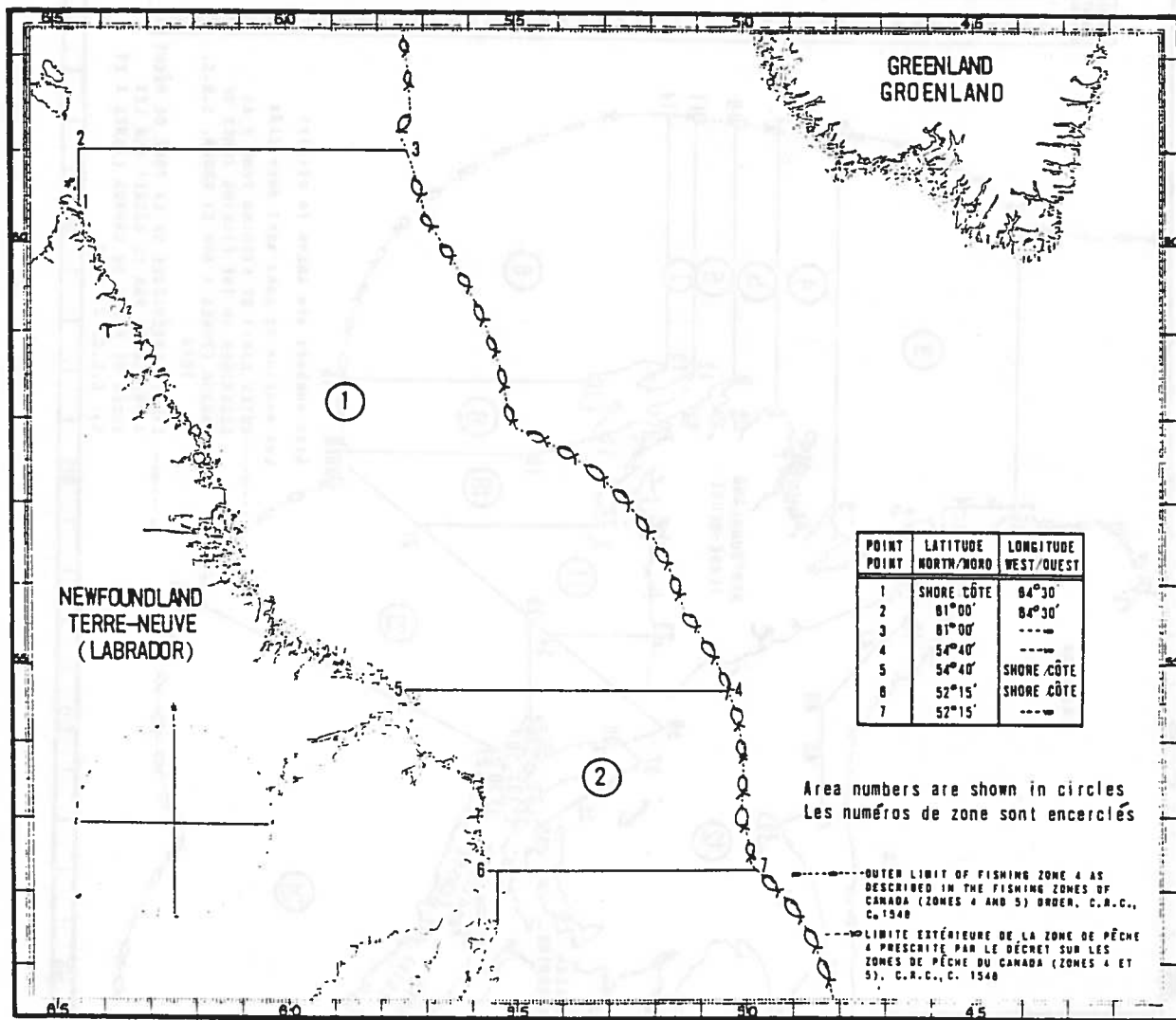
The completion of accurate logbooks on a timely basis is required under Section 48 of the Fisheries Act. This regulation will be strictly enforced for the 1987 season.

## SCHEDULE XI/ANNEXE XI

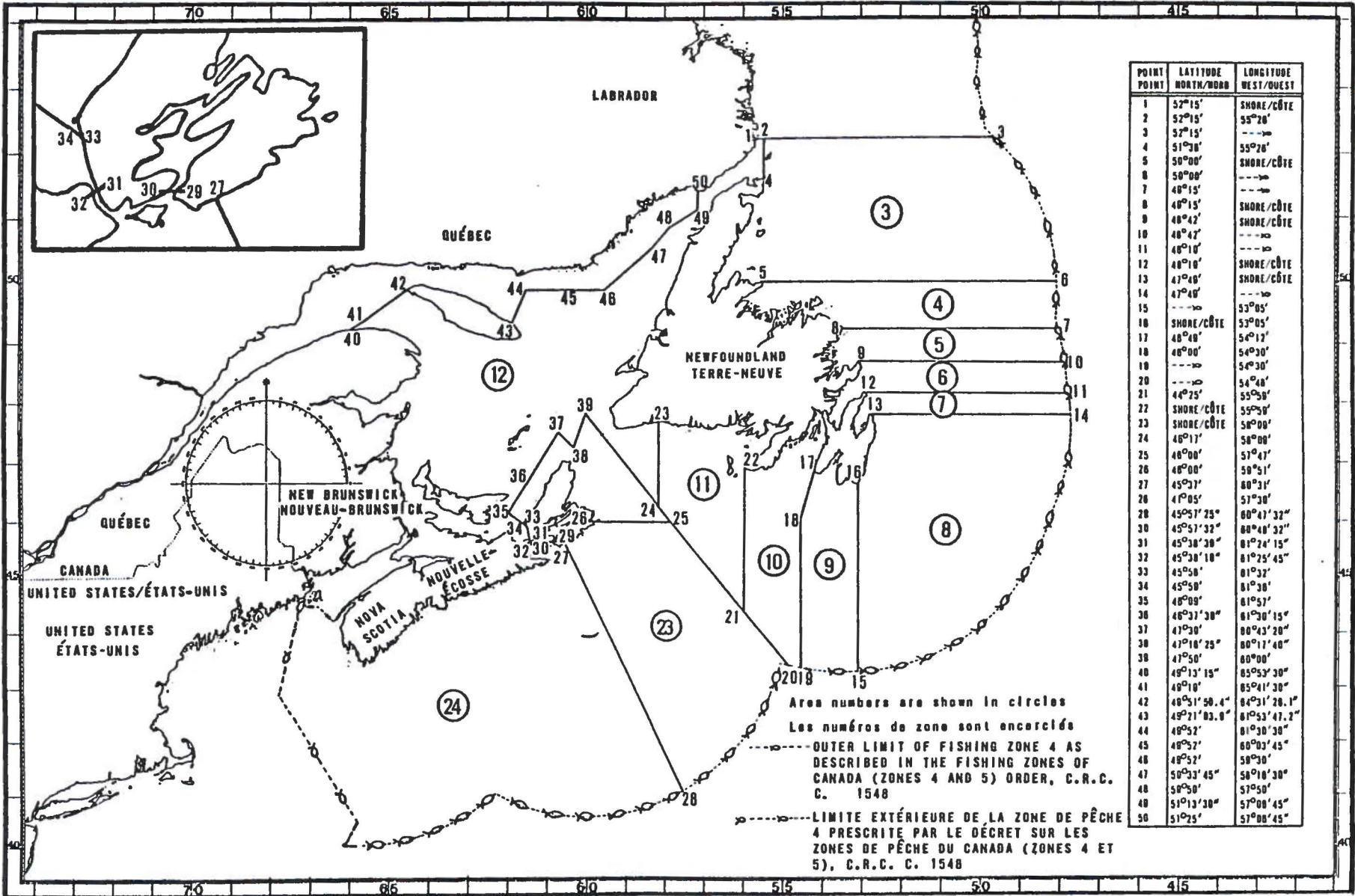
. (s./art. 2)

## PART I/PARTIE I

## CRAB FISHING AREAS/ZONES DE PÊCHE DU CRABE



PART II/PARTIE II  
 CRAB FISHING AREAS/ZONES DE PÊCHE DU CRABE



1987 SNOW CRAB MANAGEMENT PLAN

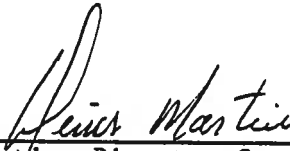
FOR AREAS 16 AND 17

DEPARTMENT OF FISHERIES AND OCEANS

QUEBEC REGION

March 1987

Approved



---

D. Martin, Director General, Quebec Region

SUMMARY OF MANAGEMENT PLAN

This management plan results from consultations with fishermen associations and various producers involved in the snow crab fishery. The objectives of this plan are the conservation of the species, an equitable allocation of the resource among coastal communities in areas 16 and 17 and the economic efficiency of the fishing fleet.

The snow crab fishery in areas 16 and 17 is identified as an inshore fishery restricted to fishing boats less than 50 feet (15.2 m) in overall length.

In order to ensure the protection and stabilization of the resource and to provide long term economic profitability to the existing fleet, the number of licenses available will remain unchanged in both areas. Furthermore, a non-renewed license in 1987 will not be reissued the following year.

In 1987, management measures, in these two areas, will be similar to these of 1986. Hence, in area 16, a quota is set at 2 500 tons. The fishing season will open on April 7th and will close when the quota is reached. Crab fishermen, in area 16, will be authorized to set their traps 48 hours before the opening of the fishing season being on April 5th. Traps shall be pulled out of the water at the latest 48 hours after the closure of the area. In area 17, the fishery will not be under a quota system but will be restricted through a season starting April 1st and ending July 7th. Crab fishermen, in area 17 will be authorized to set their traps 48 hours before the opening of the fishing season, being on March 30th. On the other hand, all traps shall be withdrawn by midnight, July the 9th, at the latest.

No landings will however be permitted either during the setting or the pulling of the traps in those two areas.

Moreover, in both areas, the fishery will be closed when the proportion of soft-shelled crabs in the catches reaches more than 20 %; this particular measure aims at increasing the quality of the product and at avoiding any wasting of the resource.

The maximum number of traps allowed per fisherman will remain at 75 standard traps in 1987. However, licensed fishermen who were authorized to use more than 75 standard traps in 1986 will keep this privilege in 1987 (grandfather clause). Fishermen using japanese traps (Conical traps with a circular base of a maximum diameter of 4 feet (122 cm)) will be permitted to use two japanese traps as an equivalent to one standard trap.

Finally, all traps used in the snow crab fishery shall bear a tag delivered by a DFO representative.

DETAILED MANAGEMENT PLAN

BASIC PRINCIPLES

- i) Conservation of crab stocks.
- ii) Access to all crab stocks will be regulated by the following means:  
fishing licenses, areas, seasons, quotas, boat sizes, volume and number of traps.
- iii) Optimal utilization of the fishery resources over the calendar year.
- iv) The resource will be allocated on a basis of equity, taking into account adjacency to the communities, dependency of coastal communities and economic efficiency of the fishing fleet.
- v) The snow crab fishery will be prohibited in each area when the soft-shelled crab proportion in the catches will be more than 20%.

1986 MANAGEMENT PLAN

I Licensing policy

- 1) The snow crab fishery will be restricted to inshore fishermen owning a boat smaller than 50 feet (15.2 m) LOA. However, actual snow crab licensees owning a boat longer than 50 feet (15.2 m) LOA, can renew their license.
- 2) Snow crab licensees will be allowed to use seventy-five (75) standard traps in 1987.
- 3) The number of traps allowed is always expressed in standard traps. However two (2) Japanese traps are considered the equivalent of one standard trap. (see definition of trap types under point V).
- 4) Snow crab fishermen currently holding a license, who were allowed to use more than 75 standard traps in 1986, will keep this privilege in 1987 (grand-father clause).
- 5) There will be no re-issuing of licenses that have become available in 1987 in areas 16 and 17. Only licenses issued in 1986 will be re-issued in 1987. The number of licenses issued in 1986 was:

Area 16: 36 licenses

Area 17: 22 licenses

II Fishing season

Area 16:

The snow crab fishery will be open from April 7th to December 31st, 1987. The setting of crab traps will be allowed 48 hours before the opening of the fishing season, being on April 5th 1987. The withdrawal of those traps shall be done at the latest 48 hours after the closure of the fishery. No landings will however be permitted either during the setting or the pulling of the traps.

Area 17:

The snow crab fishery will be open from April 1st to July 7th 1987. The setting of crab traps will be allowed 48 hours before the opening of the fishing season, being on March 30th 1987. The withdrawal of those traps shall be done by midnight, July 9th 1987. No landings will however be permitted either during the setting or the pulling of the traps.

### III Quotas

#### Area 16:

A quota for snow crab of 2 500 tons is set for 1987.

#### Area 17:

The snow crab fishery is not under quota in 1987.

### IV Regulatory measures

1. A snow crab licensee cannot fish this species outside the area specified on his license.
2. A snow crab licensee cannot use more traps than the number specified on his license.
3. According to section 103 of the Atlantic Fishery Regulations, observers must be taken on board at the request of the Department.
4. According to section 48 of the Fisheries Act, maintenance of accurate log records will be enforced.
5. In accordance with section 35 of the Atlantic Fishery Regulations, there will be strict enforcement of the marking of buoys with the vessel registration number shown on the license.
6. There will be strict enforcement of Schedule III of the Fish Inspection Regulations, in order to improve the landed quality of crab.
7. According to section 56 of the Atlantic Fishery Regulations, it is prohibited to use a crab trap unless:
  - a) the standard trap bears a non-punched white or turquoise tag - 1987, as delivered by the Department;
  - b) the japanese trap bears a punched white or turquoise tag - 1987, as delivered by the Department.

V Trap definitions

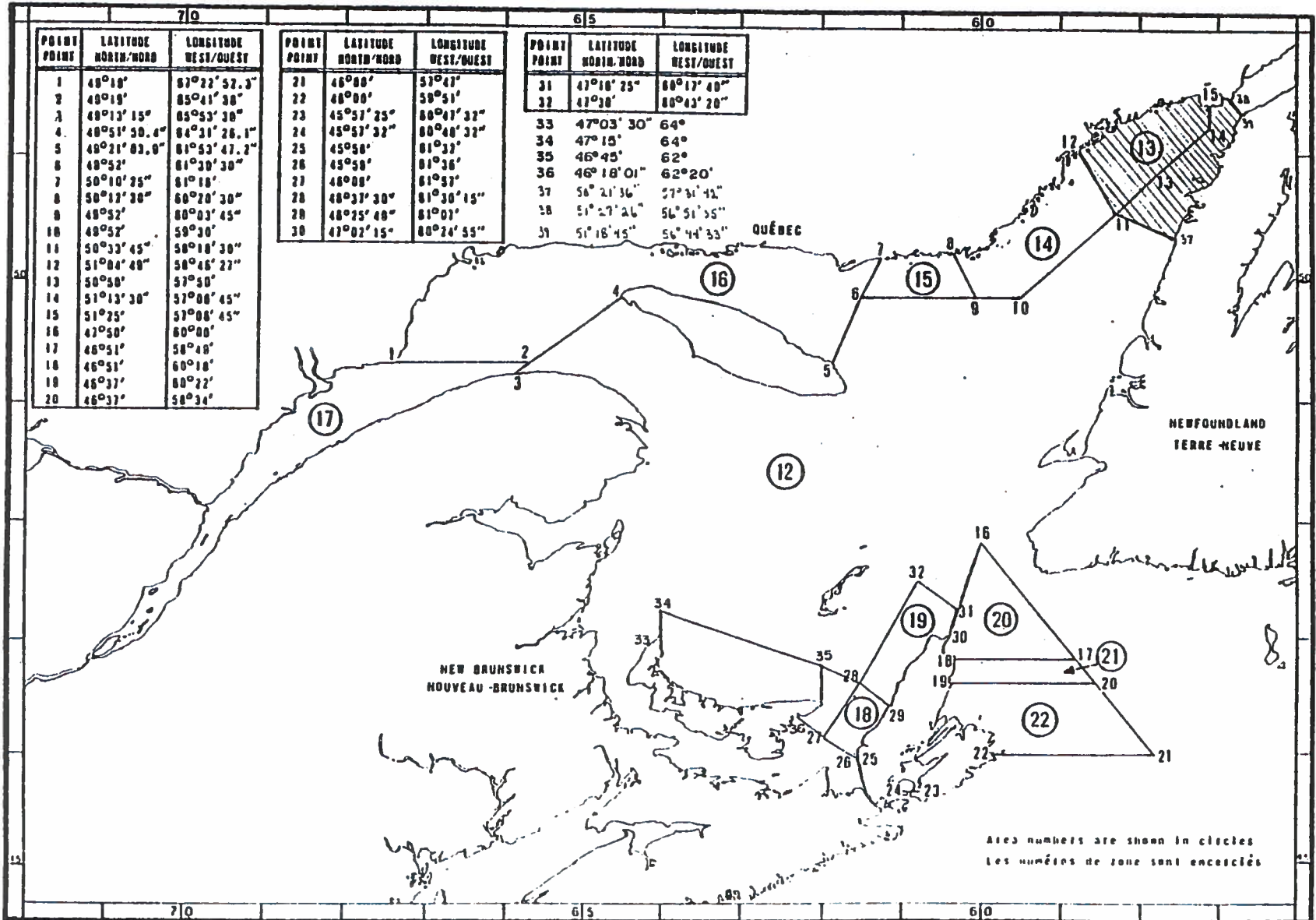
Standard trap:

Rectangular trap with outer dimensions not exceeding 1,8 m x 1,8 m x 0,6 m (6' x 6' x 2') and all types of traps (except Japanese trap) with an outer volume not exceeding 2.1 cubic metres (74.2 cubic feet).

Japanese trap:

Conical trap with a circular base of a maximum diameter of 122 cm (48") and a height not more than 65 cm (25.5").

PART II/PARTIE III  
 CRAB FISHING AREAS/ZONES DE PÊCHE DE CRAB



1987 SNOW CRAB MANAGEMENT PLAN  
IN THE NORTHEASTERN GULF OF ST. LAWRENCE  
(AREAS 13, 14, 15 AND THE NORTHEAST PART OF DIVISION 4R)

This management plan was established following consultation undertaken with the associations representing the fishermen from the lower Gulf of St. Lawrence and the West Coast of Newfoundland who participate in the snow crab fishery in zones 13, 14, 15 and the north-east portion of Division 4R. This plan also takes into account the scientific information available on the snow crab fishery and the objectives of the management plan.

The snow crab fishery in these zones is identified as an inshore fishery. The fishery is characterized by a seasonal length overall limit of 50 mm TL. In addition, this fishery is considered a supplementary fishery and is subject to the same regulatory measures as the inshore fishery. The snow crab fishery is subject to the same regulatory measures as the inshore fishery.

In order to ensure the protection of the resource and fish viability, the number of available licenses in each of these zones will remain the same as in 1986, i.e. 41 licenses for zone 13 and the north-east portion of Division 4R, 31 licenses in zone 14 and 4 licenses in zone 15.

In order to reflect the compulsory nature of the snow crab fishery in the groundfish fishery, the opening of the season has been set for July 15, 1987.

DEPARTMENT OF FISHERIES AND OCEANS  
QUEBEC REGION  
GULF REGION

New management measures for the snow crab fishery in zones 13 and 14 and the north-east portion of Division 4R. Following a significant reduction of trap effort, the quota for zone 13 and the north-east portion of Division 4R will be reduced to 1,775 M.T. for 1987 and fishermen in this zone will receive an individual quota of 80,000 lbs (36.3 M.T.) which can be harvested by means of a maximum of 100 separate traps for 50 standard traps. The administrative guidelines regarding the implementation of individual quotas remain unchanged over 1986. On the other hand, in order to undertake a complete evaluation of the snow crab stocks in this region, all fishermen in this zone will have access, on an exploratory basis, in 1987, to the portion of Division 4R located east of the Grand Etang. The fishing season will open on June 15th in this exploratory area.

June 1987

## SUMMARY OF MANAGEMENT PLAN

---

This management plan was established following consultations undertaken with the associations representing the fishermen from the Lower North Shore of Quebec and the West Coast of Newfoundland who participate in the snow crab fishery in zones 13, 14, 15 and the north-east portion of Division 4R. This plan also takes into account the scientific recommendations whose aim is to ensure stability. The objectives which this plan attempts to reach, remain the preservation of the various crab stocks, an equitable allocation of the resource among the inshore groups and the economic viability of the fleet.

The snow crab fishery in these zones is identified as an inshore fishery reserved for fishermen with a vessel length overall less than 50 feet (15.2 m). In addition, this fishery is considered a supplementary fishery and is reserved for inshore fishermen pursuing the groundfish fishery by means of fixed gear.

In order to ensure the protection of the resource and fleet viability, the number of available licenses in each of these zones will remain the same as in 1986, i.e. 49 licenses for zone 13 and the north-east portion of Division 4R, 21 licenses in zone 14 and 8 licenses in zone 15.

In order to reflect the complimentary nature of the snow crab fishery to the groundfish fishery, the opening of the season has been set for July 13, 1987.

New management measures will also be implemented for the co-management zone which includes zone 13 and the north-east portion of Division 4R. Following a significant reduction of trap yields and in order to maintain the reproductive potential of the stock, the quota for zone 13 and the north-east portion of Division 4R will be reduced to 1,779 M.T. for 1987; each fisherman in this zone will receive an individual quota of 80,000 lbs (36.3 M.T.) which can be harvest by means of a maximum of 100 japanese traps (or 50 standard traps). The administrative guidelines regarding the implementation of individual quotas remain unchanged over 1986. On the other hand, in order to undertake a complete evaluation of the snow crab stocks in this region, all fishermen in this zone will have access, on an exploratory basis, in 1987, to the portion of Division 4R forming a part of the Strait of Belle Isle. The fishing season will open on June 22nd in this exploratory area.

In zone 14, the quota will remain fixed at 762 M.T. in 1987. In order to ensure an equitable sharing of the resource, each crab fisherman from zone 14 will receive an individual quota of 80,000 lbs (36.3 M.T.) which he may harvest with a maximum of 100 japanese traps (or 50 standard traps). The administrative guidelines concerning the operation of the individual quota system remain unchanged in comparison to 1986.

Finally, with regard to zone 15, a quota does not yet appear to be necessary since this stock has not been heavily exploited during the last few years. Therefore, this fishery will not be placed under quota management in 1987 and fishermen will only be restricted by a maximum of 100 japanese traps (or 50 standard traps).

In order to prevent a poor quality product and especially wastage of the resources, catches will be sampled in each zone on a regular basis to evaluate the proportion of soft-shell crab. When this proportion exceeds 20%, the fishery will be closed.

