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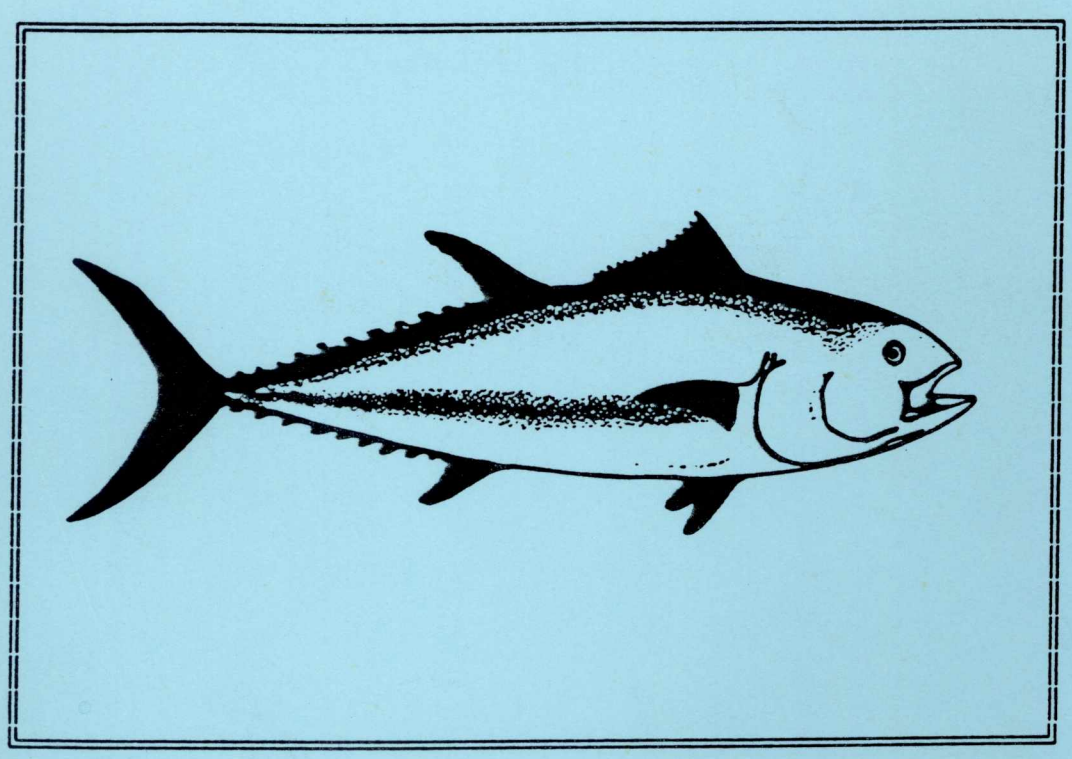
1990

ATLANTIC BLUEFIN TUNA

FISHERY MANAGEMENT PLAN



Fisheries and Oceans
Pêches et Océans

Canada

1990 ATLANTIC BLUEFIN TUNA FISHERY MANAGEMENT PLAN

(APRIL 1, 1990 TO MARCH 31, 1991)

July 1990

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OBJECTIVES

The International Commission for the Conservation of Atlantic Tunas (ICCAT) sets the international quota for bluefin tuna. Overfishing of Atlantic bluefin in the 1960s and 1970s caused a great deal of concern for the health of the stock. Biological evidence and conservationist pressures caused fishing nations to develop and enforce a stricter management regime to conserve and protect bluefin stocks. ICCAT was formed in 1966 as an international body responsible for consolidating scientific advice on tuna and swordfish in the Atlantic and based upon that advice making recommendations on management measures for those fisheries. It should be noted that the bluefin quota set by ICCAT is based on the west Atlantic stock. Although these assessments are based on a comprehensive body of Atlantic-wide biological evidence, there is little data to describe local ecology.

In the western Atlantic, the quota is shared by three nations - the United States (1,387t), Japan (700t), and Canada (573t). The Atlantic Bluefin Tuna Fishery Management Plan divides the Canadian allocation among seven management areas. Those management areas are: Prince Edward Island; Newfoundland; Gulf New Brunswick; Quebec; the Gulf Shore of Nova Scotia; South West Nova Scotia; and St. Margaret's Bay, Nova Scotia.

The migratory nature of bluefin tuna stocks (they are transboundary) requires the Management Plan to deal with international, inter-regional and regional concerns. Underlying the Department of Fisheries and Oceans' treatment of these concerns are several management objectives:

1. Conservation and Protection

   More biological information is needed on bluefin tuna stocks. Not enough is known about the migration and feeding patterns of this species. Because of the great mobility of tuna, it is difficult to predict when and where bluefin tuna will appear in the waters of Atlantic Canada. Without adequate information, it is difficult to develop a management plan which allows for a viable fishery while ensuring that the species is not overfished.