Lastly, all traps used in the snow crab fishery must carry a tag provided by a representative of the Department of Fisheries and Oceans.

DETAILED MANAGEMENT PLAN

BASIC PRINCIPLES

- i) Conservation of crab stocks.
  
- ii) Access to all crab stocks will be regulated by the following means:  
fishing licenses, areas, seasons, quotas, boat sizes, volume and number of traps.
  
- iii) The snow crab fishery will be considered as a complementary fishery and will be restricted to inshore fishermen exploiting groundfish with fixed gears.
  
- iv) The resource will be allocated on a basis of equity, taking into account adjacency of the resource, dependency of the coastal communities to obtain supplementary revenues to the groundfish fishery, and added economic efficiency of the fleet by the exploitation of this complementary species.
  
- v) The snow crab fishery will be prohibited in each area when the soft-shelled crab proportion in the catches will be more than 20%.

1987 MANAGEMENT PLAN

I- Licensing policy

- 1) Snow crab fishing licenses will be issued only to inshore fishermen holding a fixed gear groundfish license.
- 2) The snow crab fishery will be restricted to inshore fishermen owning a boat smaller than 50 feet (15.2 m) LOA. However, actual snow crab licensees owning a boat longer than 50 feet (15.2 m) LOA can renew their license.
- 3) Snow crab licensees will be allowed to use fifty (50) standard traps in 1987.
- 4) The number of traps allowed is always expressed in standard traps. However, two (2) japanese traps are considered the equivalent of one standard trap (see definition of trap types under point VI).
- 5) The number of available licenses in each area will be the same as in 1986 and will be as follows:  
Co-management zone (area 13 and the northeast part of division 4R)  
(Map no 1)  
    Quebec:           43 licenses  
    Newfoundland:   6 licenses  
Area 14:   21 licenses  
Area 15:   8 licenses

6) As indicated on fishing licenses, holders in the co-management zone, fishing activities are authorized in crab zone no 13 and the portion of NAFO area 4R, defined by the shores and straight lines linking the following points in the order presented (see attached map no 1).

Point	Northern latitude	Western longitude	Points on attached map
1	50°21'36"	57°31'42"	37 (Table Pt)
2	50°33'45"	58°18'30"	11
3	50°50'00"	57°50'00"	13
4	51°13'30"	57°06'45"	14
5	51°25'00"	57°06'45"	15
6	51°27'26"	56°51'35"	38 (Amour Pt)
7	51°18'45"	56°44'33"	39 (Nameless Pt)

7) Furthermore, in 1987, all licensees from the co-management zone, defined in point 6, will have access, on an exploratory basis, to the portion of division 4R defined by the following points in the order presented (see attached map no 2).

Point	Northern latitude	Western longitude	Points on attached map
1	51°18'45"	56°44'33"	(Nameless Pt)
2	51°27'26"	56°51'35"	(Amour Pt)
3	51°38'	55°26'	(Cape Bauld)
4	52°15'	55°26'	
5	52°15'	Labrador Shore	

II- Fishing season

The snow crab fishery in areas 14, 15 and in the co-management zone will be opened from July 13th to December 31st, 1987. The exploratory fishery in the portion of division 4R, defined in point I(7), will be allowed from June 22nd to December 31st, 1987.

III- Quota

Co-management zone

A global quota of 1 779 tons of snow crab is set for 1987. This quota will be equally shared among the forty-nine (49) snow crab licensees. Therefore, each licensee will be granted an individual snow crab quota of 36.3 t (80,000 lb) in 1987. Catches done by each of the fishermen, in the exploratory zone, identified in point I (7), will be added against their individual quota of 36.3 tons (80,000 lb).

Area 14

A global quota of 762 m.t. of snow crab is set for 1987. This quota will be equally shared among the twenty-one (21) snow crab licensees. Therefore, each licensee will be granted an individual snow crab quota of 36.3 m.t. (80,000 lb) in 1987.

Area 15

The snow crab fishery is not under quota in 1987.

IV- Administrative guidelines for individual quotas in area 14 and in the co-management zone

- 1) The individual quota granted to a licensee will be stipulated as a condition on his fishing license.
- 2) No part of an individual quota shall be sold, traded or transferred to other fishermen.
- 3) Uncaught portions of individual quotas will not be allocated to other fishermen for a competitive fishery at the end of the season.
- 4) There will be no carry-over of uncaught portions of individual quotas from 1987 to the 1988 season.
- 5) All fishermen are requested to make sure that the buyers are providing a copy of the sale slips, on which the landings of every fishing trip are indicated, to a DFO representative.
- 6) Only one boat at a time can be used by a licensee to catch his individual quotas.
- 7) Boat leasing may be authorized by DFO for justified reasons. The leasing will be subject to the groundfish vessel replacement policy.

V- Regulatory measures

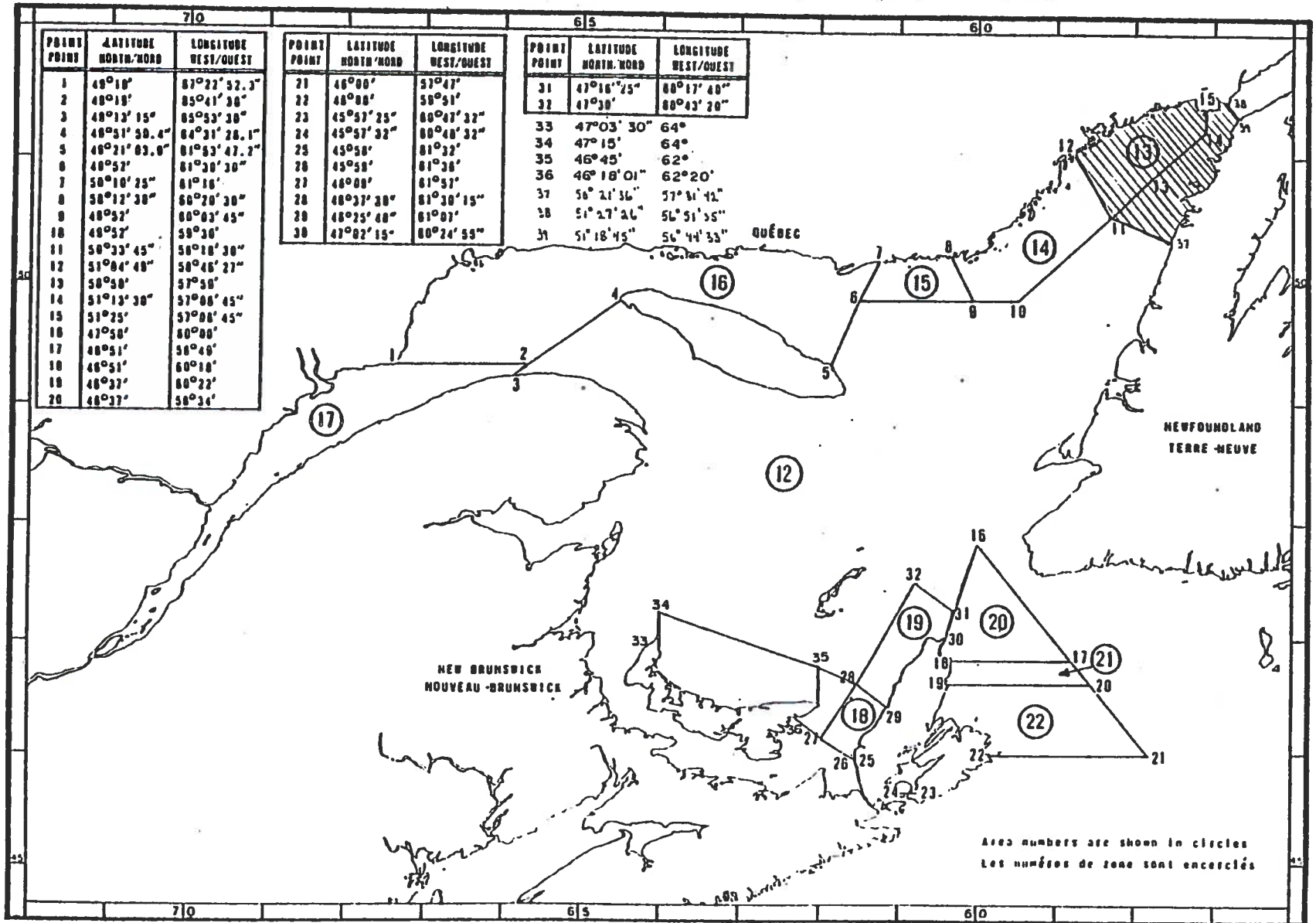
- 1) According to section 103 of the Atlantic Fishery Regulations, observers must be taken on board at the request of the Department.
- 2) According to Section 48 of the Fisheries Act, maintenance of accurate log records will be enforced.
- 3) A snow crab licensee cannot fish this species outside the area specified on his license.
- 4) A snow crab licensee cannot use more traps than the number specified on his license.
- 5) According to Section 56 of the Atlantic Fishery Regulations, it is prohibited to use a crab trap unless:
  - a) the standard trap bears a non-punched white or turquoise tag-1987, as delivered by the Department;
  - b) the japanese trap bears a punched white or turquoise tag-1987, as delivered by the Department.

VI- Trap definitions

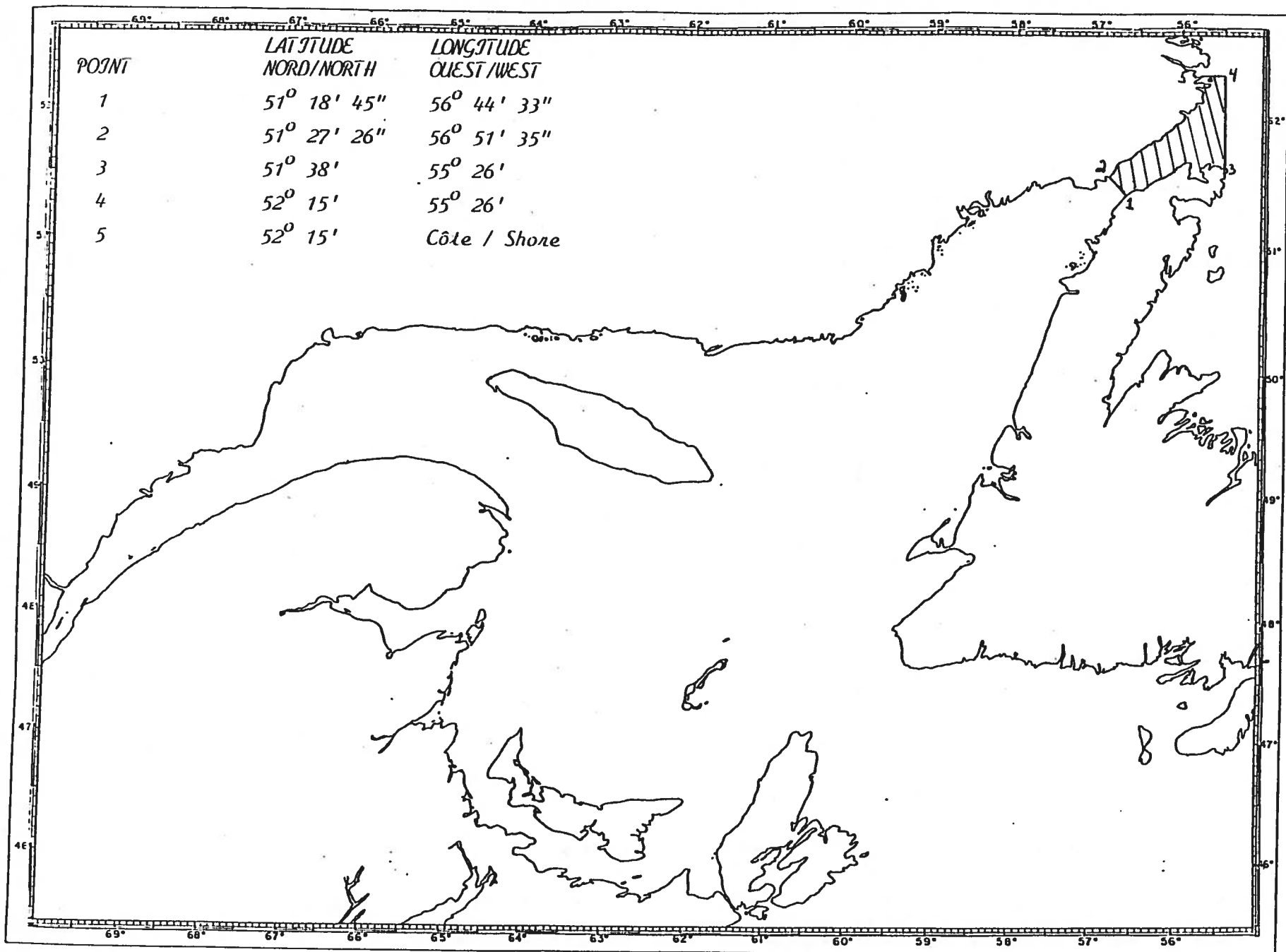
Standard trap: Rectangular trap with outer dimensions not exceeding 1,8 m x 1,8 m x 0,6 m (6' x 6' x 2') and all types of traps (except japanese trap) with an outer volume not exceeding 2.1 cubic metres (74.2 cubic feet).

Japanese trap: Conical trap with a circular base of a maximum diameter of 133 cm (52 inches).

PART III/PARTIE III  
CRAB FISHING AREAS/ZONES DE PÊCHE DU CRABE



ZONE EXPLORATOIRE DE PECHE AU CRABE DES NEIGES / SNOW CRAB FISHING EXPLORATORY AREA



**1987 SNOW CRAB FISHERY MANAGEMENT PLAN**  
**SCOTIA-FUNDY REGION**

# 1987 Snow Crab Fishery Management Plan

## Table of Contents

<u>Section</u>	<u>Page</u>
1. 1987 Snow Crab Fishery Management Plan Objectives .....	1
2. 1987 Snow Crab Fishing Plan .....	2
3. Historical Overview .....	3
4. Fishery Profile .....	3
5. Summary of Current Issues .....	6
6. Consultative Process .....	7
7. Licensing Policy .....	7

### Appendices

- I Current Snow Crab Advisory Committee (SCAC) Membership
- II Snow Crab Fishing Map

# 1987 SNOW CRAB FISHERY MANAGEMENT PLAN

## 1987 SNOW CRAB FISHERY MANAGEMENT PLAN OBJECTIVES

Fishermen harvest the snow crab resource on an opportunistic and sporadic basis. The implementation of a strict, comprehensive management regime is difficult because the activities of the fishermen are closely tied to the unpredictable availability of the crab stocks. Still, several management measures have been put into place to guide fishermen in their harvesting efforts. The measures are based on the following objectives:

### 1. Conservation and Protection

Fishing seasons and carapace width restrictions have been implemented in the crab fishery to restrict pressure on the stocks. The Department of Fisheries and Oceans (DFO) stresses that the conservation and protection of this species must be unequivocal. Fishing efforts must be sensitive to biological realities. Specifically, exploitation of the species should not disrupt normal recruitment levels. The availability of a healthy, secure stock may help improve economic benefits that can be accrued from this fishery.

### 2. Equitable Access to the Resource

Various management and regulatory measures are used to ensure equitable access to the resource for those fishermen who want to participate. Revenues coming from this fishery can be of paramount importance for participants. In recent years, markets have been available for the entire snow crab catch. The enforcement of trap limits, fishing seasons and fishing zones restrict the amount of crab that can be landed by a single vessel or licence holder.

### 3. Economic Viability

Snow crab landings in the Scotia-Fundy Region have continued to decline since the peak year of 1979 when 1,511 t were landed. The catch in 1985 was an historical low. Landings in 1986 and 1987 have been relatively higher than those of 1985. Higher market prices for snow crab in recent years have not prevented a sharp decline in revenues. Snow crab fishermen in 1986 and 1987 received substantial earnings from this fishery.

DFO and industry members appreciate that a weak snow crab fishery can have unfavourable socioeconomic consequences for the small coastal communities that depend on revenues from the various inshore fisheries. A variety of management, processing and marketing initiatives are required if the snow crab fishery is to be infused with some level of long-term economic viability.

## 1987 SNOW CRAB FISHING PLAN

Successful management of the snow crab fishery involves both biological and economic measures.

1. A minimum legal size of 95 mm (carapace width) has been established, based on processing considerations. The fishery is, therefore, based on size at maturity and males only because females seldom obtain legal sizes. Landed females are to be returned to the water.
2. The snow crab fishery is subject to limited access. The objective is to restrict the number of vessels allowed to participate in the fishery so as to improve economic conditions.
3. Even in limited-access fisheries, excessive investment may continue and quantity and capacity of fishing gear increase. Hence controls must be set on the amount of fishing gear. For snow crab Areas 20, 21, 22, 23 and 24, each licence holder is limited to 30 traps.
4. The establishment of fishing zones is a widely-used management technique. This approach can help to distribute the resource among various participants. Each zone can be managed according to the characteristics of its users. Currently, the Scotia-Fundy snow crab fishery is divided into five Areas, 20, 21, 22, 23 and 24 (see Appendix II).
5. The decision has also been made to limit the duration of the fishing season. The primary reasons for seasonal restrictions are to improve the quality by preventing the catching of soft-shelled crabs, to protect the crab during vulnerable periods in their life cycle, to minimize potential conflict with other fisheries, and to coincide with market demand as closely as possible. The following fishing seasons are in effect for Areas 20, 21, 22, 23 and 24:

Areas 20, 21, 22 and 23 - July 22 to September 11  
Area 24 - August 1 to September 30

The short season is in accordance with the policy of keeping this fishery supplementary to other fisheries of the Region and avoiding conflict with other fishing gear.

## HISTORICAL OVERVIEW

Commercial fishing for snow crab on the Atlantic coast of Canada began in 1967. By 1979, landings had reached nearly 30,000 tonnes with a landed value of nearly \$20 million. The crab fishery, in slightly more than a decade, became an important component of the Atlantic coast fishing industry. Since 1979, landed values of crab have ranked consistently among the six most lucrative fisheries (herring, scallops, cod, lobster and the flat fishes).

The crab fishery is characterized by a wide geographic distribution of the resource, a relatively long catching season, a high percentage of individually-owned vessels and a labour intensive processing industry. The snow crab is a deep-water species and, consequently, the principal fishing grounds are located along the north shore of the St. Lawrence estuary, the deep waters between the Gaspé and New Brunswick, the depressions off the Magdalen Islands and Cape Breton and along the northeast coast of Newfoundland. Fishermen in all five Atlantic provinces participate in the crab fishery with the principal landings being in Newfoundland, New Brunswick and Quebec.

In fishing areas immediately adjacent to the coastline, crab fishing can be carried out by small boats under 13.5 m (45'). These boats fish the inshore areas of the north shore of the St. Lawrence and Bay Chaleur and from Cape Breton, where distances to the fishing grounds is modest, one-day fishing trips are common. These boats normally engage in other fisheries, particularly the lobster fishery.

Since its beginning, this fishery has been beset by problems of quality and marketing. The quality problems result from the landing of soft-shelled or "white" crabs and the poor handling practices throughout all facets of the industry. In 1980, unfavourable processing and marketing conditions nearly forced the shut-down of the fishery in the Gulf Region of the Atlantic coast. In response to the crises, DFO sponsored an Atlantic Snow Crab Seminar. The Seminar, held in Quebec City in December 1980, drew wide representation from fishermen and industry. From the Seminar came government and industry efforts to develop an integrated management regime for the crab resource, including resource management, harvesting, transporting, processing and marketing/distribution of the final product.

## FISHERY PROFILE

In 1986, 98 licences were issued to snow crab fishermen in the Scotia-Fundy Region, compared to 124 licences available in 1980. (Six licences were banked by fishermen who retained the option to renew their snow crab licences in future years.)

**Table I: Scotia-Fundy Snow Crab Licences by Area - 1986**

Area	Number of Licences
20	6
21	29
22	30
23	22
24	11
Total	98

**Table II: Available Versus Active Snow Crab Licences  
Scotia-Fundy Region - 1978 to 1986**

Year	Number of Vessels Licensed	Number of Active Vessels
1978	89	42
1979	119	98
1980	123	99
1981	122	55
1982	121	67
1983	122	97
1984	117	51
1985	98	25
1986	98	32

A third of these vessels were active in 1986 (32 vessels) and approximately 96 fishermen were employed in the fishery. Vessels in the snow crab fishery range from 4.9 m (16') to 13.1 m (43') length overall, with most falling into the 10.7 m (35') range. Vessels, on average, employ one to three crew. Crew members receive 40 percent of revenues. Vessels fish from various ports throughout Cape Breton.

The main concentration of snow crab in Cape Breton appears in the "gully" region of the northwest area. In the northeastern, mideastern and southeastern areas fishing is limited to scattered pockets of crab on an infrequently-occurring mud bottom. Some inshore vessels from these areas venture over 30 miles from shore in search of deep holes containing crab concentrations.

The management planning process for snow crabs recognizes the supplementary nature of the fishery. The crab fishery is not intended to provide fishermen with a substantial part of their total fishing income.

**Table III: Landings of Snow Crab - Scotia-Fundy Region - 1982 to 1986**  
(Quantity (Q) in tonnes; Value (V) in thousands of dollars)

	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
Snow Crabs	554	760	239	430	124	216	89	152	120	252

In 1985, 12.3 t of fresh snow crab meat and in-the-shell were processed in eastern Nova Scotia. The processing was valued at \$217,000. In southwestern New Brunswick 58 t of snow crab were canned by processing facilities. The canned products were valued at \$1.1 million. For 1984, 53 t of fresh snow crab was processed in eastern Nova Scotia, valued at \$158,000.

The somewhat improved results of the 1986 season reflected the partial recruitment of a pulse of crabs that were identified in 1985 at a size smaller than the legal minimum. The Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) notes that this recruitment should continue in 1987, but in the longer term, recruitment is likely to be as erratic as has been observed in the past so that any attempt to rebuild the stock would require many years of severely restricted fishing and would not produce high sustainable catches.

**Table IV: Canadian Export of <sup>Canned</sup> Crabs - 1982 to 1986**  
(Quantity (Q) in tonnes; Value (V) in thousands of dollars)

Country	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
United States	7,757	63,360	6,236	75,192	5,922	51,996	76	1,166	78	1,412
Japan	4,063	20,076	3,277	17,111	4,710	24,840	23	393	69	1,073
Others	2,045	22,805	1,653	20,516	1,153	13,399	116	1,934	95	2,161
TOTAL	13,865	106,241	11,166	112,819	11,785	90,235	215	3,493	242	4,646

The decline in the volume and value of exported crab has been striking. The volume of exports has declined by 98 percent from 1982 to 1986 and the value of the product has dropped by 91 percent. Large contractions have taken place in both the Japanese and American markets.

Many Canadian processors of crab meat are concerned that increased fishing effort (24 hour fishing) coupled with increased licences over the years may damage the stocks. Processors are noting a difficult period in that fishermen continue to ask for higher prices while food service operators are pulling snow crab meat off their menus and are substituting shrimp and other reliable finfish species because of consistent supply (52 weeks) at much lower prices.

### SUMMARY OF CURRENT ISSUES

The management planning process for the snow crab fishery has been uncomplicated. Fishermen harvest the resource on an opportunistic basis. Relative to the scallop and lobster fisheries, few fishermen and vessels participate in this fishery and it is concentrated geographically in eastern Nova Scotia. Economically, the fishery generates little direct or indirect employment and revenues historically earned have made a modest contribution to fishermen's incomes, although higher landings and prices in 1986 and 1987 have increased average earnings for crab fishermen.

Current issues in the snow crab fishery are generic in nature, that is to say they can apply to all fisheries subject to a management planning process. No precise linkages have been established between the effectiveness of the management planning process and the biological status of the snow crab stocks. Two general issues require attention from DFO and industry members.

#### 1. Conservation and Protection

Under present fishery regulations, it was believed initially that recruitment to the snow crab stocks would not be effected by exploitation. A minimum legal size of 95 mm (carapace width) was established based, to a great extent, on processing considerations. The fishery was, therefore, based on males only because females seldom attain legal size. Since males can also mature at sizes well below 95 mm carapace width, it was concluded that the fishery would have no discernible impact on the reproductive potential of the stocks. In the early 1980's, biological information indicated that most mature females were carrying eggs which seemed to indicate that the reproductive capacity of the stock was unimpaired.

More recently, the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) has registered concern about the appropriateness of the current minimum size and the target exploitation rate in achieving the objective of protecting the productive potential of the stocks, CAFSAC stresses that the snow crab fisheries in Areas 20, 21, 22, 23 and 24 are based on a resource which seemed to have a low productivity. Catch controls were eliminated in 1982 to allow fishermen to take advantage on an opportunistic basis of whatever production might occur from time to time.

## 2. Fleet Capacity

In 1986, 98 vessels were licensed for the snow crab fishery. As noted, only 32 vessels actually landed snow crab. Still, the collective fishing capacity of the 98 vessels may represent a threat to the snow crab stocks. A total of 2,940 traps could have been placed in the inshore waters off eastern Nova Scotia. Economic and market conditions have, hitherto, discouraged most fishermen from actively participating in this fishery.

Current fishing capacity would allow the fleet to quickly harvest any snow crab of minimum legal size recruited to the fishery.

## CONSULTATIVE PROCESS

The Cape Breton Island Snow Crab Advisory Committee (SCAC) serves as the primary vehicle through which management initiatives are deliberated and developed. The Advisory Committee is one of approximately 35 regional management advisory committees sponsored by DFO in the Scotia-Fundy Region.

The Advisory Committee is designed to advise DFO on matters pertaining to the management of the crab fishery within the eastern Nova Scotia area. SCAC provides advice to DFO senior management on the establishment of policies to enable implementation of management measures, including fishing seasons, quotas and licensing. Advice is also presented on the establishment of regulations to ensure sufficient conservation and on methods to enable adequate enforcement of the regulations.

The consultative process for the snow crab fishery has been less structured and formal in recent years than for other fisheries. Though licensed snow crab fishermen are to elect their Committee representatives every two years, fishermen's participation in the consultative process has been infrequent and modest in scope. Fishermen have restricted their input to requests for licences and the setting of fishing seasons. This limited participation has not disrupted the management planning process, such as it is, for the snow crab fishery, given that the fishery is small and it has not been affected by issues and concerns that have marked other snow crab fisheries on the Atlantic coast.

## LICENSING POLICY

1. Crab licences may be split from other limited entry fishery licences similar to lobster licences.

2. Licences are to be renewed each year or cancelled.
3. All licensed snow crab fishermen shall complete log records whether they fish or not.
4. All vessels must be registered as commercial fishing vessels.
5. Vessels in the crab fishery must be operated in accordance with all conditions entered on the licence and pertinent regulations.
6. A fisherman may hold only one crab limited fishery licence.
7. No new licences are to be issued, only renewal of licences issued in the preceding calendar year.
8. Sunday fishing will be permitted.
9. The participation clause is not in effect.

CAPE BRETON ISLAND SNOW CRAB FISHERY ADVISORY COMMITTEE MEMBERSHIP

<u>Name</u>	<u>Organization</u>	<u>Location</u>
H. Rideout	Fisherman	Victoria County
D. McDermid	Fisherman	Victoria County
E. Shepard	Fisherman	Gabarus
E. Mombourquette	Fisherman	Richmond County
G. Roach	Nova Scotia Dept. of Fisheries	Halifax
R.W. Elner	DFO	Halifax
D.A. MacKinnon	DFO	Sydney
A.Y. MacIsaac	DFO	Sydney
F.H. Allen	DFO	Sydney
G.E. Jefferson	DFO	Halifax

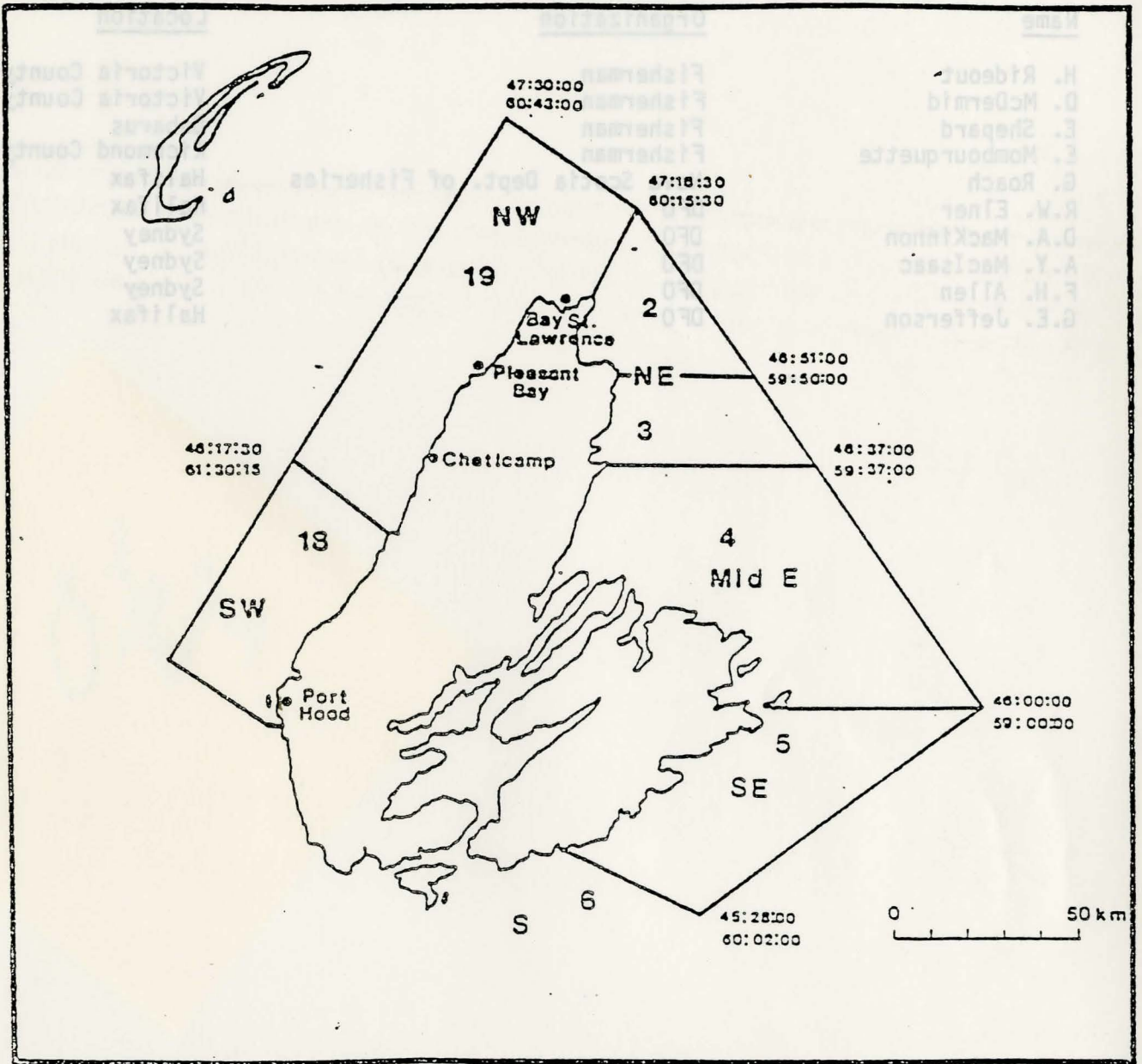


Figure 1: Cape Breton Island snow crab management areas.

Ile du Cap Breton - Zones des pêche du crabe des neiges

1987 GULF SHRIMP

MANAGEMENT PLAN

DEPARTMENT OF FISHERIES AND OCEANS

April 1987



Fisheries  
and Oceans

Pêches  
et Océans

# News Release Communiqué

NR-HQ-87- E

FOR IMMEDIATE RELEASE

## 1987 GULF SHRIMP MANAGEMENT PLAN ANNOUNCED

OTTAWA - The Director General of the Quebec Region, Mr. Denis Martin, and the Director General of the Gulf Region, Mr. Eugene Niles, announced today details of the 1987 Gulf Shrimp Management Plan covering five shrimp fishing areas in the Gulf of St. Lawrence: Estuary, Sept-Iles, North Anticosti, South Anticosti and Esquiman Channel.

Based on preliminary scientific advice and consultations with the Gulf Shrimp Advisory Committee on January 29 in Montreal, some changes were made to the management plan in terms of total allowable catches (TACs) and seasons.

The 1987 TACs and seasons for the five shrimp fishing areas are as follows:

Estuary	500 t	January 1 to December 31, 1987
Sept-Iles	3,400 t	April 1 to September 7, 1987
	1,000 t	September 8 to December 31, 1987
North-Anticosti	3,500 t	January 1 to December 31, 1987
South-Anticosti	700 t	January 1 to December 31, 1987
Esquiman Channel	3,500 t	January 1 to December 31, 1987

The Sept-Iles TAC for 1987 has been increased, on an experimental basis, by 500 t to permit the establishment of two seasons, spring and fall, for Sept-Iles. This measure will be reviewed at the end of the 1987 fishing season. All other TACs remain

.../2

Canada

at the same level as in 1986. However, there could still be small increases in the 1987 quotas for other stocks areas, such as North-Anticosti, if the final CAFSAC advice allows for such increases.

A major change from the 1986 shrimp management plan is that a directed cod fishery will not open in 4RS and 3Pn until September 1, 1987 and will open then only if the remaining cod and shrimp quotas are sufficient. Shrimp vessels, therefore, will not be permitted to fish cod with a groundfish trawl (130 mm) in these divisions before September 1. If the cod by-catch is being caught too quickly, the department will set a limit on the authorized by-catch.

This change is being implemented to allow shrimp fishermen to fully pursue their activities. In previous years, if one of the groundfish quotas allocated for by-catch purposes was reached, the shrimp fishery would close immediately.

Also in the shrimp management plan is a redfish quota of 1,500 t in division 4RST which is allocated to shrimp vessels less than 100 feet (30.5 m).

---

---

**GULF SHRIMP  
MANAGEMENT PLAN - 1987**

---

---

**BASIC PRINCIPLES**

- i) Conservation of shrimp stocks in the Gulf of St. Lawrence.
- ii) Access to shrimp stocks will be regulated by quotas and seasons.
- iii) Allocation of resource will be on the basis of equity, taking into account adjacency to the resource, the relative dependence of coastal communities on the resource, and economic efficiency and fleet mobility.
- iv) Utilization of the fishery resources over the calendar year to the fullest degree possible.
- v) TAC's will not be adjusted during the season unless there are significant changes in the scientific advice (at least a 10% change in TAC), and not without consultation with those directly involved in the Gulf Shrimp fishery.

**REGULATORY MEASURES**

- i) In accordance with Section 103 of the Atlantic Fisheries Regulations, 1985, observers must be carried at the request of the Department.
- ii) In accordance with Section 48 of the Fisheries Act, maintenance of log records will be strictly enforced.

I - STOCKS, QUOTAS AND SEASONS:

<u>Stock</u>	<u>Quota (MT)</u>	<u>Season</u>
Estuary	500	January 1 to December 31, 1987
Sept-Iles	3,400	April 1 to September 7, 1987
	1,000	September 8 to December 31, 1987
North-Anticosti	3,500	January 1 to December 31, 1987
South-Anticosti	700	January 1 to December 31, 1987
Esquiman Channel	3,500	January 1 to December 31, 1987

II - GROUND FISH BY-CATCH PROVISIONS FOR SHRIMP VESSELS:

Cod

A. 4RS, 3Pn Divisions

- Quota - 1,400 MT for vessels from 65' (19.8 m) to 100' (30.5 m).
- Quota - 1,500 MT for vessels less than 65' (19.8 m) based in 4S or 4T.

These cod quotas are allocated primarily for the bycatch that occurs while fishing for shrimp. If one of the cod quota is reached, the shrimp fishery will be closed for the vessel category associated to that quota. Thus, to avoid this situation, the following measures will apply in 1987:

1. No directed cod fishery will be permitted until September 1, 1987. Shrimp vessels will therefore not be permitted to fish cod with a groundfish trawl (130 mm) in Divisions 4RS, 3Pn before September 1, 1987.

2. Should the cod bycatch appear to be caught too rapidly, the Department of Fisheries and Oceans would set a limit on the authorized bycatch.
3. A directed cod fishery may be authorized on September 1, 1987 depending on the remaining quantities of shrimp and cod. This decision will be taken in consultation with the industry.

B. 4RS, 3Pn Divisions - Vessels less than 65' (19.8 m), based in Western Newfoundland, shrimp vessels

- By-catch as per individual boat quota.
- Fishermen must maintain a minimum of 50,000 lb (22.7 MT) or their individual cod allocation for by-catch in the directed shrimp fishery.

Redfish

A quota of 1,500 MT in divisions 4RST is allocated to shrimp vessels less than 100' (30.5 m).

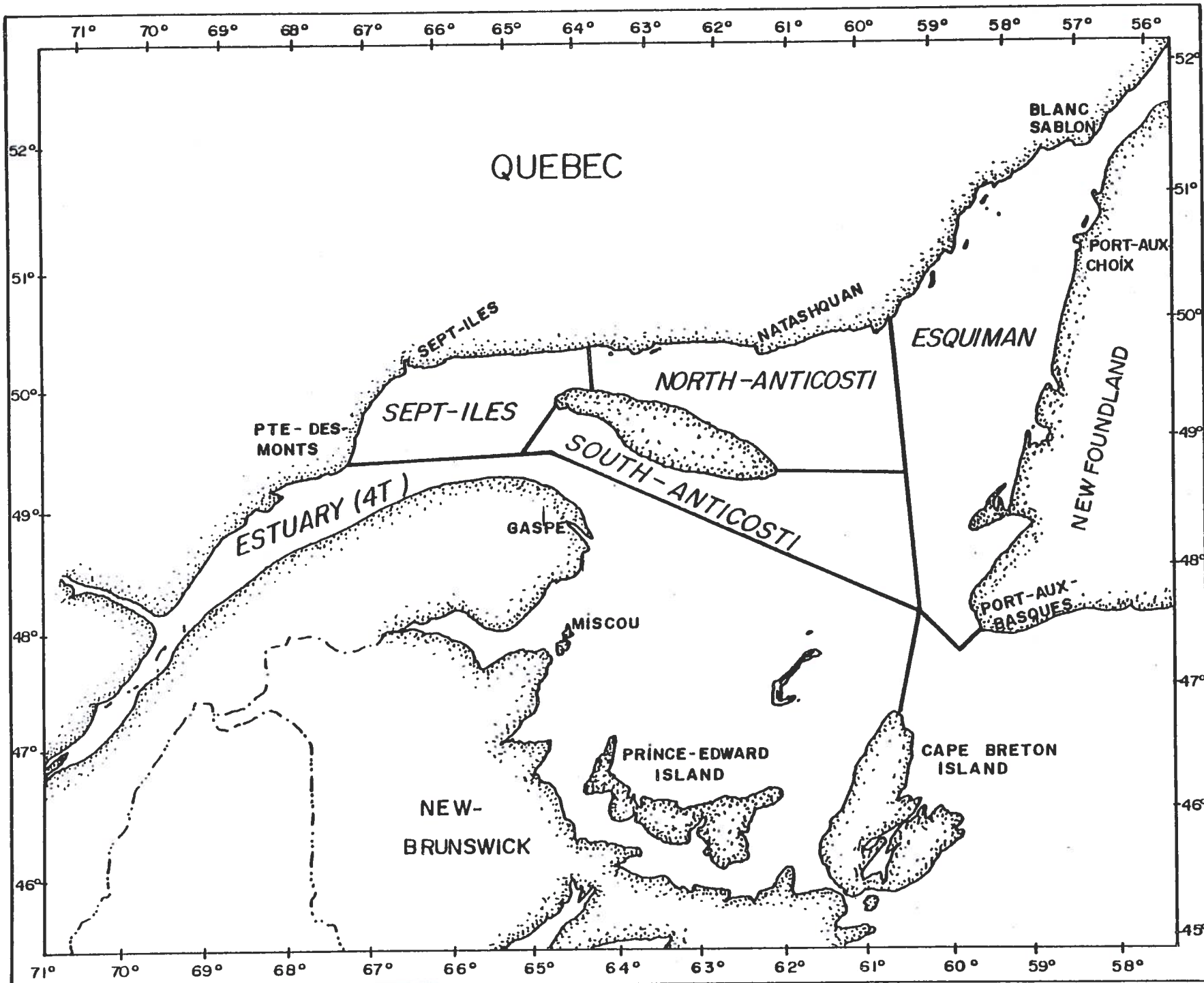
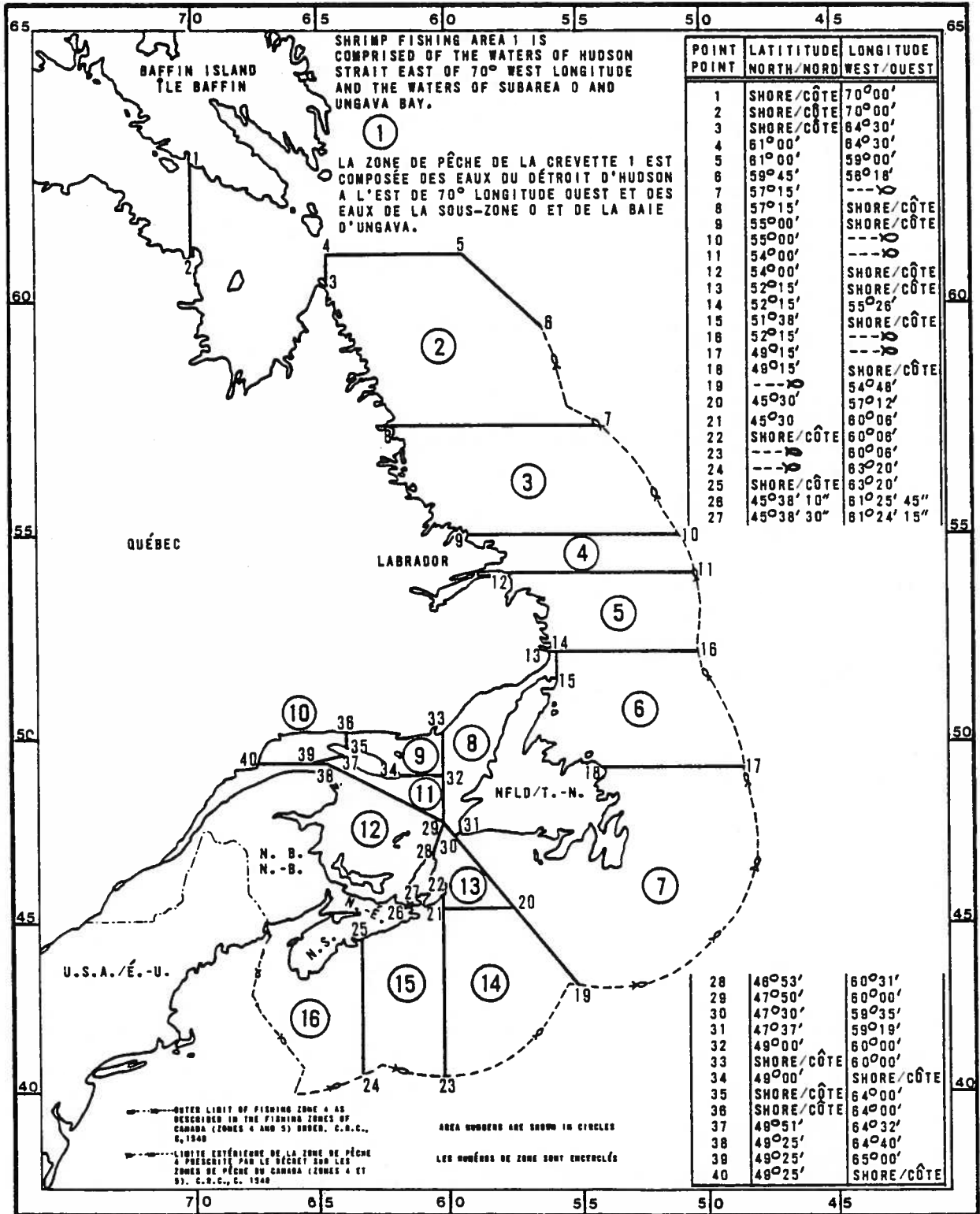


Figure 1. Localization of shrimp stocks in the Gulf of St-Lawrence.

SCHEDULE XVII/ANNEXE XVII

(s./art. 2)

SHRIMP FISHING AREAS/ZONES DE PÊCHE DE LA CREVETTE



NORTHERN SHRIMP FISHERY:  
1987 MANAGEMENT PLAN

DEPARTMENT OF FISHERIES AND OCEANS  
APRIL 1987

## 1987 NORTHERN SHRIMP

### MANAGEMENT PLAN

#### BASIC PRINCIPLES:

1. Optimum exploitation of all northern shrimp stocks, with due regard to effective resource conservation and the orderly long-term development of the entire northern shrimp fishery.
2. Fair access to, and equitable sharing of, the northern shrimp resource by all legitimate Canadian user groups, with particular emphasis on the needs of the people and communities most adjacent to the resource.
3. Canadianization of all aspects of the northern shrimp fishery - harvesting, processing, and marketing - so that the maximum benefits from this fishery accrue to Canadian user groups.
4. Development of a modern, commercially viable, and self-sustaining northern shrimp fishery.

#### TOTAL ALLOWABLE CATCH (TAC) FOR NORTHERN SHRIMP STOCKS: 1987 SEASON

<u>STOCK</u>	<u>TAC (MT)</u>
Sub-Area 0 (Davis Strait)	6,120
Eastern Hudson Strait	1,000
Ungava Bay	200
Division 2G	500
Hopedale Channel	4,000
Cartwright Channel	800
Hawke Channel	1,500
Division 3K	1,500

**NOTE:** The TAC for sub-area 0 is based on NAFO advice and on the proportion of the stock in the Canadian zone (17%). All other stock advice is provided by CAFSAC.

FISHING SEASON:

The fishery is open for all TAC areas from May 1, 1987 to April 30, 1988 or until any specific TAC is reached, whichever occurs first.

ACCESS TO SHRIMP STOCKS:

Each licenced vessel will have access to all northern shrimp stocks, subject to the provisions of the experimental enterprise allocation (EA) program.

EXPERIMENTAL ENTERPRISE ALLOCATION PROGRAM:

Allocations to individual companies in the form of specified licence quotas will be established for a two-year trial period (1987 and 1988). During this trial period periodic reviews of the experiment will be undertaken, and towards the end of the trial period, the entire experiment will be assessed, with a view to implementing a permanent enterprise allocation program thereafter.

The basic principles and administrative guidelines of the experimental enterprise allocation program are set out in the appended document.

REGULATORY MEASURES:

- i) In accordance with Section 103 of the Atlantic Fisheries Regulations, 1985, observers must be carried at the request of the Department.
- ii) All vessels fishing northern shrimp 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 Statistics coordinator for the Region from which the licence was issued.
- iii) In accordance with Section 48 of the Fisheries Act, maintenance of accurate log records will be strictly enforced.
- iv) Vessels directing their fishing activity for shrimp are restricted to a 10% bycatch of all other regulated species.

- v) Access to all northern shrimp stocks will be regulated by the following means: fishing licenses, season, quotas and gear size.
- vi) If a fish product is frozen on-board a fishing vessel, the vessel must be registered by the Department of Fisheries and Oceans as a processing facility.
- vii) The vessel and the product is subject to inspection at any time.
- viii) For inspection purposes, the owner of the vessel shall make readily accessible to an inspector any fish product on-board the vessel. The Department of Fisheries must be advised of the point of unloading one week in advance.

NORTHERN SHRIMP FISHERY:  
EXPERIMENTAL ENTERPRISE ALLOCATION PROGRAM

ATLANTIC FISHERIES  
Department of Fisheries  
and Oceans  
27.04.87

ENTERPRISE ALLOCATIONS FOR THE  
NORTHERN SHRIMP FISHERY

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
CONTEXT .....	1
SETTING THE TOTAL ALLOWABLE CATCH .....	3
ESTABLISHMENT AND UTILIZATION OF ENTERPRISE ALLOCATIONS .....	3
ADMINISTRATIVE GUIDELINES FOR ENTERPRISE ALLOCATIONS IN THE NORTHERN SHRIMP FISHERY .....	5
- Permanent Transfer of Enterprise Allocations .....	5
- Temporary Transfers or Trades of Enterprise Allocations Between Northern Shrimp Licence Holders ...	5
- By-Catch Regulations .....	5
- Permanent and Temporary or Short-Term Vessel Replacement .....	6
- Licence Fees and Participation .....	6
GLOSSARY OF TERMS .....	7

## ENTERPRISE ALLOCATIONS FOR THE NORTHERN SHRIMP FISHERY

---

---

### CONTEXT:

---

---

On June 2, 1978, after intensive scientific studies and exploratory fishing during 1977, the Department announced the decision to permit the harvesting of shrimp stocks in the Hopedale, Cartwright, and Hawke Channels and in NAFO Divisions 3K (off northeastern Newfoundland) and 2G (off northern Labrador). In addition, Canadian fishermen were permitted to fish for shrimp in the Davis Strait (Sub-Area 0).

Entry into the northern shrimp fishery was restricted to eleven participants with licences allocated as follows: five to Newfoundland, four to the Maritime Provinces, and two to Québec. The licence holders were Mersey Seafoods Ltd. and United Maritime Fishermen (Atmar Marine Ltd.) in Nova Scotia; Lamèque Co-op and Carapro Ltd. in New Brunswick; Eastern Québec Seafoods and Pêcheries Unis du Québec in Québec; and Fishery Products of Newfoundland with two licences. As well, in order to provide some development opportunities to Labrador fishermen adjacent to the resource, one licence was issued to the Torngat Co-op, a Labrador Inuit Organization, and two licences were issued to the Labrador Fishermen's Union Shrimp Company. A twelfth licence was later issued in 1980 to Northern Québec Inuit, Makivik Corporation, which was restricted to fishing activity in the Davis Strait. Since 1980, several of the licences have been transferred to new participants.

On March 19, 1987, after careful consideration of the state of the northern shrimp stocks and industry requests for additional northern shrimp licences, the Minister announced that up to four new licences would be permitted in the northern shrimp fishery. One northern shrimp licence was issued to each of the following: Qiqitaaluk Corporation of Baffin Island, N..W.T.; Pikalujak Fisheries of Labrador (a joint venture corporation of the Labrador Inuit Association and National Sea Products Limited); and Harbour Grace Fishing Company of Newfoundland. The fourth licence was reserved for a non-Newfoundland /Labrador based group or company to be operated in a joint venture arrangement with a northern native organization from Quebec or the Northwest Territories.

In addition to new licences in the northern shrimp fishery in 1987, an experimental enterprise allocation program will be implemented for a two year trial period. The concept of enterprise allocations was discussed by the Northern Shrimp Advisory Committee during 1986 for shrimp fisheries in the Davis Strait and Hopedale and Cartwright Channels.

The concept of enterprise allocations has been initiated in the offshore groundfish fishery since 1982, in the offshore lobster fishery since 1985, and the offshore scallop fishery since 1986. Attempts are now being made by industry and government to introduce enterprise allocations for the middle distance groundfish fishery.

The process for establishment of enterprise allocations in the northern shrimp fishery will resemble the approach used in the offshore groundfish fishery. Establishment of enterprise allocations for the northern shrimp fishery requires that there be first, a statement as to how the Total Allowable Catch (TAC) will be set; second a definition of how individual enterprise allocations would be established; and third; administrative guidelines for the enterprise allocations (including permanent or temporary vessel replacement, bycatch controls, temporary transfers, and licencing fee structures).

Should enterprise allocations be adopted as the long-term management option for the northern shrimp fishery, the 1987 and 1988 fishing seasons would be considered as a trial or transitional period where traditional management approaches would be gradually replaced with new guidelines, consistent with the evolution of enterprise allocations, as experience is gained. This approach is in line with the enterprise allocation system adopted in the offshore groundfish fishery.

#### SETTING THE TOTAL ALLOWABLE CATCH

1. Under the Fisheries Act, Total Allowable Catches (TAC's) are set annually for all major northern shrimp stocks within the Canadian 200 mile exclusive economic zone based upon the scientific advice provided by the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC), except for the Davis Strait stock for which scientific advice is provided by the Scientific Council of the Northwest Atlantic Fisheries Organization (NAFO).
2. Since 1981, Canada and the EEC have set separate TAC's for Sub-areas 0 (Davis Strait) and 1 (West Greenland). The TAC for sub-area 0 (Davis Strait) was 5000 tonnes annually during 1981-84 and 6,120 tonnes for 1985, 1986, and 1987, which is approximately 17% of the overall recommended TAC for the sub-area 0 + 1 stock. The overall TAC was set at 29,500 t during the 1981-84 period, and 36,000t for 1985, 1986, and 1987.

#### ESTABLISHMENT AND UTILIZATION OF ENTERPRISE ALLOCATIONS

1. Once the Total Allowable Catches are established for the northern shrimp stocks within the Canadian 200 mile zone and the Canadian TAC has been established for the Davis Strait, allocations to individual companies will be established for a two-year trial period during the 1987 and 1988 fishing season for the northern shrimp fishery (May 1, 1987 - April 30, 1988 and May 1, 1988 - April 30, 1989). After this trial period, the entire experiment will be assessed, with a view to implementing a permanent enterprise allocation program thereafter.

2. Enterprise allocations to individual fishery enterprises will be in the form of "licence quotas" which are equal allocations of northern shrimp expressed in absolute amounts or tonnage. Given a projected global TAC of about 16,000 MT per annum over the two-year trial period of the experimental enterprise allocation program, northern shrimp licencees will be assigned a licence quota of 1,000 MT per licence. If the global TAC falls below 16,000 MT per fishing season, the licence quotas will be decreased proportionately.
  
3. Northern shrimp licencees will have equal access to all northern shrimp stocks and fishing areas. However, in order to promote balanced resource exploitation and fishing effort in all fishing areas, the northern shrimp stocks will be sub-divided into two major categories: Northern Grounds and Southern Grounds. While operators will be allowed competitive access to all stock areas, they will only be permitted to harvest that percentage of their share in either the Northern Grounds or the Southern Grounds which corresponds to those grounds' percentage of the total TAC.

<u>Northern Grounds</u>	=	<u>1987 TAC's</u>
Davis Strait	=	6120t
Eastern Hudson Strait	=	1000t
Ungava Bay	=	200t
<u>2G</u>	=	<u>500t</u>
<u>Subtotal</u>	=	<u>7820t (50%)</u>
<u>Southern Grounds</u>	=	
Hopedale Channel	=	4000t
Cartwright Channel	=	800t
Hawke Channel	=	1500t
<u>3K</u>	=	<u>1500t</u>
<u>Subtotal</u>	=	<u>7800t (50%)</u>
=====		
<u>TOTAL TAC</u>	=	<u>15620t</u>

4. In order to promote the optimum exploitation of the northern shrimp resource, individual licence quotas or portions thereof which have not been fished by a specified date during the annual fishing season, will be re-allocated after that date (Quota Release Date) for competitive fishing by all licence holders. The quota release date for the Northern Grounds is October 1st, and for the Southern Grounds December 1st.

## ADMINISTRATIVE GUIDELINES FOR ENTERPRISE ALLOCATIONS IN THE NORTHERN SHRIMP FISHERY

---

---

### Permanent Transfer of Enterprise Allocations

Currently, no permanent transfers of enterprise allocations between enterprises are permitted at the discretion of the companies involved. This administrative guideline applies in all fisheries managed under an enterprise allocation program. However, for the longer term, specific guidelines for the permanent transfer of enterprise allocations between companies will be developed in consultation with the industry.

### Temporary Transfers or Trades of Enterprise Allocations Between Northern Shrimp Licence Holders

At the request of licence holders, inter-enterprise transfers or trades of licence quota allocations may be permitted, upon application to the Assistant Deputy Minister, Atlantic Fisheries, from May 1st to October 1st for all northern shrimp fishing areas and from October 1st to December 1st only for the Southern Grounds (Hopedale, Cartwright, and Hawke Channels, and Division 3K).

### By-Catch Regulations

In accordance with the Atlantic Fishery Regulations, vessels directing their fishing activity for shrimp are restricted to a 10% bycatch of all other regulated species.

By catches in the northern shrimp fishery, although difficult to minimize while using small mesh gear (of 40mm), must be avoided by avoiding fishing areas where incidence of a high bycatch occurs.

#### Permanent and Temporary or Short-Term Vessel Replacement

The existing policy on permanent and temporary or short-term vessel replacement, as it applies to the offshore groundfish sector, will be applied to the northern shrimp fishery. Should this policy be changed during the trial period of the experimental enterprise allocation program in the northern shrimp fishery, the same changes may be applied to vessel replacement in the northern shrimp fishery. On the other hand, modifications in the application of this policy to the northern shrimp fishery may be considered if necessary.

#### Licence Fees and Participation

1. In 1987, all vessels are required to pay a Northern shrimp limited entry licence fee of \$2,500 if the vessel is more than 45.7m (or 137') in overall length.

A \$20 vessel registration fee is also required to certify the vessel as a Canadian flag fishing vessel. These fees are outlined in the Atlantic Fishery Regulations (1985).

2. For the future, an alternative licence fee approach to that of the limited-entry licence fee could be developed and based upon the enterprise allocations made in respect of a company. This approach would be developed along the lines, and in coordination, with the access fee licencing system implemented for the offshore groundfish fishery in 1986.

## GLOSSARY OF TERMS USED IN THE DOCUMENT

---

---

### By-Catch

The catch of one species when the target species is another. By-catch regulations are set to limit catches of the non-target species for conservation purposes.

### CAFSAC

Canadian Atlantic Fisheries Scientific Advisory Committee. Scientific committee for the generation of advice (stock assessments, research) on all major species found with in the Atlantic Zone (except NAFO stocks).

### Catching Capacity

It is recognized the catching capacity or the amount of fish a vessel can catch is determined by vessel size, engine horsepower, fishing experience, vessel design, duration of fishing, on board processing and other factors. For the purpose of vessel replacement under enterprise allocations, catching capacity will be determined by the amount that can be carried in a vessel's fish hold and on the average catch by that vessel using its best three years of fishing.

### Enterprise

We use the term "fishing enterprise" to mean the sum of the investment in vessels, gear, shore facilities and operating capital by an individual or company involved in the fishery.

### Enterprise Allocation or Licence Quota

The total annual level of allocations of northern shrimp assigned to an individual enterprise, to be harvested during a specified period during the annual fishing season.

LOA

Length overall means the horizontal distance measured between the perpendiculars erected at the extreme ends of the outside of the main hull of a vessel.

NAFO

Northwest Atlantic Fisheries Organization - International organization comprised of 18 member nations which is the governing body for the management of the fishery resources in the Northwest Atlantic outside of exclusive 200-mile zones.

Northern Shrimp Advisory Committee

Consultative committee consisting of representatives from fishing companies, fishermen's organizations and unions, provincial governments, and the Department of Fisheries and Oceans.

Product of Canada

Any fish product that is labelled "Product of Canada" must originate from a Canadian registered processing plant. If the product is frozen on-board the fishing vessel, the vessel must be registered by the Department of Fisheries and Oceans as a processing facility. This provision applies both to Canadian owned and registered vessels as well as to vessels operating under short term charter arrangements.

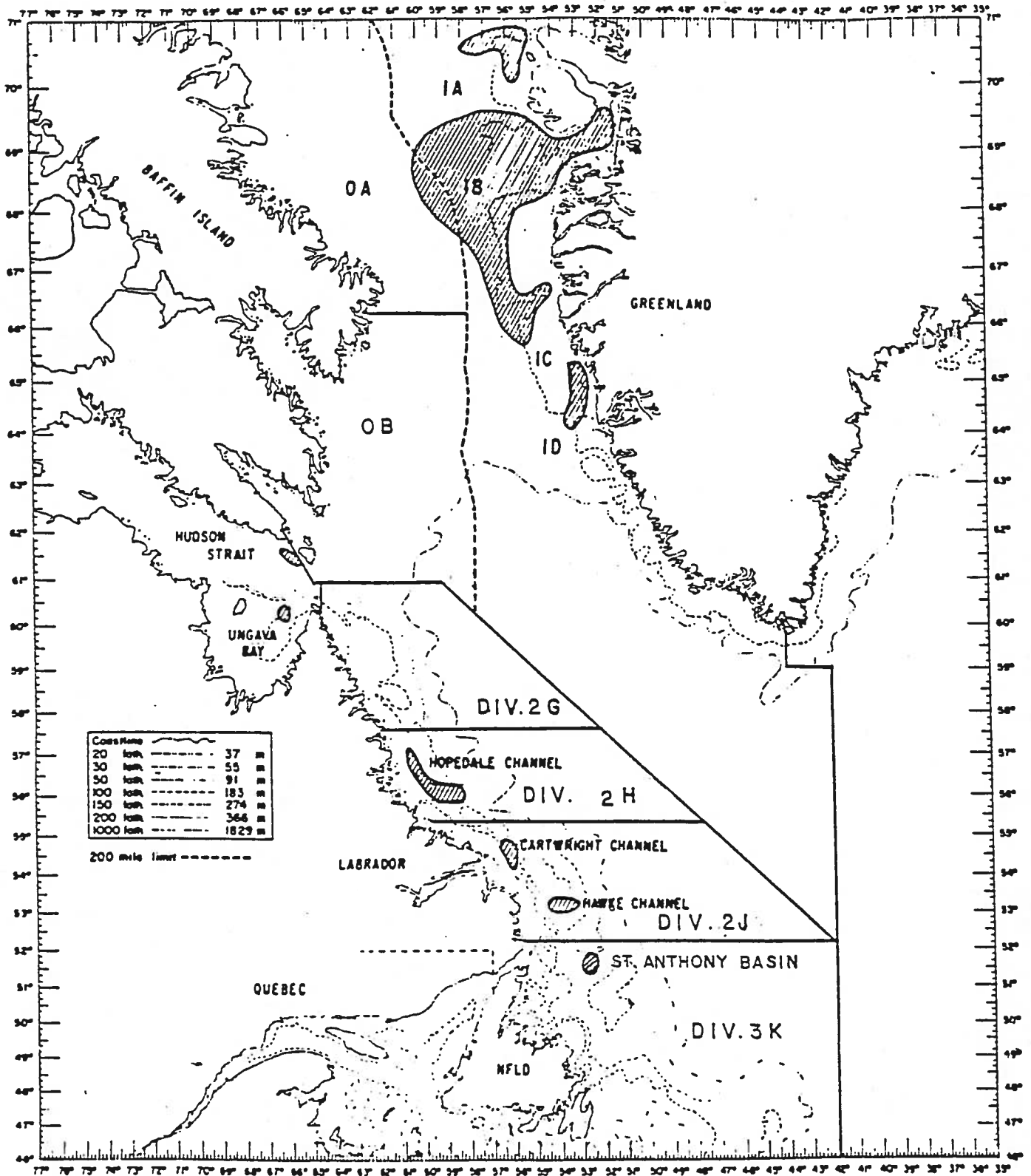
The vessel and the product is subject to inspection at any time. It will be the licence holders' responsibility to meet all Canadian inspection laws and regulations.

TAC

Total Allowable Catch of a shrimp stock for any one year; the portion of the available biomass which may be harvested.

NORTHERN SHRIMPS STOCKS/FISHING AREAS

STOCKS DE CREVETTE DU NORD/ZONES DE PÊCHE



**1987 SCOTIAN SHELF SHRIMP FISHERY MANAGEMENT PLAN**  
**SCOTIA-FUNDY REGION**

# 1987 Scotian Shelf Shrimp Fishery Management Plan

## Table of Contents

<u>Section</u>	<u>Page</u>
1. 1987 Scotian Shelf Shrimp Management Plan Objectives .....	1
2. 1987 Scotian Shelf Shrimp Fishing Plan .....	1
3. Historical Overview .....	5
4. Fishery Profile .....	6
5. Summary of Current Issues .....	8
6. Consultative Process .....	10
7. Licensing Policy .....	11

### Appendices

- I Current Scotian Shelf Shrimp Advisory Committee (SSSAC) Membership
- II Scotian Shelf Shrimp Fishery Map

## 1987 SCOTIAN SHELF SHRIMP MANAGEMENT PLAN

### 1987 SCOTIAN SHELF SHRIMP MANAGEMENT PLAN OBJECTIVES

#### 1. Maximum Utilization of Resource

The Department of Fisheries and Oceans (DFO) believes that the available shrimp resource on the Scotian Shelf and possibly other shrimp fishing areas may be sufficiently large and secure to support a small, viable fishery. International shrimp markets are lucrative and market forecasts are generally positive although variations in specific markets may occur.

DFO acknowledges that participants in the shrimp fishery should receive steady incomes and reasonable rates of return on capital investments. The Department believes that these objectives can be achieved and will continue its efforts to stimulate the fishery through the issuance of licences to active groundfish fishermen.

#### 2. Redirecting Effort from the Groundfish Fishery to the Shrimp Fishery

A strong consensus exists among government and industry representatives that overcapacity in the groundfish industry has impeded economic efficiency and stability. In short, the current size and capacity of the groundfish fleet is far greater than the levels necessary to efficiently harvest the available resource.

DFO stresses that its recent efforts to stimulate the commercial development of the underutilized shrimp fishery on the Eastern Scotian Shelf are aimed toward the identification of alternative sources of revenue for some of the existing, active groundfish vessels. The objectives, then, are twofold--first to redirect some active effort away from the groundfish fishery and second, to encourage the profitable exploitation of an underutilized species, all within a framework that does not result in additional effort on groundfish resources.

### 1987 SCOTIAN SHELF SHRIMP FISHING PLAN

(Eastern Scotian Shelf - 4VW)

#### Background

The Department of Fisheries and Oceans has tried to create interest in the underutilized shrimp resource on the Eastern Scotian Shelf since the late 1970's and early 1980's. Nine licences were approved in 1983 with eight licences issued (six in 1984 and two in 1985 of which only two are now active). The total allowable catch for shrimp in 4VW has ranged from 4,200 t to 5,800 t and the annual landings have varied from 450 t to 1,000 t since

1980. Most landings have been made by vessels from the Gulf Region. A problem encountered in the fishery is the high by-catch of regulated groundfish species--by-catches of cod in excess of 100% and 90% are common. The by-catch problem can be magnified by the destruction of immature redfish.

### Licensing

1. A total of 20 licences will be issued to allow the orderly development of the shrimp fishery. This is considered a reasonable number to encourage development of the fishery. As well, this licence ceiling is reflective of the historical fishing effort of Scotia-Fundy vessels and it recognizes that Gulf-based vessels from New Brunswick in the 19.8 m to 30.48 m (65' to 100') range have participated in the Scotian Shelf shrimp fishery. Consequently, the total fishing effort may not be restricted to these 20 licences.
2. This number of licences includes the 8 licences now issued and an additional 12-licences to be issued as "special licences" to carry out exploratory fishing.
3. Subject to Section 4, the "special" licences will be given to those independent fishermen and small inshore processing companies with mobile gear groundfish licences under 19.8 m (65') based in the Scotia-Fundy Region and who had applied previously.
4. Licences will be issued only where there is proof that the vessel on the reserve list has the necessary gear and is ready for active participation by December 31, 1987. Following that date, vacant positions will be filled on a random draw of qualified applicants.
5. Special licences will be valid only for the period commencing on the date of issuance and ending on December 31, 1988.
6. Consideration for future licences will depend upon the general success of the program, performance in the fishery, completion of log records, and adherence to the provisions of the plan. No assurances will be given for licence renewals beyond the specified time period.

### Management Measures

1. Specified gear for fishing shrimp will be otter trawl with minimum mesh size of 40 mm (Section 73, Atlantic Fishery Regulations, 1985).
2. Accurate records of catch and effort shall be maintained for each vessel and be submitted to the Department upon the completion of each trip. The information must be presented to the Area Manager, Sydney, Nova Scotia.

3. Observers shall be carried onboard vessels when requested by the Department.
4. Fishing will not be permitted by any method in the two Areas described below that are enclosed by straight lines joining the following points in the order in which they are listed from January 1, 1987, to December 31, 1987 (as may be amended).

Point	North Latitude	West Longitude
1.	43°21'	63°20'
2.	43°01'	63°20'
3.	43°04'	62°30'
4.	43°04'	62°00'
5.	43°19'	61°18'
6.	44°02'	61°18'
7.	44°02'	61°42'
8.	43°42'	62°44'
9.	43°21'	63°20'

5. All vessels shall carry out fishing operations within the existing groundfish rules for small mesh gear (i.e., within trip, by-catch and size limits of the day). Single area trips, as per the groundfish plan, will also apply.
6. By-catch will be limited to 10% of quota-managed groundfish species with the exception of haddock where a 5% by-catch limit will be applied. Redfish by-catch will not be limited.
7. Total allowable catches (TAC's), to be fished competitively, are set for stocks in the following Areas:

Louisbourg - Shrimp Fishing Area 13 - 1,070 t.  
Misaine - Shrimp Fishing Area 14 - 860 t.  
Canso - Shrimp Fishing Area 15 - 210 t.

There is no TAC set for NAFO 4X, Shrimp Fishing Area 16.

8. DFO will close the fishery in the event excessive by-catches cannot be avoided.
9. Future allocations will be based on the success of the program relative to the management principles/objectives, the number of vessels licensed and degree of active participation during exploratory fishing period and in consultation with the Scotian Shelf Shrimp Advisory Committee.

4VWX

10. Vessels holding limited entry licences for shrimp are subject to conditions of licensing outlined in Section 7, Licensing Policy.
11. Vessels fishing for shrimp in and 4VWX are subject to small mesh gear regulations (see Section 73, Atlantic Fishery Regulations, 1985).

Inspection Requirements

12. Only properly constructed and operated fishing vessels (certified pursuant to the Fish Inspection Regulations) which should be equipped with refrigerated holds and capable of being outfitted with approved holding containers will be permitted to fish this resource.
13. Each vessel should be limited to tows of no more than two hours duration.
14. If any vessel engages in cooking or freezing operations, it must be registered as a registered fish processing plant, and therefore must comply with Schedules 1 and 2 of the Fish Inspection Regulations.
15. Any product packaging utilized must comply with the requirements of the Fish Inspection Regulations. To this end, vessel operations should submit same for formal review prior to sailing.

## HISTORICAL OVERVIEW

Sporadic harvesting of shrimp on the Scotian Shelf has occurred since the late 1960's. In the Bay of Fundy and Scotian Shelf areas off Shelburne County, shrimp grounds were harvested by over 50 vessels in the peak landing year of 1970. Catches in that year exceeded 800 t but decreased significantly in subsequent years and shrimp harvesting ceased to be a commercially viable fishery due to the failure of incoming shrimp year classes. Since 1977, vessels from northern New Brunswick, in addition to harvesting Gulf shrimp stocks, have been successfully harvesting shrimp in the eastern Scotian Shelf area. These catches are subsequently transported by truck to northern New Brunswick plants for processing.

The modest exploitation of shrimp stocks on the Scotian Shelf up to the late 1970's allowed for the issuance of new licences to encourage additional effort. This developmental opportunity was the basis for the decision in 1979 to issue six shrimp licences to inshore groundfish vessels in the area. Limited interest, possibly due to increased groundfish availability for local vessels and its positive effects on their viability, resulted in the subsequent cancellation of these licences. Shrimp catches for certain shrimp stocks in the Gulf of St. Lawrence are also well below the estimated maximum sustainable yield level where it is believed that economic factors (declining catch rates, costs of harvesting, etc.) kept the amount of shrimp landed well below the estimated sustainable yield.

Limited entry for the shrimp fishery was introduced in 1977. Licences issued in 1978 were thus limited to those who held them in 1977. Nine mobile gear licences were issued to fishermen with under 19.8 m (65') vessels. Landings by these vessels were nominal. In 1981, the Minister of Fisheries and Oceans granted access to 19 Gulf-based, 19.8 m (65'-100'), trawlers to fish shrimp on the Scotian Shelf. These vessels harvested Scotian Shelf shrimp when catch rates in the Gulf shrimp fishery declined.

There are three distinct concentrations of shrimp on the Scotian Shelf--Canso, Louisbourg and Misaine channels. The Misaine channel is the farthest from the coastline and this distance, combined with the rough bottom, make it largely inaccessible to small fishing vessels. The Canso and Louisbourg channels are located closer to the coastline and could be accessible to local inshore vessels. The New Brunswick fleet from the Gulf Region has been recently limiting its efforts primarily to these two latter areas.

Since the early 1980's, the Department of Fisheries and Oceans has tried to create interest in the underutilized shrimp resource on the Scotian Shelf. Nine licences were approved in 1983 with eight licences issued (six in 1984 and two in 1985). The total allowable catch (TAC) for shrimp on the Scotian Shelf has ranged from 4,200 t to 5,800 t and the annual landings have varied from 450 t to 1,000 t since 1980.

The total allowable catch (TAC) for shrimp on the Scotian Shelf has ranged from 4,200 t to 5,800 t and the annual landings have varied from 450 t to 1,000 t since 1980.

**FISHERY PROFILE**

In 1986, 27 vessels in the Scotia-Fundy Region held limited entry licences for shrimp in 4X, 4VW and 4VWX. These vessels ranged in length overall (LOA) from 11.9 m (39') to 19.5 m (64'); the average length of these vessels was 15.2 m (50'). Six licences were valid for 4VW; three for 4VWX and 18 applied to 4X. Two larger vessels (53.6 m and 58.5 m LOA) participated in the Northern shrimp fishery (northern is defined as the waters off Newfoundland and Labrador). The vessels licensed for 4X, 4VW and 4VWX reported no shrimp landings for 1986.

Up to August 1987, 24 vessels had renewed their shrimp licences for 4X, 4VW and 4VWX. These vessels are subject to the same conditions of licence established for 1986.

In 1984, the landed value of the 928 t of shrimp caught in the Scotia-Fundy Region was approximately \$1.2 million. Processing added about \$0.5 million to this value. In 1985, the catch was below 100 t, with the value reduced accordingly to about one-tenth that of 1984, to less than \$0.2 million. In 1986, 126 t of shrimp were landed from the Scotian Shelf by Gulf-based vessels in New Brunswick.

**Table I**

**Shrimp Landings - Scotian Shelf - 1977 to 1986**

Year	Catch (t)			Total	Quota
	Canso	Louisbourg	Misaine		
1977	-	-	-	269	-
1978	-	-	-	306	-
1979	534	295	8	838	-
1980	360	491	133	984	5,021
1981	10	418	26	454	-
1982	201	316	52	569	4,200
1983	512	483	15	1,010	5,800
1984	318	600	10	928	5,700
1985	15	118	-	133	5,560
1986*	-	126	-	126	3,800

\* Of the 126 t of Scotian Shelf shrimp landed in 1986, 76 t were recorded in Scotia-Fundy Region and 50 t in the Gulf Region. The entire catch was harvested by Gulf-based vessels.

Market Trends and Forecasts

Recent declines in prices in American markets should be temporary in view of current low inventories coupled with moderate demands. Norway and Iceland remain the primary suppliers of shrimp to the United States.

European markets have contracted slightly since the high prices from 1986 encouraged buyers to purchase high quality warm water shrimp. Canadian landings are exclusively cold water shrimp. Still, prices in Europe for Canadian shrimp products remain stable. The following tables highlight shrimp landings and exports from 1982 to 1986.

**Table II: Nova Scotia and New Brunswick Shrimp Landings - 1982 to 1986**  
(Quantity (Q) in tonnes, round weight; Value (V) in \$000s)

Province	- 1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
Nova Scotia	1,303	2,452	1,888	3,805	1,878	3,607	1,127	3,557	1,749	4,672
New Brunswick	2,211	2,923	2,197	2,631	1,072	1,427	2,318	2,896	3,108	4,865
<b>Total</b>	<b>3,514</b>	<b>5,375</b>	<b>4,085</b>	<b>6,436</b>	<b>2,950</b>	<b>5,034</b>	<b>3,445</b>	<b>6,453</b>	<b>4,857</b>	<b>5,537</b>

**Table III: Atlantic Coast Shrimp Landings - 1982 to 1986**  
(Quantity (Q) in tonnes, round weight; Value (V) in \$000s)

1982		1983		1984		1985		1986	
Q	V	Q	V	Q	V	Q	V	Q	V
12,822	16,327	14,082	19,136	10,923	14,948	13,408	19,166	15,398	25,947

Table IV: Canadian Exports of Shrimp Products (Frozen & Fresh) - 1982 to 1986  
(Quantity (Q) in tonnes, round weight; Value (V) in \$000s)

Country	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
United States	1,705	9,187	1,606	11,482	1,409	11,112	1,794	14,045	1,741	16,794
Denmark							120	346	1,111	4,106
Switzerland	90	875	140	1,421	152	1,613	74	720	210	2,594
United Kingdom	701	5,502	534	3,489	451	2,207	131	734	455	2,090
Japan	484	1,692	458	1,905	442	1,704				
France	671	1,870	199	664						
Total	3,751	19,126	2,937	18,961	2,454	16,636	2,119	15,845	3,517	25,584

From 1982 to 1986, Canadian exports of shrimp products (fresh and frozen) have increased by 25 percent in value but have declined by 6 percent in volume. In recent years, France and Japan have discontinued their imports of Canadian shrimp. Since 1985, Denmark has become the second largest market for Canadian shrimp. American markets in 1986 accounted for 50 percent of exports in volume and 66 percent in value. American markets have remained stable, if not static. Little growth or contraction is apparent.

#### SUMMARY OF CURRENT ISSUES

In recent years, the management planning process for the Scotian Shelf shrimp stocks has been uncomplicated and non-controversial, given the relative dormancy of the fishery. Recent efforts by DFO to stimulate interest in this fishery among groundfish fishermen and small processing companies will bring forth several issues that are pressing concerns in other fisheries. Among the major issues will be:

##### 1. Stimulation of the Shrimp Fishery

Preliminary evidence suggests that shrimp landings from the Scotian Shelf by 20 active licences could generate up to 7 million dollars in revenues. Fishermen and processors have been reluctant to exploit these opportunities for five reasons:

- i) the costs of gearing up;

- ii) the location of the shrimp fishing grounds;
- iii) an elusive stock for which there is limited biological data available;
- iv) restrictive groundfish by-catch limits;
- v) reluctance among processors to employ the necessary plant equipment, given the uncertainty of supply;
- vi) the availability of gear suitable for harvesting shrimp;
- vii) price factors and market conditions; and
- viii) economic returns from groundfishing have been attractive in recent years, reducing the incentives for harvesting shrimp.

DFO is fully cognizant of these impediments but remains confident that economic benefits from the fishery will stimulate interest. The Department will continue to promote a developmental program that will lead to the harvesting of Scotian Shelf shrimp.

## 2. Conservation and Protection

Conservation and protection of all fish species within and outside Canadian territorial waters is a foremost concern of DFO. The Department stresses that increased activity on the Scotian Shelf will be subject to conservation and protection strategies. The primary conservation methods currently in place are limited entry regulations and annual total allowable catches (TAC's). DFO stresses that any additional effort on the Scotian Shelf will be periodically reviewed to ensure the integrity of the conservation and protection strategies.

## 3. Optimal Distribution of Benefits

DFO has indicated that the issuance of new licences will go to groundfish fishermen with vessels less than 19.8 m (65') and to small processing companies. To take advantage of the current underutilized shrimp resource, DFO is prepared to issue 12 additional licences, raising to 20 the total number of licences available for the experimental shrimp fishery on the eastern Scotian Shelf. It is believed 20 licences is a cautious number so as to ensure viability of the participating vessels which are also currently licensed for groundfish.

4. Harvesting Techniques

Shrimp fishing in the Maritimes has traditionally been a mobile gear fishery. Some preliminary evidence exists that indicates trapping for shrimp may prove to be economically viable under certain circumstances. This harvesting technique could reduce disruptive impacts on other species (by-catch), result in lower capital and operating costs for participants (smaller boats, less fuel), and a fishery which is viable at lower levels of stock abundance and a higher quality, higher priced product as a result. Another alternative could be the use of larger, more powerful vessels (greater than 19.8 m or 65'), which may be the efficient way to harvest this resource.

5. Biological Input and Assessment

To ensure that current and future management measures applied to the shrimp fishery are reflective of biological realities, timely information on the geographical distribution of the species, migratory patterns, mortality levels and recruitment patterns of the shrimp species must be available. DFO recognizes that a sound, comprehensive biological data base is a foremost requisite of the management planning process for the shrimp fishery.

CONSULTATIVE PROCESS

The Scotian Shelf Shrimp Advisory Committee (SSSAC) serves as the primary vehicle through which the Scotian Shelf Shrimp Management Plan is deliberated and debated. Established in December 1981, SSSAC is one of approximately 35 species specific management advisory committees sponsored by DFO officers who consolidate scientific, economic, marketing and other information into draft fishing plans for the Committee's consideration. Sub-committees and working groups can be established to address specific concerns.

Currently, SSSAC serves as a focal point for federal/provincial, processor/fishermen consultations on matters relating to resource allocation, harvesting and processing, including annual management initiatives, the setting of TAC's and quotas and other regulatory measures such as licensing, mesh size and gear restrictions. The Committee consists of representatives from fishermen, processors' associations and federal and provincial governments. Committee decisions and recommendations are not based on formal voting procedures, rather members operate on a consensus basis.

LICENSING POLICY

Vessel owners participating in the shrimp fisheries in 4VWX are subject to the conditions currently in place for groundfish otter trawl vessels. Licences will be limited to vessel owners who hold shrimp licences for the preceding calendar year.

All such licences will be annotated to reflect the areas where the vessels are permitted to fish. Licences will be annotated for the appropriate shrimp fishing areas. Vessels in the shrimp fishery fleet must be operated in accordance with all conditions and pertinent regulations for a limited entry fishery. The owner of a shrimp vessel may hold dual licences in respect of that vessel, subject to the licensing policies of the other limited fisheries.

Replacement of vessels in the shrimp fishery are subject to existing replacement policies for other limited entry fisheries. The most restrictive licence policy will apply. Shrimp licences may not be split from other limited entry licences held by the licensee.

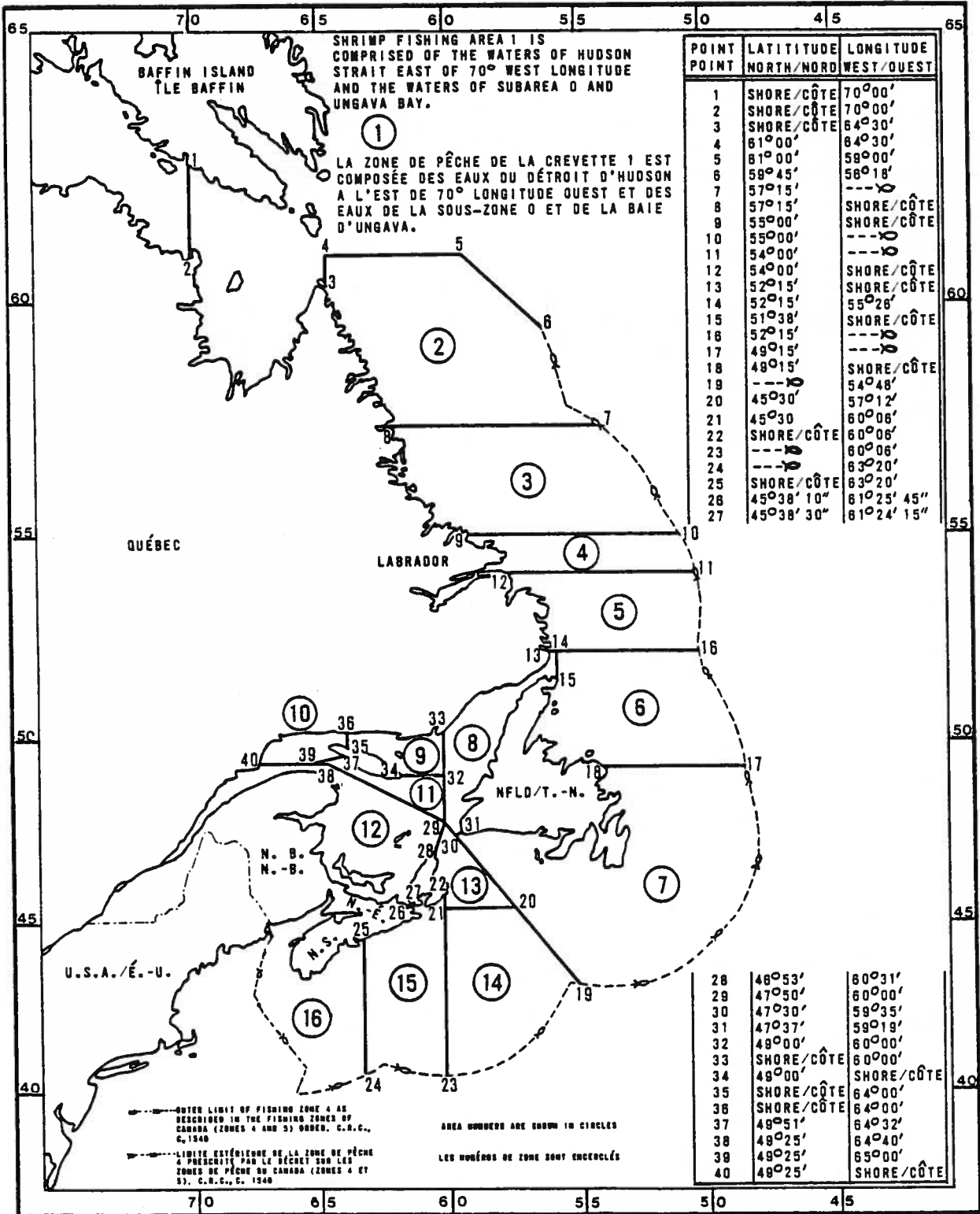
SCOTIAN SHELF SHRIMP ADVISORY COMMITTEE MEMBERSHIP

<u>Name</u>	<u>Organization</u>	<u>Location</u>
H. Scarth (Chairman)	Department of Fisheries and Oceans	Halifax
R.J. King	Fisherman	Meteghan Centre
E. Leamon	Fisherman	Sydney Mines
W. Grover	Fisherman	Larry's River
D. Martin	National Sea Products	Halifax
E. Roe	Seafood Producers Association of Nova Scotia	Dartmouth
B. Murphy	Mersey Seafoods Limited	Liverpool
J. Saint-Cyr	Association professionnelle des pêcheurs acadiens	Shippagan
C. LeBouthellier	New Brunswick Department of Fisheries	Caraquet
T. Brogan	Brogan's Fisheries	Sydney Mines
F. Hawkins	Fisherman	Beaver Harbour
D. Robinson	Clearwater Fine Foods Inc.	Bedford
G. Roach	Nova Scotia Department of Fisheries	Halifax
G. Jefferson	DFO	Halifax
B. Mohn	DFO	Halifax
J. Nelson	DFO	Halifax
Area Manager	DFO	Sydney
Area Manager	DFO	Yarmouth
Area Manager	DFO	St. Andrews

SCHEDULE XVII/ANNEXE XVII

(s./art. 2)

SHRIMP FISHING AREAS/ZONES DE PÊCHE DE LA CREVETTE



**1987 OFFSHORE CLAM FISHERY MANAGEMENT PLAN**

**SCOTIA-FUNDY REGION**

# 1987 Offshore Clam Fishery Management Plan

## Table of Contents

<u>Section</u>	<u>Page</u>
1. 1987 Offshore Clam Plan Objectives .....	1
2. 1987 Offshore Clam Fishing Plan .....	2
3. Historical Overview .....	3
4. Fishery Profile .....	4
5. Summary of Current Issues .....	6
6. Consultative Process .....	8
7. Licensing Policy .....	9

### Appendices

- I Current Offshore Clam Advisory Committee (OCAC) Membership
- II Offshore Clam Fishery Map
- III Offshore Clam Fishery Press Releases

## 1987 OFFSHORE CLAM MANAGEMENT PLAN

### 1987 OFFSHORE CLAM MANAGEMENT PLAN OBJECTIVES

#### 1. Conservation and Protection

Though offshore clam stocks have not been fished in recent years, the Department of Fisheries and Oceans (DFO) stresses that the development of this fishery must be guided by prudent conservation and management strategies. Preliminary biological and economic data indicate that an organized, sustained fishery is possible if the burdens of overexploitation and overcapacity that have blemished other fisheries can be avoided. The objectives of conservation and protection are unequivocal--the resource must not be exploited beyond a level that threatens the stability and survival of the stocks. Accordingly, DFO stresses the experimental nature of the three-year EA Program. Only after comprehensive biological and economic reviews will future harvesting of the resource be considered.

#### 2. Biological Input and Advice

DFO and industry members recognize that a successful offshore clam industry is dependent on the availability of a healthy stock. Consequently, a full biological profile of the species will be required to ensure that catch efforts do not threaten stock stability. Biological evidence from the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) suggests that the harvestable resource can support an active industry during the three-year Enterprise Allocation (EA) Program. Members of the Offshore Clam Advisory Committee (OCAC) recognize that future management initiatives must be guided by biological realities. Recent biological surveys played the central role in defining the resource as well as shaping the scope and design of the EA Program. Biological information will help determine how offshore clam landings will, over time, be kept stable.

#### 3. Economic Viability

A key factor for industry's continued participation in the offshore clam fishery will be solid incomes for fishermen and reasonable rates of return on capital investments for company owners. DFO notes that, in limiting initial activity to three companies, this should encourage an optimal distribution of benefits among participants. As well, the Department emphasizes the need for maximum utilization of Canadian vessels and fishermen.

As noted, OCAC members have iterated the need for stability in annual landings over time to help ensure that economic benefits remain constant and consistent. If so, industry will be able to develop comprehensive harvesting, marketing and investment strategies. Data gathered from the Enterprise Allocation (EA) Program will help determine if stability in landings throughout a single fishing season can be achieved.

#### 4. Distribution of Economic Benefits

Cape Breton in general and the Strait of Canso area specifically, have suffered from chronically high levels of unemployment and a depressed economic climate. A central requisite of the EA Program is that participating companies must concentrate their harvesting and processing efforts in Cape Breton (particularly on both sides of the Strait of Canso). OCAC members are confident that economic benefits from the offshore clam industry will have a positive and substantive impact on the Cape Breton economy.

#### 1987 OFFSHORE CLAM FISHING PLAN

In September 1986, the Minister of Fisheries and Oceans announced that there was sufficient biomass to sustain a commercial Stimpson's surf clam fishery on the Banquereau Bank. The available quota was apportioned on the basis of enterprise allocations (EA's) for the period 1987 to 1989 inclusive between two firms. Furthermore, these firms, along with a third, have been provided access to the area outside of Banquereau Bank to conduct an extended test fishery to assess resource potential for the purpose of commercialization. Specifically, the 1987 Offshore Clam Management Plan involves the following points:

1. A Total Allowable Catch (TAC) of 30,000 t for Stimpson's surf clams on Banquereau Bank.
2. Each enterprise will receive an allocation of 15,000 t.
3. An additional 15,000 t of Stimpson's surf clams and 10,000 t of ocean quahaugs per year for three years outside the Banquereau Bank area has also been identified for harvesting. Two firms will receive equal allocations (5,000 t of Stimpson's surf clams and 3,300 t of ocean quahaugs) for three years. One firm will participate in the experimental fishery for one year.
4. A TAC will be established annually for offshore clam and quahaug stocks in Divisions 4V, 4W and 4X and will be based on the best biological advice available at the time. The annual TAC advice will be reviewed by the Offshore Clam Advisory Committee prior to the start of the fishing year.
5. The TAC for the offshore clam fishery will be established annually for a fishing year beginning on January 1 and ending December 31.
6. The harvesting of offshore clams will undoubtedly result in the landing of other species (by-catches). Unrestricted by-catches of propeller clams are permitted.

## HISTORICAL OVERVIEW

While activity in the American offshore clam industry has been substantive, the Canadian industry has been relatively dormant. In 1970, a single company established a quahaug fishery operation in Port Medway, Nova Scotia. The company shipped live or frozen quahaugs to the United States for the half-shell trade. Larger clams were shucked, minced and shipped frozen to the United States for use in the canned chowder and stuffed clam market. The company reported landings of 907 t to 1,361 t for 1970 to 1971. Operations ended abruptly in 1971.

In 1979, less than 0.5 t of offshore clams were landed in each of Nova Scotia and New Brunswick, while a small fishery in Prince Edward Island landed 32 t. In 1980, catches increased to 8 t in Nova Scotia, 1 t in New Brunswick and 84 t in Prince Edward Island. In 1981, landings for Prince Edward Island decreased to 41 t, Nova Scotia dropped to 3 t, and New Brunswick increased to 3 t. Generally, the catches recorded from Nova Scotia and New Brunswick represented landings for domestic consumption only. During 1982, two vessels were actively involved in the fishery with landings of 77 t, all of which was canned for the Maritime markets.

A problem that has plagued the development of the offshore fishery is gaining consumer acceptance of Stimpson's surf clams. In recent years, though, North American consumption of clams has increased and, aided by the development of new products and a decline in the availability of traditional species, has opened up the possibility of developing a Stimpson's surf clam fishery in the Maritimes. Consequently, a major survey was initiated to determine the distribution and abundance of ocean quahaugs, surf clams and other underutilized shellfish resources off Nova Scotia. Between 1980 and 1983, 12 major banks on the Scotian Shelf were surveyed to determine the size of stock biomass and the level of stock stability.

Based on biological and economic advice, DFO authorized several companies in 1985 and 1986 to begin an experimental offshore clam fishery. Results were encouraging. In 1987, DFO, with industry consensus, developed a three-year offshore fishery program for the various clam stocks. Participation was restricted to three companies. Harvesting of the resource was subject to annual total allowable catches (TAC's) and an Enterprise Allocation (EA) Program. The EA Program restricted each company to a portion of the TAC and each company was encouraged to harvest the available resource efficiently. The EA Program was put in place for three years, after which it was to be reviewed by DFO and industry. A strong consensus exists that this new fishery should be developed in an orderly and prudent manner to avoid overexploitation and to ensure economic viability.

## FISHERY PROFILE

The development of the offshore clam fishery has been marked by two stages, Phase I and Phase II. Phase I, the test fishery, was designed by DFO in concert with industry to gather and assess information on resource abundance and allowable catches, commercial harvesting, suitability of existing harvesting technologies and processability and marketability of products. The test fishery was conducted in 1986.

Phase II, commercial development, is intended to allow companies which participated significantly in Phase I an opportunity to initiate development of a commercial fishery and establish its viability. This phase will concentrate on an interim set of regulations covering TAC's, allocations, full Canadianization of the harvesting fleet, construction and opening of primary processing facilities, the first shipments of substantial volumes of products to markets and testing of "value added" processing potential. The commercial development phase will be staged over three years.

Following the successful commercial development of this fishery, attention will be given to decisions regarding the entry of additional companies, possible expansion of fleet/primary processing infrastructure, construction and opening of secondary processing facilities and finalization of appropriate regulatory measures. Currently, insufficient economic data are available to permit reliable projections on possible employment levels, fleet characteristics and a general socioeconomic profile of the fishery.

In the summer of 1987, one firm participated in the offshore clam fishery. Some clams were processed at sea, some were shipped to the United States, subject to DFO's fishery inspection regulations; some were processed in southwestern Nova Scotia and some were packaged at Auld's Cove, Nova Scotia, in the latter part of 1987. In June 1987, one enterprise announced plans to renovate a fish processing plant in Auld's Cove. With new equipment the plant would have the capacity to process many types of clam products. Once the renovation was finished, 40 to 50 new jobs would become available. The enterprise also announced plans to construct a new \$10 million, 57,000 square foot plant in Park Point.

### Harvesting and Processing

Offshore clams are fished by large hydraulic dredges approximately 3.8 m (12.5') wide that are towed by a vessel. (One or two dredges may be used per vessel depending on the size and type of vessel.) The catch is delivered live to the appropriate plant where it is shucked, cleaned and processed into frozen and canned products such as chopped or whole meat, chowder, juices and sauces.

Markets for offshore clam products have been identified within the United States and Japan where domestic clam resources cannot supply increasing market demands. (The following tables highlight data for the entire clam industry; data on the Stimpson's surf clam and ocean quahaug markets are limited.)

**Table I: Atlantic Coast Clam Landings by Province & Region (All Species, Product Weight) - 1982 to 1986**  
(Quantity (Q) in tonnes; Value (V) in \$000)

Province	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
Nova Scotia	2,391	1,656	2,038	1,636	1,791	1,546	1,496	1,628	1,926	2,710
New Brunswick	2,658	1,474	1,689	1,298	2,829	2,909	2,540	2,576	3,092	3,537
Prince Edward Island	1,178	781	1,212	996	1,121	697	130	67	465	494
Quebec	2	1	0	0	623	413	737	472	877	653
Newfoundland	0	0	0	0	0	0	0	0	1	1
<b>Total</b>	<b>6,229</b>	<b>3,912</b>	<b>4,939</b>	<b>3,930</b>	<b>6,364</b>	<b>5,565</b>	<b>4,903</b>	<b>4,743</b>	<b>6,361</b>	<b>7,395</b>

**Table II: Canadian Exports of Clams (All Species, Product Weight) (Fresh or Frozen) - 1982 to 1986**  
(Quantity (Q) in tonnes; Value (V) in \$000)

Country	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
United States	3,175	10,331	3,654	11,577	3,777	13,888	4,722	19,661	4,879	22,775
Japan	617	4,583	406	2,669	397	2,872	602	4,378	495	3,717
Other	72	435	131	441	1,153	16	719	2,880	652	3,262

Exports of clams have increased in volume by 55 percent from 1982 to 1986 and by 35 percent in value. In 1986, exports to the United States accounted for 81 percent in volume and 77 percent in value. Japanese markets have contracted by 20 percent in volume and 19 percent in value from 1982 to 1986.

**Table III: Canadian Import of Clams (All Species, Canned Product Weight)  
- 1982 to 1986**  
(Quantity (Q) in tonnes; Value (V) in \$000)

Country	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
Thailand	789	1,864	638	1,691	2,176	5,922	2,385	5,066	2,206	3,919
Malaysia	-	-	-	-	-	-	229	395	287	444
Japan	1,240	3,448	1,183	3,453	876	2,761	155	449	8	17
South Korea	428	1,169	219	712	-	-	-	-	-	-
Other	312	726	324	899	612	1,895	173	563	257	744
<b>Total</b>	<b>2,769</b>	<b>7,207</b>	<b>2,364</b>	<b>6,755</b>	<b>3,664</b>	<b>10,578</b>	<b>2,942</b>	<b>6,473</b>	<b>2,758</b>	<b>5,124</b>

From 1982 to 1986, Canadian clam imports have ranged from 2,300 t to 3,600 t, the value of the imports has varied from \$5 million in 1986 to \$10 million in 1984. On average, 2,899 t of clams have been imported for the last five years, the value of the imports, on average, was pegged at \$7.2 million. Imports from Thailand have represented 55 percent of the total from 1982 to 1986. Clam imports from Japan have declined steadily from 1982 to 1986 (by over 90 percent).

### SUMMARY OF CURRENT ISSUES

The development and introduction of Phase I and Phase II for the offshore clam fishery has been complex. A series of consultations between industry and DFO was necessary to forge a consensus on appropriate regulatory and management guidelines. This process was complicated by differing views on TAC's, long-term accessibility, issuance of licences and whether the fishery could sponsor an economically viable industry. Eventual resolution of these issues set the stage for the implementation of Phase II. Still, other developmental and management issues have presented themselves. They will require careful consideration if the offshore clam fishery is to progress smoothly and soundly.

#### 1. Biological Advice and Assessment

Prior to the initiation of the experimental fishery, some industry participants challenged the conservativeness of DFO's biological advice. Catch rates in the first year of the Enterprise Allocation Program affirmed the soundness of DFO's biological advice. DFO stresses that biological input must be a pivotal feature of the offshore clam fishery management planning process if the complexities posed by overexploitation and overcapacity are to be avoided.

Biological advisors note that careful monitoring of offshore clam stocks is necessary to confirm estimates of biomass and to provide advice on appropriate levels of removals and standing biomass under sustained exploitation. Since clams are a stationary species, localized depletion is expected. The rate at which such depleted local stocks can recover is unknown. DFO emphasizes that future management and regulatory initiatives in the offshore clam fishery will be guided by biological realities.

## 2. Canadianization

DFO and industry members recognize that the bulk of the technology and equipment used to harvest offshore clams is American-based and owned. Initially, the vessels and equipment used will come primarily from the United States. As the commercial development of the fishery progresses, DFO and industry are committed to using Canadian resources and crew to ensure that potential economic benefits coming from this fishery will be concentrated in local communities in Cape Breton and possibly elsewhere in Canada. (Further details regarding Canadianization may be found in the section on Licensing, p. 8.)

## 3. Processing and Marketing

DFO anticipates commitments from participating enterprises to concentrate their harvesting and processing activities in Cape Breton. One company has announced plans to construct a \$10 million processing plant in this region. The construction of the necessary processing facilities will create direct and indirect employment in Cape Breton, particularly on both sides of the Strait of Canso.

DFO notes that the concentration of harvesting and processing activities is a foremost condition of the three-year Enterprise Allocation Program. Industry members stress the need for long-term accessibility and stability in allocations of offshore clams if reasonable rates of return are to be received for current capital investments. All processing should take place in a registered fish processing facility.

## 4. Marketing

Concern has been registered about the marketability of Stimpson's surf clams whose taste and colour are distinct from other clam species purchased in international markets. Market opportunities for offshore clams have been identified in Japan and the United States. Security and expansion of markets will be essential if the offshore clam fishery is to support an economically viable industry. Analysis of pertinent economic data following completion of the three-year EA Program will help determine if adequate markets for Stimpson's surf clams can be established over time.

## 5. Broken Shells

Evidence from the test fishery indicated that broken clam shells are not indicative of dead clams. Where mechanical harvesters-dredges are used, clams or quahaugs that are alive, but slightly or moderately damaged, may be permitted to be exported or further processed. A response to tactile stimulation is used as the test to determine if clams are alive. DFO noted that offshore clams are subject to inspection to assess the presence of Paralytic Shellfish Poisoning (PSP) and to ensure that the bacteriological quality of the product is consistent with Canadian standards.

## CONSULTATIVE PROCESS

The Offshore Clam Advisory Committee (OCAC), set up in November 1986, serves as the primary vehicle through which the Offshore Clam Management Plan is deliberated and developed. OCAC is one of approximately 35 species specific management advisory committees sponsored by DFO in the Scotia-Fundy Region. In turn, OCAC is supported by a working group of DFO officers who consolidate scientific, economic, marketing and other information into draft fishing plans for the Committee's consideration. Sub-committees and working groups can be established to address specific concerns. The Committee is currently chaired by the Regional Director, Fisheries and Habitat Management, Scotia-Fundy Region.

The Committee is responsible for the development of management plans based on biological advice and will consider fishery development, access and allocation issues. Consultations between DFO and industry members during

1985-86 set the stage for the introduction of guidelines and management strategies appropriate for the orderly development of the offshore clam industry.

As the fishery progresses, both the test and commercial phases will be subject to detailed economic assessment and scientific evaluation of resource data. Reviews of harvesting technology and vessel and company performance will also be initiated.

## LICENSING POLICY

### ADMINISTRATIVE GUIDELINES FOR ENTERPRISE ALLOCATIONS IN THE OFFSHORE CLAM FISHERY

#### Permanent Transfers of Enterprise Allocations

1. During the three-year commercial development phase (1987-1989), the permanent transfer of EA's to other companies will not be permitted.

#### Licences

1. Each company will be issued two licences to direct for their 15,000 t enterprise allocation of offshore clams on Banquereau Bank.
2. The licences also permit the harvesting by each firm up to 5,000 t of Stimpson's surf clams and 3,300 t of ocean quahaugs outside the Banquereau Bank as defined in the licence.
3. Each firm will be required to provide the Department with the following information:
  - (a) The name of the authorized officer of the company responsible for the administration of that company's EA and the operation of that company's fishing vessels.
  - (b) A list of the offshore clam vessels which will be fishing that company's allocations. Any request to change said list shall be made at least one week in advance, particularly as it applies to foreign vessels.
  - (c) Substitutions for foreign vessels must be approved by the Minister.

#### Vessels and Short Term Foreign Charters

1. Each firm may charter foreign registered vessels for 1987 only, subject to the following conditions:
  - (a) A foreign charter vessel must be licensed prior to entering and fishing in the Canadian fishing zone and inspected prior to exiting the Canadian fishing zone, as well as at the expiry of the charter.
  - (b) A foreign vessel must meet Ministry of Transport guidelines.
  - (c) A foreign charter vessel must be entirely crewed by Canadians except for two or three key crew members required for the vessel's efficient operation.

- (d) All catches of any chartered vessel which are proposed for export must be identified as "Product of Canada".
  - (e) All requests for temporary, or short term vessel charters must be forwarded to the Assistant Deputy Minister, Atlantic Fisheries Service for transmittal to the Minister for approval.
  - (f) All vessels should be certified and/or registered under the applicable sections of the Fish Inspection Regulations.
2. At the commencement of 1988, Canadian registered vessels will be a requirement.

#### Area of Operations

- 1. Each firm will be permitted to operate in the area known as Banquereau Bank (as defined in the licence) and to catch up to a maximum of 15,000t of Stimpson's surf clams each from said area.
- 2. Each firm will be permitted to operate in an area (as defined in the licence) outside Banquereau Bank and to catch up to a maximum of 5,000t of Stimpson's surf clams and 3,300t of ocean quahaugs.

#### By-Catch Provisions

- 1. Each firm will be restricted to a 10% by-catch of ocean quahaugs while directing for Stimpson's surf clams on Banquereau Bank.
- 2. Each firm will be allowed unlimited by-catch of non-regulated species during their operations. This includes propellor clams, common surf clams and sea cucumbers. This provision is subject to revision if deemed necessary.
- 3. Prohibited species, identified specifically for this fishery, are all species of groundfish, lobsters and scallops.

#### Ports of Landing

- 1. Vessels whose catch contains any portion caught east of the NAFO line separating Divisions 4W and 4X must land in the Cape Breton Strait of Canso area.
- 2. Vessels whose catch is comprised totally of clams caught west of the NAFO line separating Divisions 4W and 4X may land in a port outside the Cape Breton/Strait of Canso area provided the port borders on that portion of 4WX east of 65°30'W.

Processing

1. For the 1987 calendar year, each firm will be permitted to process their catch in approved facilities outside the Cape Breton/Strait of Canso area. All processing commencing in 1988 will be conducted in the Cape Breton/Strait of Canso area unless expressly permitted to process elsewhere by the Minister of Fisheries and Oceans.

EXTENDED TEST FISHERY IN AREA OUTSIDE BANQUEREAU BANK

It is noted that another firm has also been licensed to direct for 5,000 t of Stimpson's surf clams and 3,300 t of ocean quahaugs in the area outside of Banquereau Bank. This amount is equal to what has been allocated to each of the other firms for this area.

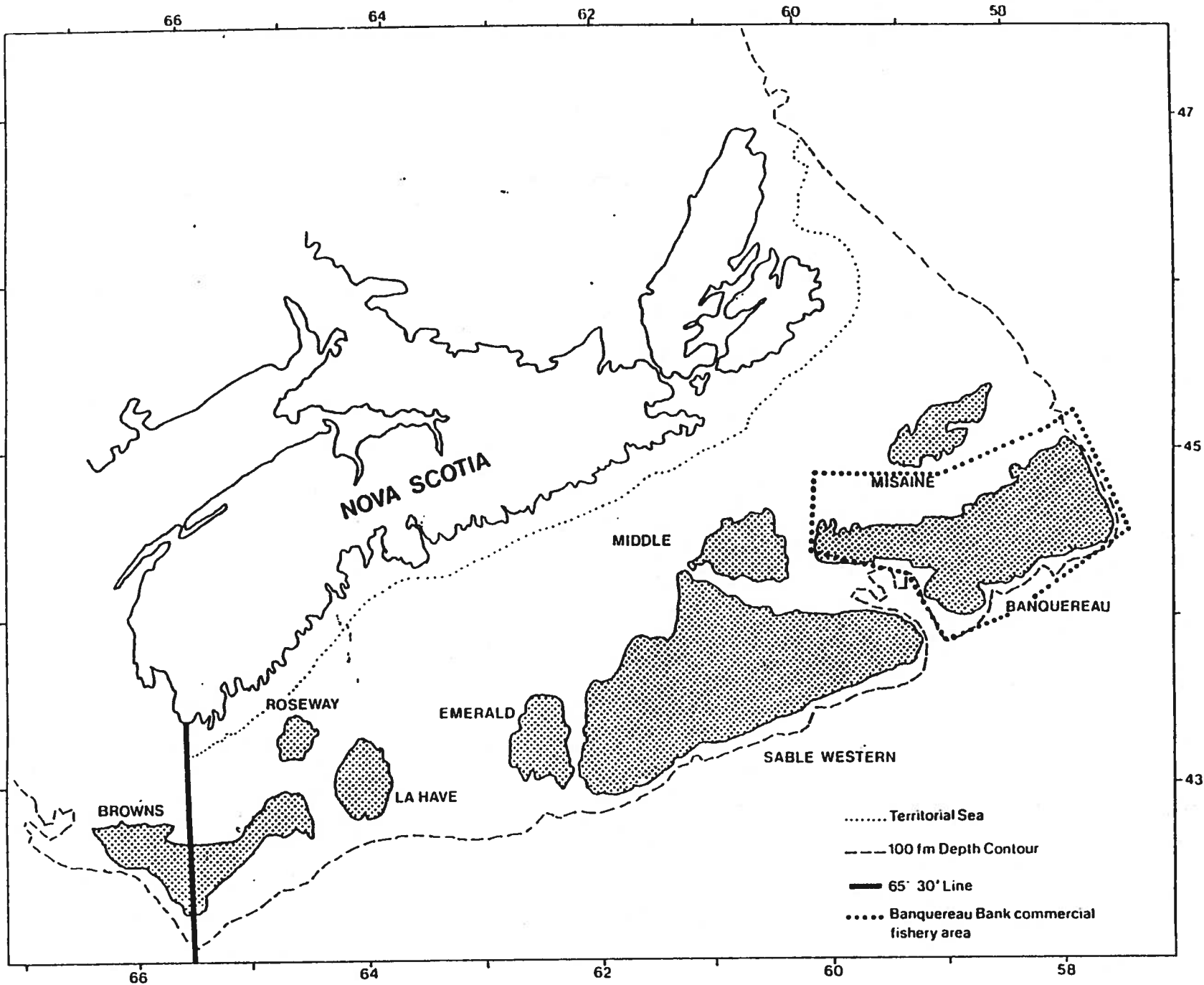
This company may place its one licence, which has been assigned for 1987 only, aboard a chartered foreign vessel.

All conditions applying to the fishery outside of the Banquereau Bank area will apply equally to all participants. Decisions on the future licensing and allocations for this area will be based on the results of this test fishery and how it has demonstrated the potential for commercialization.

## OFFSHORE CLAM ADVISORY COMMITTEE

LIST OF MEMBERS

<u>Members</u>	<u>Organization</u>	<u>Address</u>
Neil Bellefontaine (Chairman)	DFO	Halifax
David O'Brien	Nova Scotia Clam Company	Halifax
Ron Mitten	Mother Snow's Fine Foods Inc.	Armdale
Dennis Snow	Mother Snow's Fine Foods Inc.	Armdale
Doug Robinson	Clearwater Fine Foods Inc.	Bedford
Cameron Widrig	Pursuit Fisheries (1987) Ltd.	Bedford
Greg Roach	Nova Scotia Department of Fisheries	Halifax
Len Boudreau	DFO	Sydney
Glen Jefferson	DFO	Halifax
Jim Nelson	DFO	Halifax
Bob Prier	DFO	Halifax
Terry Rowell	DFO	Halifax
Paul Fahie	DFO	Halifax



**1987 SOFT SHELL CLAM FISHERY MANAGEMENT PLAN**  
**SCOTIA-FUNDY REGION**

# 1987 Soft Shell Clam Fishery Management Plan

## Table of Contents

<u>Section</u>	<u>Page</u>
1. 1987 Soft Shell Clam Management Objectives .....	1
2. 1987 Soft Shell Clam Management Measures .....	2
3. Historical Overview .....	5
4. Fishery Profile .....	6
5. Summary of Current Issues .....	9
6. Consultative Process .....	11
7. Licensing Policy .....	12

### Appendices

- I Southwest Nova Scotia Shellfish Advisory Committee/  
Southwest New Brunswick Clam Advisory Committee
- II Upper Bay of Fundy Fisheries Management Advisory Committee
- III Soft Shell Clam Fishery Map

# THE 1987 SOFT SHELL CLAM FISHERY MANAGEMENT PLAN

## 1987 SOFT SHELL CLAM MANAGEMENT OBJECTIVES

The management planning process for the clam fishery is less structured and regimented than it is for other fisheries. Widespread access to the many open clam beds in the Scotia-Fundy Region makes it difficult to introduce a comprehensive management regime that gives equitable treatment to the numerous individuals who participate in the fishery. Still, the Department of Fisheries and Oceans (DFO) stresses that there are five general objectives and principles which should guide activity and effort in this fishery.

### 1. Conservation and Protection

Biological data on recruitment patterns and stock levels on the soft shell clam species are incomplete. No precise information is available by fisherman to determine what level of fishing effort can be tolerated nor at what period in the clam's life cycle harvesting should take place. What is clear is that the general fishing effort has increased in recent years and clam yields per individual have declined.

DFO stresses that the current fishing effort should not reach a level that affects the stability and survival of the clam beds. In short, the conservation and protection of the resource must be unequivocal. Management measures, designed to control and monitor fishing effort in the clam fishery, are under review by DFO, industry representatives and clam diggers.

### 2. Economic Viability

Higher prices for exported clams and expanding markets in the United States have sparked substantial interest in the clam fishery. The result has been a wider distribution of revenues among clam diggers. Commercial diggers who have traditionally depended on the fishery for a portion of their annual income must now compete with others who have entered the fishery to exploit recent market opportunities. Some fishermen are wholly dependent on revenues from the soft shell clam fishery. DFO in consultation with various clam digger associations, are now considering policy objectives that may provide controlled access, subject to sound biological advice, to the clam beds for commercial fishermen most dependent on revenues from this fishery while taking into account the longstanding recreational aspect of the fishery.

### 3. Public Health

Soft shell clams are vulnerable to paralytic shellfish poisoning (PSP) and bacteriological contamination. The consumption of contaminated clams constitutes a threat to public health. DFO stresses that current and pending management and inspection regulations are designed to prevent the harvesting and processing of such clams. The development of the clam fishery will be strictly guided by public health concerns.

4. Habitat Management

Government, industry and clam diggers recognize the need to stabilize, develop and enhance the shellfish habitat. The objective here is to ensure the widespread availability of harvestable clam beds. To this end, the need to control various pollutions affecting the clam beds and revitalize previously contaminated areas is affirmed.

5. Data Collection and Biological Review

Currently, catch and landing data provided by clam diggers are sporadic and incomplete. Such informational gaps impede DFO's ability to develop a comprehensive management plan. Biological assessment of the clam beds is impaired as well. Biologists use landing and catch data, in part, to determine recruitment patterns, stock stability and mortality levels among clams. DFO stresses that a new data collection and statistical regime for the soft shell clam industry is required to ensure that new management measures are founded on sound scientific knowledge.

1987 SOFT SHELL CLAM MANAGEMENT MEASURES

The following regulations are identified in the Nova Scotia Fishery Regulations and apply to Southwestern Nova Scotia and Eastern Nova Scotia.

1. For the purposes of this section, clams include soft shell and long neck or squirt clams.
2. No person shall fish for, take, have in his possession or sell any clam the length of the shell of which is less than 5 cm measured in a straight line, except in the Counties of Yarmouth, Digby, Annapolis, Kings, Hants, Colchester and Cumberland.
3. No person shall retain any clam the length of the shell of which is less than that specified in subsection (2) for a longer time than is necessary to measure.
4. Subject to subsection (4), any person who has in his possession a clam the length of the shell of which is less than that specified in subsection (2) shall return it immediately to the waters of the area from which it was taken.
5. No person shall fish for clams except with hand tools or with a hydraulic or mechanical device approved by the Minister.
6. No person shall fish for clams with a hydraulic or mechanical device except under a licence.
7. No licence to operate a hydraulic or mechanical device shall be granted unless the Minister is satisfied that its operation will not interfere with other methods of fishing.

8. No person shall operate a hydraulic or mechanical device except in an area and during the period of time specified in his licence.
9. No person shall fish for quahaugs in any waters where oysters are fished except in areas that have been set aside and marked for that purpose by a fishery officer.

The following regulations are identified in the New Brunswick Fishery Regulations and apply to Southwestern New Brunswick.

1. For the purpose of this section, clams include soft shell and long neck or squirt clams.
2. No person shall take or have in his possession any clam other than bar clam, the shell of which is less than 38 mm in length measured in a straight line.
3. In fishing for clams in any area, no person shall retain any clam that is less than the legal size for that area for any period longer than is necessary to measure it and then he shall return it immediately to the area from which it was taken.
4. Notwithstanding subsection (2), soft shell clams of a length less than that specified therein may be taken, had in possession or sold if taken in an area that the Minister has designated as overpopulated.
5. No person shall fish for clams except with hand tools or with a hydraulic device approved by the Minister.
6. No person shall fish for clams with a hydraulic device unless he has a licence.
7. No licence to operate a hydraulic device shall be granted unless the Minister is satisfied that its operation will not interfere with other methods of fishing.
8. No person shall operate a hydraulic device except in the area and at the time specified in his licence.
9. No person shall fish for quahaugs in bays, harbours and other waters where oysters are fished except in areas that have been set aside and marked for that purpose by a fishery officer.

#### General

10. The soft shell clam fishery is subject to existing inspection regulations identified in the Nova Scotia Fishery Regulations and the New Brunswick Fishery Regulations. Processing regulations are identified in the Fish Inspection Regulations and the Sanitary Control Shellfish. Currently, these regulations are under active review by DFO with the objective of establishing national standards.

## HISTORICAL OVERVIEW

Early records and archaeological evidence indicates that the Indian population indigenous to the Maritimes highly prized the soft shell clam for food and jewelery. Later records show that early settlers also depended on the then abundant clam stocks to subsidize their diets. Clams have also been used as bait, fertilizer, ornaments, dishes and currency.

In the mid-1800's, clams were harvested and preserved in brine to supply Grand Banks fishermen with salt bait for the cod, mackerel and halibut fisheries. Over the years, a more general and domestic usage and marketing of soft shell clams developed. The soft shell clam has been commercially harvested from at least the turn of the century and some catch data have been maintained since 1918. Commercial landings have fluctuated markedly over the years, primarily in response to fishing effort and market value. Landings for the Maritimes peaked at 10,526 t in 1950 and declined throughout the 1960's and 1970's.

Recent landings have indicated an upward trend, with a peak of 4,517 t in 1986. The landings were valued at \$5.6 million. Clam harvesting in the Scotia-Fundy Region takes place along many inlets and estuaries: the fishery is concentrated in three areas--the Annapolis Basin, southwestern New Brunswick and the Upper Bay of Fundy region (Minas Basin).

The first clam processing plant in the Minas Basin region was constructed in 1905. Located along the North River in the community of Five Islands, it employed six diggers. In 1910, the factory, destroyed by fire, was replaced by a newer facility. Most processed clams were shipped to American markets. By 1941, the factory employed 50 workers. Processing facilities continued to expand up to 1948. In 1948, prices for clams dropped significantly, markets began to contract and total clam landings declined. The number of fishermen participating in the Minas Basin fishery dropped from an average of 100 diggers to between 20 and 70 for the following two decades.

In 1967, the law prohibiting the shipment of clams in the shell was abolished. This annulment allowed live clams to be exported. By the end of the decade, the transition from a canned product to fresh, shucked clams had occurred in response to the American deep-fried trade. A market for clams in the shell was developed, as well. Prices increased rapidly as markets grew, and landings and the number of diggers increased.

A substantial number of clam flats are "closed" to commercial and recreational fishing due to bacteriological contamination and paralytic shellfish poisoning (PSP). Areas affected by bacteriological contamination are closed for extended periods, while PSP closures vary annually.

## FISHERY PROFILE

The soft shell clam is an important fishery resource in the Scotia-Fundy Region. Clam digging in the Scotia-Fundy Region is concentrated mainly in the Bay of Fundy area. Landings in eastern Nova Scotia are small relative to other areas in the Region, though significant fluctuations take place. Clam diggers fall into three categories--full-time commercial fishermen, part-time

commercial fishermen and recreational participants. Since no fishing licence is required to dig clams, no precise employment estimates are available. General estimates suggest that approximately 1,000 to 1,200 clam diggers are currently very active in the Scotia-Fundy Region, though twice this number may participate in the fishery sporadically.

The harvesting methods used in the clam fishery have remained relatively unchanged. Fishermen, using a clam hoe or hack and containers, follow the receding tide to dig clams. Fishermen coordinate their effort to correspond with the mid and low tides of the day, giving them four hours per tide.

Total employment in the southwest New Brunswick clam fishery amounts to between 300 to 400 fishermen and plant workers. There are currently 16 clam processing plants and buying stations located in southwest New Brunswick. Approximately 600 to 700 clam diggers are scattered throughout Nova Scotia, with the majority concentrating their efforts in the Annapolis Basin.

In southwestern New Brunswick, three depuration plants are active. Depuration is a process where bacteriologically contaminated clams are placed in containers through which purified salt water is pumped. The process must be conducted in compliance to a strict set of operational procedures and each lot of clams is evaluated for microbiological quality. In the Minas Basin area, there are three processing plants which employ 20 to 25 workers. Throughout southwestern New Brunswick approximately 750 individuals participate in the clam fishery. Other processing facilities are located in Digby and Annapolis Counties.

In recent years, the value of landed clams has exceeded the landed values of other notable fisheries, namely squid, gaspereau, salmon, mackerel and snow crab. In addition, the unknown monetary worth of private clam sales and recreational digging benefits the provincial economies of Nova Scotia and New Brunswick. Expanding and lucrative markets will continue to stimulate interest in this growing fishery. Additionally, the industry contributes to the provincial economy as a result of seasonal participation by tourists in this fishery.

**Table I: Landings of Clams - Scotia-Fundy Region - 1982 to 1986**  
(Quantity (Q) in tonnes; Value (V) in thousands of dollars)

Clam	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
Bar	12	9	1	1	-	-	-	-	21	14
Soft	1,166	847	1,724	1,413	3,707	3,259	3,896	4,130	4,517	5,664
Shell	-	-	-	-	2	1	2	1	-	-
Razor	-	-	-	-	2	1	2	1	-	-
Unspec- ified	2,145	1,469	1,361	1,057	5	7	7	11	7	6
Total	3,323	2,325	3,086	2,471	3,714	3,267	3,905	4,142	4,545	5,684

From 1982 to 1986, clam landings have increased by 27 percent, the value of the clam catch has risen by 45 percent. In 1982, landings in eastern Nova Scotia accounted for 12 percent of the total catch, western Nova Scotia for 60 percent and southwestern New Brunswick for 28 percent. For 1986, the value of landings in eastern Nova Scotia represented 10 percent of the total, 61 percent in western Nova Scotia and 29 percent in southwestern New Brunswick. In 1986, landings in eastern Nova Scotia accounted for 4 percent of the total catch, western Nova Scotia for 38 percent and 58 percent in southwestern New Brunswick. For 1986, the value of the clam catch in eastern Nova Scotia represented 3 percent of the total, 44 percent in western Nova Scotia and 53 percent in southwestern New Brunswick. (These statistics are based on reported landings only.)

### Harvesting and Processing

Markets for Canadian clam products have been identified within the United States and Japan where domestic clam resources cannot supply increasing market demands. The clam catch for commercial purposes is delivered live to the appropriate plant where it is shucked, cleaned and processed into fresh or frozen products.

Clams are shucked or processed in various plants throughout the Scotia-Fundy Region. Specifically, plants are located in Digby County and Annapolis County, Nova Scotia, and in Dipper Harbour, Chamcook, Back Bay, Bocalec, Lepreau and Welshpool, New Brunswick. A clam fishery has recently developed on Grand Manan with several federally registered plants on the island. Clam products are processed in two forms, frozen (clam meats, breaded and canned) and fresh (clam meats and in the shell). For 1986, DFO estimates that approximately \$10 million worth of soft shell clams harvested in the Scotia-Fundy Region were processed in various forms. In 1985, 470 t of clams were processed in the Region, valued at approximately \$2 million. Fresh clam meats represented 22 percent of the total product valued at \$1 million. Clams in the shell accounted for 71 percent of total product in 1985, valued at \$520,000, according to information provided by industry to DFO.

A small amount of frozen breaded clam products were processed in southwestern New Brunswick. In 1984, 258 t of clams were processed throughout the Scotia-Fundy Region, valued at \$1.1 million. Again, small quantities of frozen breaded clams were processed in eastern Nova Scotia. Frozen clam meats were processed in western Nova Scotia (8 t, \$70,434) while fresh clam products were prepared in southwestern New Brunswick (168 t, \$909,880). (Production figures are incomplete due to insufficient data provided by processors.) Large quantities of soft shell clams harvested in the Scotia-Fundy Region are trucked to New Brunswick, where they are processed (meats and in-shell) by plants in the Gulf Region.

**Table II: Atlantic Coast Clam Landings by Province & Region (All Species, Product Weight) - 1982 to 1986 (Quantity (Q) in tonnes; Value (V) in \$000)**

Province	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
Nova Scotia	2,391	1,656	2,038	1,636	1,791	1,546	1,496	1,628	1,926	2,710
New Brunswick	2,658	1,474	1,689	1,298	2,829	2,909	2,540	2,576	3,092	3,537
Pr. Edward Isl.	1,178	781	1,212	996	1,121	697	130	67	465	494
Quebec	2	1	0	0	623	413	737	472	877	653
Newfoundland	0	0	0	0	0	0	0	0	1	1
<b>Total</b>	<b>6,229</b>	<b>3,912</b>	<b>4,939</b>	<b>3,930</b>	<b>6,364</b>	<b>5,565</b>	<b>4,903</b>	<b>4,743</b>	<b>6,361</b>	<b>7,395</b>

**Table III: Canadian Exports of Clams (All Species, Product Weight) (Fresh or Frozen) - 1982 to 1986 (Quantity (Q) in tonnes; Value (V) in \$000)**

Country	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
U.S.	3,175	10,331	3,654	11,577	3,777	13,888	4,722	19,661	4,879	22,775
Japan	617	4,583	406	2,669	397	2,872	602	4,378	495	3,717
Other	72	435	131	441	1,153	16	719	2,880	652	3,262
<b>Total</b>	<b>3,864</b>	<b>15,349</b>	<b>4,191</b>	<b>14,246</b>	<b>5,327</b>	<b>16,776</b>	<b>6,043</b>	<b>26,919</b>	<b>6,026</b>	<b>29,754</b>

Exports of clams have increased in volume by 55 percent from 1982 to 1986 and by 35 percent in value. In 1986, exports to the United States accounted for 81 percent in volume and 77 percent in value. Japanese markets have contracted by 20 percent in volume and 19 percent in value from 1982 to 1986.

**Table IV: Canadian Import of Clams (All Species, Canned Product Weight) - 1982 to 1986 (Quantity (Q) in tonnes; Value (V) in \$000)**

Country	1982		1983		1984		1985		1986	
	Q	V	Q	V	Q	V	Q	V	Q	V
Thailand	789	1,864	638	1,691	2,176	5,922	2,385	5,066	2,206	3,919
Malaysia	-	-	-	-	-	-	229	395	287	444
Japan	1,240	3,448	1,183	3,453	876	2,761	155	449	8	17
South Korea	428	1,169	219	712	-	-	-	-	-	-
Other	312	726	324	899	612	1,895	173	563	257	744
<b>Total</b>	<b>2,769</b>	<b>7,207</b>	<b>2,364</b>	<b>6,755</b>	<b>3,664</b>	<b>10,578</b>	<b>2,942</b>	<b>6,473</b>	<b>2,758</b>	<b>5,124</b>

From 1982 to 1986, Canadian clam imports have ranged from 2,300 t to 3,600 t, the value of the imports has varied from \$5 million in 1986 to \$10 million in 1984. On average, 2,899 t of clams have been imported for the last five years, the value of the imports, on average, was pegged at \$7.2 million.

Imports from Thailand have represented 55 percent of the total from 1982 to 1986. Clam imports from Japan have declined steadily from 1982 to 1986 (by over 90 percent).

### SUMMARY OF CURRENT ISSUES

Although no single, comprehensive management plan is in place, government, industry and fishermen are dedicated to establishing a long-term management regime for the clam fishery. Recent increases in fishing effort and the number of participants have highlighted the need to properly manage this fishery. Among the issues requiring review and resolution:

#### 1. Conservation and Protection

Clam harvesting methods can do significant biological damage to the clam flats. The increasing number of clam diggers participating in this fishery has brought forth concerns that current exploitation rates may be contributing to stock declines. Clam diggers have reported that, despite the same level of fishing effort, individual landings are declining. DFO and industry members recognize the need to implement management measures that adequately conserve and protect the resource. Among the available options are:

- (a) leasing, by which clam diggers would temporarily rent clam beds;
- (b) rotational digging, clam diggers would restrict their harvesting activities to specific clam beds for specified time periods;
- (c) re-seeding, clams from uncontaminated beds would be used to seed other clam beds in an effort to increase the available stock;
- (d) area closures, harvesting would be prohibited in clam beds where exploitation rates had reached unacceptable levels;
- (e) the introduction of Region-wide size limits;
- (f) the use of seasonal closures to protect clam beds during their reproduction periods;
- (g) restrictions on the amount of clams that can be harvested by recreational and commercial diggers; and
- (h) other efforts to reduce the overall fishing effort.

The introduction of new management procedures will be preceded by detailed consultation with clam diggers' associations and industry members.

2. Accessibility and Economic Viability

The general scarcity of clams in the United States and strong market demands in the New England states have stimulated considerable interest in clam digging. The result has been a substantial increase in the number of people who dig clams for commercial purposes. Resident commercial clam diggers have petitioned DFO to introduce a commercial licensing regime as part of a general effort to restrict access and fishery effort. DFO is sensitive to the concerns of full-time and part-time commercial fishermen who are most dependent on revenues from the clam fishery.

3. Paralytic Shellfish Poisoning (PSP)

Bivalves, including clams, which are filter feeders, feed on a minute poisonous marine organism called Gonyaulax excavate, especially during the warm summer months when the organism multiplies in large quantities. Humans consuming such clams can become seriously ill and if the contamination is sufficiently high, death can result.

In order to protect public health, DFO has a comprehensive PSP Monitoring and Control Program in effect. Samples are regularly taken at key sites in areas prone to PSP outbreaks, and once toxin concentrations in the shellfish rise to unsafe levels, the affected shellfish harvesting areas are closed. DFO advises that a rigid, comprehensive inspection program is necessary to ensure that no PSP-contaminated clams are harvested.

DFO's inspection labs provide timely and accurate reports on the presence of PSP. A major testing facility is located in Black Harbour, New Brunswick. Industry members have called for the expansion of testing facilities. DFO advised that its current resources do not permit this expansion.

4. Depuration Facilities

Industry continues to express interest in depuration, primarily as a means to maintain, and where possible, to increase production as many open areas have been depleted. Depuration applies only to clams affected by bacteriological contamination and not PSP. The Region currently has two operating depuration plants. DFO and industry resource investment in these operations has been substantial. Industry members do not realize the very rigorous harvesting, processing and analytical testing, monitoring and control programs necessary for each of these operations in order to ensure that the public health is protected, and since most depurated clams go to American markets, that the United States Food and Drug Administration (USFDA) must be satisfied that plants of these types continue to meet National Shellfish Sanitation Program requirements.

5. Clam Fishery and Annapolis Valley Tidal Power Plant

Clam fishermen and diggers have registered concern about the potential impact the Annapolis Tidal Generating Plant has had on clam beds. Clam

diggers' associations charge that the plant's presence has accelerated erosion of farmlands along the Annapolis River, and harmful silt and chemicals may also be affecting the clam beds in the Basin. Clam diggers argue that clam beds have been severely damaged. Existing biological data does not conclusively demonstrate a link between diminishing clam populations in the Annapolis Basin and the operation of the tidal power plant. DFO advises that, following the completion of current research examining the relationship between the clam beds and the tidal power plant, appropriate responses to the clam diggers' concerns will be proposed.

#### 6. Biological Input and Assessment

The biological data base for the soft shell clam resource is incomplete. A more detailed understanding of recruitment patterns, mortality levels, and the age and growth rate of clams will be necessary if new management measures are to be guided by sound and timely biological advice. DFO recognizes this informational gap and has identified the need to improve scientific assessment of the clam resource.

#### 7. Recreational and Part-time Digging

Landings by recreational and part-time clam diggers have increased markedly in recent years. Precise data, though, on catch rates and effort are not available, given that recreational and part-time landings do not have to be reported. Still, recreational and part-time digging can have a determining impact on existing clam resources and influence the availability of commercial landings and revenues. DFO and industry members recognize the need to introduce a reporting system that will document accurately recreational and part-time landings and catch rates.

### CONSULTATIVE PROCESS

The clam fishery in the Scotia-Fundy Region is segmented into three general areas for management purposes--southwestern Nova Scotia, the Upper Bay of Fundy and southwestern New Brunswick. Management initiatives for each region are deliberated and developed by advisory committees. These committees, sponsored by DFO, are made up of representatives from DFO, industry, the provincial governments of Nova Scotia and New Brunswick and other observers as necessary. In turn, the advisory committees are supported by a working group of DFO officers who consolidate economic, biological, marketing and other information into draft management initiatives. Sub-committees and various working groups can be set up to address specific issues.

Currently, the Southwest Nova Scotia Shellfish Fishery Advisory Committee, the Upper Bay of Fundy Fishery Management Advisory Committee and the Southwest New Brunswick Clam Fishery Advisory Committees are reviewing management strategies designed to conserve the clam resources and provide maximum access to resident commercial diggers who are most dependent upon the resource for their livelihood. These committees give consideration to annual management initiatives, licensing and other regulatory measures such as PSP closures,

size limitations, gear restrictions and depuration facilities. These committees resolve issues on a consensus basis rather than using formal voting procedures.

Interest has also been expressed in eastern Nova Scotia and Cape Breton Island to establish a clam management advisory committee to consider options for clam management in these areas, given the increased harvesting pressure on the resource in recent years.

In September 1987, DFO sponsored a three-day soft shell clam workshop in Truro, Nova Scotia to consider the introduction of a management plan for this fishery. Representatives from government, industry and clam diggers associations identified their preferences for new management measures. In particular, commercial clam diggers called for the introduction of a Bay of Fundy-wide minimum size restriction on landed clams and a daily possession limit for recreational diggers. In addition, the introduction of a limited licensing regime was reviewed.

**LICENSING POLICY**

(See Section II, 1987 Soft Shell Clam Management Measures.)

Southwest Nova Scotia Shellfish Advisory Committee Members

<u>Name</u>	<u>Organization</u>	<u>Location</u>
J. Southall (Chairman)	DFO	Yarmouth
T. Wilkins	Basin Clam Diggers Association	Digby
M. Fisher	Clam Digger	Digby
C. Robichaud	Clam Digger's Association	Belliveau's Cove
J. Milner	Home-Shucker	
A. Wilkins	Clam Digger	Digby
S. Ford	Processor	
B. Ford	Processor	Weymouth
A. LeBlanc	Processor	
A. Robinson	Processor	
D. Stanton	Processor	Granville Ferry
R. Muileau	Processor	
A. Menor	Environmental Protection	Dartmouth
G.E. Jefferson	DFO	Halifax
T. Hombek	DFO	Yarmouth
P.C. Fahie	DFO	Halifax
D.A. McClafferty	DFO	Digby
T. Rowell	DFO	Halifax
C. Comeau	DFO	Digby
T. Amaratunga	DFO	Halifax

Southwest New Brunswick Clam Advisory Committee Members

<u>Name</u>	<u>Organization</u>	<u>Location</u>
Area Manager (Chairman)	DFO	St. Andrews
M. Lewis	New Brunswick Fish Inspection Officer	
L. Spear	Lepreau Clam Diggers Association	
L. Foster	Western Charlotte Clam Diggers Assoc.	Lepreau
D. Mills	Northern Clam Company	Campobello
L. Landry	Chamcook Seafoods Limited	Chamcook
G. Mills	Mills Seafoods	Bocabec
L. Foster	Mills Seafoods	Bocabec
J. Janes	Jardine Janes Processing	Dipper Hbr.
C. Lomax	Lomax Enterprises Limited	Little Lepreau
B. Woods	Lepreau Seafoods Limited	Lepreau
G. Foster	Foster Seafoods Limited	Saint John
C. Leavitt	Leavitt's Processing Limited	Back Bay
F. Mills	M & N Fisheries	Campobello
D. Doncaster	DFO	St. Andrews
D. Brown	DFO	St. Andrews
F. Libby	DFO	St. Andrews
A. White	DFO	St. Andrews
T. Amaratunga	DFO	Halifax

Upper Bay of Fundy Fisheries Management Advisory Committee Members

<u>Name</u>	<u>Organization</u>	<u>Location</u>
J.B. Melanson (Chairman)	DFO	Yarmouth
W. Durring	West Colchester Fisheries Assoc.	Colchester Co.
J. Webb	Five Islands Fisheries Assoc.	Colchester Co.
D. Belliveau	Representative for Joggins	Joggins
D. Andrews	Central Nova Tourist Assoc.	Stewiacke
A. Carey	Drift Net Fisherman	Kings Co.
D. Barkhouse	Dragger Operator	Kings Co.
L. Huntly	Elected by Lobster Fishermen	Kings Co.
W. Dalton	Representative for Avon River	Hants Co.
R. Collins	Fisherman (Lobster & Scallops)	Alma, N.B.
T. Robarts	Advocate Hbr. Dist. Fishermen Assoc.	Cumberland Co
R. Cook	Bass River Fisherman	Hants Co.
M. Snowden	Cumberland Basin Fisherman	Sackville
V. LeBlanc	Cumberland Basin Fisherman	St. Joseph
L. Cormier	Cumberland Basin Fisherman	St. Joseph
A. Longard	Nova Scotia Dept. of Fisheries	Halifax
B. Jones	New Brunswick Dept. of Fisheries	Fredericton
G.E. Jefferson	DFO	Halifax
J. Nelson	DFO	Halifax
B. Keating	DFO	Sussex
J.J. Southall	DFO	Yarmouth
H.N. Sweeney	DFO	Kentville
Area Manager	DFO	St. Andrews
T. Amaratunga	DFO	Halifax

1987 INSHORE WHELK MANAGEMENT PLAN  
NEWFOUNDLAND REGION

MARCH 30, 1987

## MANAGEMENT PRINCIPLES

1. To protect and conserve the whelk resource.
2. To provide access to the whelk resource on an exploratory basis.
3. Access to all whelk stocks will be regulated by the following means: fishing licences, areas, seasons, vessel size and limited number of traps.
4. The whelk fishery will be considered a complementary fishery and will be restricted to inshore fishermen.
5. The resource will be allocated on a basis of equity, taking into account adjacency of the resource, dependency of the coastal communities to obtain supplementary revenues to other fisheries, and added economic efficiency of the fleet by the exploitation of this complementary specie.

## MANAGEMENT AREAS

To establish a management regime reflective of specific area demands, the fishery will be managed by bay which coincide with the lobster management areas (1-11) presently described in regulations.

## FISHING SEASON

The fishing season for all areas will be from May 1, 1987 to December 31, 1987.

## LICENCING

In each management area (1-11) a maximum of 30 exploratory permits will be issued. These will be distributed throughout the area to avoid concentrations on one particular section. A public draw will be held if more than 30 applications per bay are received.

Since it may be possible that a number of successful persons in the draw may not choose to exercise their right to fish, an eligibility list will also be established as additional names will also be publicly drawn.

## ELIGIBILITY CRITERIA

1. New exploratory whelk permits will only be issued to full-time fishermen who hold fixed gear groundfish licences and own/operate a registered commercial fishing vessel less than 35 feet LOA.
2. The fishermen must have been head of the fishing enterprise for the past three consecutive years.

3. The fishermen must be a resident of the area for which the licence is issued.
4. The fishermen must have purchased the appropriate whelk gear and must be ready to fish prior to the permit being issued. The purchase and installation of gear must be verified by a Fishery Officer.
5. Persons who have not geared up by August 1, 1987 will not be issued a permit. The permit will then be offered to the next eligible person on the eligibility list.

#### LICENCE FEE

The fee for a whelk permit is \$30.

#### TRAP LIMIT

The maximum number of traps allowed to a permit will be fifty (50). Each trap must not exceed 10.6 cubic feet (0.3m.) in volume.

#### LOGBOOKS

Each permit holder must complete a logbook on catch and effort provided by DFO.

#### RE-EVALUATION

The management plan will be re-evaluated in 1988, following consultations with the whelk fishermen and producers.

1987 WHELK MANAGEMENT PLAN  
IN QUEBEC

DEPARTMENT OF FISHERIES AND OCEANS  
QUEBEC REGION

MARCH 1987

Approved by:

  
\_\_\_\_\_

Denis Martin, Director general  
Quebec Region

Summary of management plan

In 1986, whelk fishermen were consulted by questionnaires in order to assess more precisely the status of this developing fishery. The results of the survey and the consultations carried out with fishermen associations and producers involved in this fishery lead to the 1987 whelk management Plan in Quebec. The objectives of this plan are the conservation of the whelk stocks and an allocation of the resource based on equity between coastal communities of the province of Quebec.

The whelk fishery is identified as an inshore fishery restricted to fishing boats less than 50 feet (15.2 m) in overall length. Furthermore, this fishery is considered as a complementary fishery providing an additional income to other fisheries.

In 1987, Quebec fishermen will be authorized to use 100 traps having a maximum external volume of  $0.3 \text{ m}^3$  ( $10.6 \text{ f}^3$ ). However current whelk licensees that were allowed to use more 100 traps in 1986 will keep this privilege in 1987.

In 1987, 348 whelk licenses will be issued in the Quebec Region. In order to rationalize the whelk fishery, fifteen (15) fishing areas have been established. The number of licenses that can be issued in each area is based upon the size and the actual fishing effort in these areas. However, in fishing areas where the potential fishing effort is already high, non-renewed licences in 1987 will not be reissued in 1988. This measure will be in effect in areas 4 and 5 (from Pointe-Jambon to Riviere St-Jean areas on Middle North Shore and area 12 (on the northern shore of Gaspé peninsula).

Finally, the fishing season for all Quebec areas will run from January 1st to December 31st, 1987.

DETAILED MANAGEMENT PLAN

BASIC PRINCIPLES

- i) Conservation of whelk stocks in coastal areas of the Province of Quebec.
  
- ii) Access to all whelk stocks will be regulated by the following means:  
fishing licenses, areas, seasons, boats sizes and limited number and volume of traps.
  
- iii) The whelk fishery being considered as a complementary fishery will be restricted to inshore fishermen.
  
- iv) The resource will be allocated on a basis of equity, taking into account adjacency of the resource, dependency of the coastal communities to obtain supplementary revenues to other fisheries, and added economic efficiency of the fleet by the exploitation of this complementary species.

1987 MANAGEMENT PLAN

In order to rationalize the whelk fishery, waters administered by the Quebec Region are subdivided in fifteen (15) fishing areas (Appendix I).

I LICENSING POLICY

- 1) The whelk fishery will be limited to inshore fishermen owning a boat less than 50 feet (15.2 m) LOA.

Actual whelk licensees authorized to use a boat longer than 50 feet (15.2 m) LOA, may renew their license in 1987 (grand-father clause).

- 2) The maximum number of traps allowed in each fishing areas, in 1987, will be 100 traps per fisherman.

Current whelk licensees that were allowed to use more than 100 traps in 1986, will keep this privilege in 1987 (grand-father clause).

- 3) The maximum external volume of traps used for whelk fishing must not exceed  $0.3 \text{ m}^3$  ( $10.6 \text{ f}^3$ ).
- 4) In 1987, 348 whelk fishing licenses will be issued in the Quebec Region. The number of licenses that can be issued in each area is identified in Appendix I.

Non-renewed licenses, in 1987, in areas 4, 5 and 12, will not be reissued in these areas in 1988.

## II FISHING SEASON

The fishing season for all Quebec areas will be from January 1st to December 31st, 1987.

## III REGULATORY MEASURES

- 1) According to section 103 of the Atlantic Fisheries Regulations, observers must be taken on board at the request of the Department.
- 2) A whelk licensee cannot fish for whelk outside the area specified on his license.
- 3) A whelk licensee cannot use more traps than indicated on his license.

APPENDIX I

Description of whelk fishing areas in Quebec and maximum number of licenses that can be issued in 1987.

AREA	DESCRIPTION	MAXIMUM NUMBER OF LICENSES IN 1987
1	From Tadoussac (Pointe-Rouge) to Pointe-aux-Outardes	15
	48°08'06"N      69°42'03"W      (Pointe-Rouge)	
	48°02'30"N      69°35'30"W	
	48°27'00"N      69°00'00"W	
	48°44'30"N      68°15'15"W	
	49°02'30"N      68°27'45"W      (Pointe-aux-Outardes)	
2	From Pointe-aux-Outardes to Pointe-des-Monts	15
	49°02'30"N      68°27'45"W      (Pointe-aux-Outardes)	
	48°44'30"N      68°15'15"W	
	49°09'45"N      67°11'00"W	
	49°19'00"N      67°22'52"W      (Pointe-des-Monts)	
3	From Pointe-des-Monts to Pointe-Jambon	16
	49°19'00"N      67°22'52"W      (Pointe-des-Monts)	
	49°09'45"N      67°11'00"W	
	49°32'20"N      66°00'00"W	
	49°55'12"N      66°57'48"W      (Pointe-Jambon)	
4	From Pointe-Jambon to Cap-du-Cormoran	44 (Attrition)
	49°55'12"N      66°57'48"W      (Pointe-Jambon)	
	49°32'20"N      66°00'00"W	
	49°46'30"N      65°15'00"W	
	50°16'30"N      65°32'45"W      (Cap-du-Cormoran)	

APPENDIX I (continued)

AREA	DESCRIPTION	MAXIMUM NUMBER OF LICENSES IN 1987
5	From Cap-du-Cormoran to Riviere St-Jean	23 (Attrition)
	50°16'30"N      65°32'45"W      (Cap-du-Cormoran)	
	49°46'30"N      65°15'00"W	
	49°51'30"N      65°00'00"W	
	50°06'30"N      64°20'30"W	
	50°17'00"N      64°20'30"W      (Riviere St-Jean)	
6	From Riviere St-Jean to an eastbound point close to the Mingan Islands (Baie de la Grande Hermine)	19
	50°17'00"N      64°20'30"W      (Riviere St-Jean)	
	50°06'30"N      64°20'30"W	
	49°59'30"N      63°00'00"W	
	50°18'30"N      63°00'00"W      (Baie de la Grande Hermine)	
7	From an eastbound point close to the Mingan Islands (Baie de la Grande Hermine) to Riviere de l'Etang (at half-distance between Natashquan and Kégaska).	6
	50°18'30"N      63°00'00"W      (Baie de la Grande Hermine)	
	49°59'30"N      63°00'00"W	
	49°51'55"N      61°31'42"W	
	50°08'30"N      61°31'42"W      (Riviere de l'Etang)	
8	From Riviere de l'Etang à Blanc Sablon	75
	50°08'30"N      61°31'42"W      (Riviere de l'Etang)	
	49°51'55"N      61°31'42"W	
	49°50'30"N      61°16'00"W	
	49°25'00"N      60°00'00"W	
	51°25'00"N      57°06'45"W      (Blanc Sablon)	

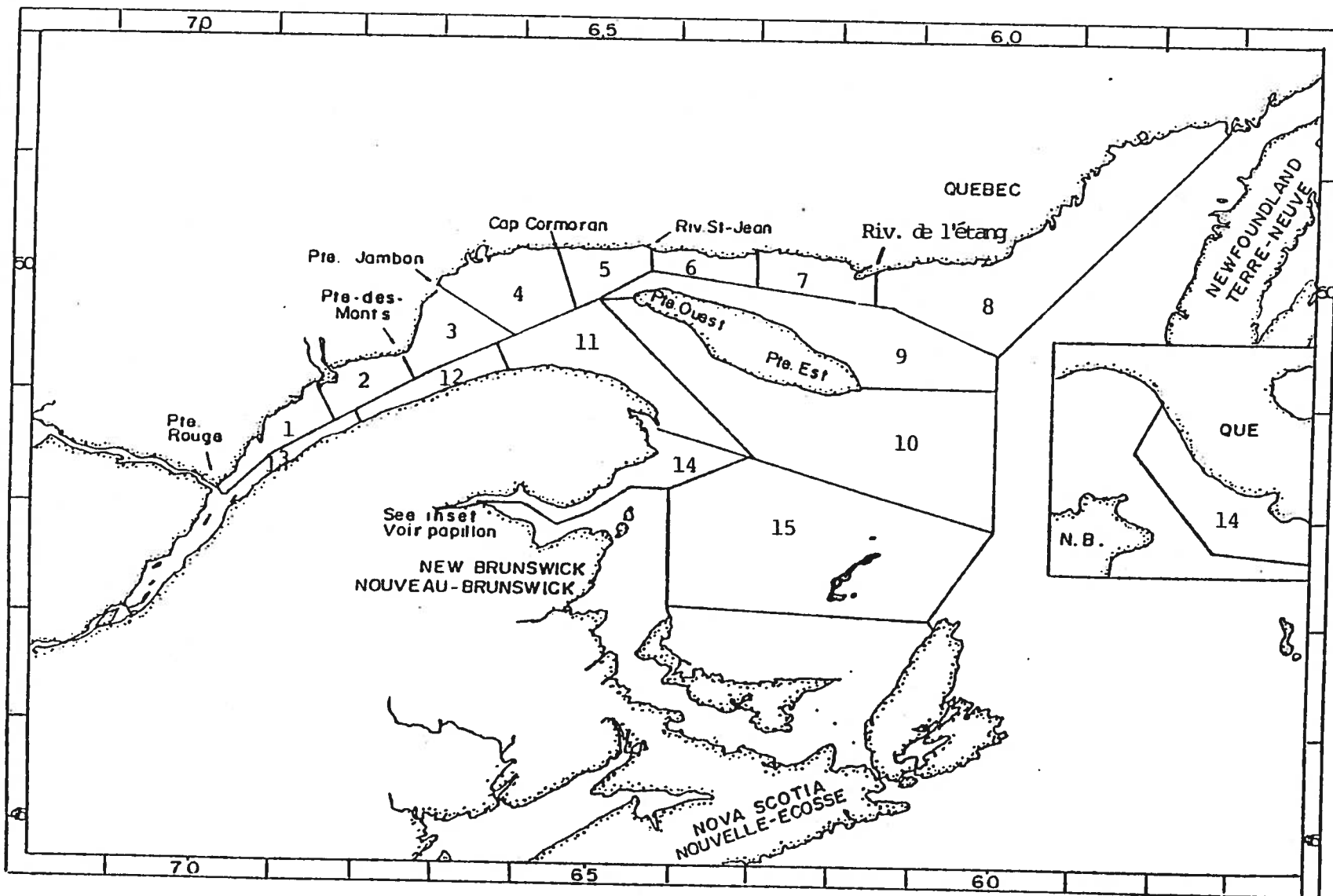
APPENDIX I (continued)

AREA	DESCRIPTION	MAXIMUM NUMBER OF LICENSES IN 1987
9	North-Anticosti	3
	49°51'30"N      64°31'30"W      (West Point of Anticosti)	
	49°51'30"N      65°00'00"W	
	50°06'30"N      64°20'30"W	
	49°50'30"N      61°16'00"W	
	49°25'00"N      60°00'00"W	
	49°08'25"N      60°00'00"W	
	49°08'25"N      61°40'15"W      (East Point of Anticosti)	
10	South-Anticosti	3
	49°08'25"N      61°40'15"W      (East Point of Anticosti)	
	49°08'25"N      60°00'00"W	
	47°50'00"N      60°00'00"W	
	48°30'00"N      63°00'00"W	
	49°51'30"N      65°00'00"W	
	49°51'30"N      64°31'30"W      (West Point of Anticosti)	
11	From Cap Gaspe to a point halfway between Mont-Louis and Marsoui (Pointe-de-Chasse)	22
	48°44'55"N      64°09'51"W      (Cap Gaspe)	
	48°43'00"N      64°13'30"W	
	48°30'00"N      63°00'00"W	
	49°51'30"N      65°00'00"W	
	49°30'10"N      66°06'55"W	
	49°13'30"N      65°54'30"W      (Pointe-de-Chasse)	
12	From Pointe-de-Chasse to a point halfway between St-Ulric and Baie des Sables (Riviere Tartigou)	62 (Attrition)
	49°13'30"N      65°54'30"W      (Pointe-de-Chasse)	
	49°30'10"N      66°06'55"W	
	48°52'35"N      67°54'25"W	
	48°45'25"N      67°47'55"W      (Riviere Tartigou)	

APPENDIX I (continued)

AREA	DESCRIPTION	MAXIMUM NUMBER OF LICENSES IN 1987
13	From Riviere Tartigou to a line crossing the St. Lawrence River at Ile d'Orleans east point.	17
	48°45'25"N      67°47'55"W      (Riviere Tartigou)	
	58°52'35"N      67°54'25"W	
	48°27'00"N      69°00'00"W	
	48°02'30"N      69°35'30"W	
	And all the western St. Lawrence River estuary from Pointe-Rouge on the north shore of the St-Lawrence River at 48°08'06"N and 69°42'03"W to a line crossing the St. Lawrence River between:	
	48°56'08"N      70°44'11"W and	
	47°02'57"N      70°48'40"W	
14	From Cap Gaspé to Miguasha-West	13
	48°44'55"N      64°09'51"W      (Cap Gaspé)	
	48°43'00"N      64°13'30"W	
	48°30'00"N      63°00'00"W	
	48°12'15"N      64°02'10"W	
	48°12'15"N      64°30'00"W	
	47°57'45"N      65°03'30"W	
	47°51'42"N      65°29'10"W	
	48°01'30"N      65°50'00"W	
	48°03'16"N      66°19'21"W	
	48°05'04"N      66°21'30"W	
	48°05'57"N      66°20'48"W      (Miguasha-West)	
15	Magdalen Islands	15
	47°50'00"N      60°00'00"W	
	47°02'18"N      60°45'00"W	
	47°08'25"N      64°02'10"W	
	48°12'15"N      64°02'10"W	
	48°30'00"N      63°00'00"W	

WHELK FISHING AREAS / ZONES DE PECHE DU SUCCIN



1987 WHELK MANAGEMENT PLAN  
WESTERN NEWFOUNDLAND AND  
SOUTHERN LABRADOR  
GULF REGION

## MANAGEMENT PRINCIPLES

1. Conservation of the whelk resource within NAFO sub-division 4R.
2. Access to all whelk stocks will be regulated by the following means: fishing licences, areas, seasons, vessel size and limited number of traps.
3. Maximize the harvesting, processing and marketing potential of the whelk resource.
4. The whelk fishery will be considered a complementary fishery and will be restricted to inshore fishermen.
5. The resource will be allocated on a basis of equity, taking into account adjacency of the resource, dependency of the coastal communities to obtain supplementary revenues to other fisheries, and added economic efficiency of the fleet by the exploitation of this complementary specie.

## MANAGEMENT AREAS

To establish a management regime reflective of specific area demands, the following management area is identified. This area coincides with the lobster, scallop and salmon management area presently described in regulations.

<u>Area</u>	<u>Description</u>
14	Cape St. Gregory to Cape Bauld (Insular Newfoundland) and Point Charles to Cape St. Charles (Coastal Labrador)

## FISHING SEASON

The fishing season for all areas will be from April 1, 1987 to December 31, 1987.

## LICENSING

The number of exploratory permits to be issued is eighty (80). This number reflects the identified industry needs based on the geographic size of Area 14, and the number of active fishing communities.

The following is the allocation of permits by geographical area:

_Cape St. Gregory to Point Riche	- 20 permits	
_Point Riche to Yankee Point	- 20 permits	-
Yankee Point to Cape Bauld	- 20 permits	
Southern Labrador	- 20 permits	

All permits will be issued by public draw based on a process of application made by fishermen and with a maximum of two permits per community.

Since it may be possible that a number of successful persons in the draw may not choose to exercise their right to fish, an eligibility list will also be established. An additional 40 names will also be publicly drawn.

### GUIDELINES FOR ISSUANCE

1. New exploratory whelk permits will only be issued to full time fishermen who hold groundfish fixed gear licences and own/operate a registered commercial fishing vessel less than 45 feet (13.7 m) overall length.
2. The fishermen must have purchased the appropriate whelk gear and must be ready to fish prior to the permit being issued. The purchase and installation of gear must be verified by a Fishery Officer.
3. Persons who have not geared up by August 1, 1987 will not be issued a permit. The permit will then be offered to the next eligible person on the eligibility list.
4. A permit will be issued only if the fisherman can prove that he has a buyer for his product.
5. The maximum number of traps allowed to a permit will be fifty (50). Each trap must not exceed 10.6 cubic feet (0.3 m.) in volume.
6. The fee for a whelk permit is \$30.00.

### ADDITIONAL REGULATORY MEASURES

1. Log book must be maintained by all operators.
2. Observers must be permitted to travel on board if requested by the Department of Fisheries and Oceans.
3. The management plan will be re-evaluated in 1988, following consultations with the whelk fishermen and producers.