   Management measures used in the bluefin fishery include: limited entry policies, seasons, quotas, minimum size limits, seasonal and regional allocations and gear restrictions. These measures are broad in scope, and it is not known whether they provide adequate protection for the stock. The Department of Fisheries and Oceans (DFO) stresses that the bluefin tuna stock is still in a state of recovery. DFO is committed to enforcing these management

measures. Enforcement activities include monitoring of fishing activities, inspection of landings, and the use of legal action in the event of a violation.

2. Economic Stability

Economic stability exists in a fishery when returns on capital investments and crew earnings do not vary sharply from one year to the next. Stability allows an industry to make prudent investment decisions, and to reduce the effects of periods of boom and bust. In the extremely variable Atlantic bluefin tuna fishery, economic stability is not easily achieved. Industry members must take advantage of harvesting opportunities whenever and wherever they exist.

International markets for most large pelagics are lucrative. Solid market conditions in Japan in recent years have made the bluefin tuna fishery a very profitable business. In addition, Canadian fishermen have been generally successful in meeting the quality standards demanded by the Japanese market.

The Department of Fisheries and Oceans (DFO) and the tuna industry are committed to the development and exploitation of international markets. Both want to improve Canada's ability to compete in these markets.

1990 ATLANTIC BLUEFIN TUNA FISHING PLAN

Items specific to the 1990 Atlantic Bluefin Tuna Management Plan are outlined in the following section. General information on the licencing policy and gear types can be found on page 19.

1. LICENSING

a) Temporary permits issued in 1989 will again be available in 1990. These permits will be subject to review at the end of the 1990 season.

Offshore exploratory permits have been issued for the period from April 1 to June 30, 1990 with an allocation of nine (9) tonnes of bluefin tuna for by-catch purposes.

The offshore exploratory fishery which began in July, 1987 for a three year term will be completed by the end of June 1990. Upon completion, the progress and success of the fishery will be reviewed by the Department of Fisheries and Oceans and the future direction of the offshore fishery will be determined at that time.

b) Charter vessel tuna licences available in 1989 in the Newfoundland Region cannot be reissued as Commercial Tuna Licences in 1990.

c) Tuna fishing licences are valid for the areas indicated on the licence.

d) The short term leasing of vessels owned or registered by fishermen from another DFO Region, for use in the bluefin tuna fishery is not permitted.

e) All other licensing provisions as outlined in the Commercial Fisheries Licensing Policy for Eastern Canada will apply.

f) Licences will be made valid for region of issue only. (4Wd will appear on all licences issued to vessels in the Gulf Region. These licences must be validated by a fishery officer in Port Hawkesbury or Canso, by picking up new conditions of licence, prior to fishing.) Any fishing activity outside of DFO regional boundaries will be permitted only by specific licence conditions issued by the region where the fishing activity takes place.

2. GEAR TYPES

The following gear types may be utilized:

a) Tended lines - The following conditions apply to tended line fishing:

i) The line(s) must be attached to the vessel and tended at all times.

ii) A tended line is defined as a line not exceeding nine (9) mm in diameter with a single hook attached (Tuna Fishery Regulations, Section 2). **Note:** This is a change from the 1989 Atlantic Bluefin Tuna Management Plan.

iii) A maximum of two tended lines may be fished at any one time (Tuna Fishery Regulations Section 9(2)).

iv) One buoy per line must be on board the vessel when tended lines are in use. (Keg Method)

b) Rod and Reel

c) Pelagic longline (exploratory)

3. SEASONS AND QUOTAS

a) Seasons:

i) The bluefin tuna fishing season for management purposes runs from April 1 to March 31 each year.

ii) Fishing seasons and quotas for each management area have been set as a result of consultations with industry and are set out in Appendix I.

iii) Quarters are approximations of the time taken to land a quarter of the years catch in the last five years.

iv) Opening and closing dates for charter boat operators can be varied by condition of licence depending on availability of quota set aside for charter boat operations.

b) Quotas:

The overall Canadian quota for bluefin tuna caught by all gear types and for all areas is 573t. This quota will provide for fishing activities in the seven management areas and the offshore exploratory fishery.

* Bluefin tuna management areas are:

- Prince Edward Island
- Newfoundland
- The Gulf Shore of Nova Scotia
- Quebec
- Gulf New Brunswick
- Southwest Nova Scotia
- St. Margaret's Bay

c) Offshore:

An allocation of 35t of bluefin tuna quota for by-catch purposes has been provided annually for each of the two offshore experiments. These experiments are directed towards the catching of non-regulated tuna species (bigeye, albacore and yellowfin) with bluefin tuna taken as by-catch only.

d) Inshore:

Quotas will be allocated in the following manner:

i) Each of the seven bluefin tuna management areas will receive an initial allocation of 35 tonnes.

ii) An initial reserve will be established at 258t.

iii) Additional quota allocations (DIPS) will be provided as follows:

- If during one quarter, a management area runs out of initial allocation, it will be entitled to a secondary allocation (DIP) of 35 tonnes from the reserve. An area will be allowed to "DIP" into the reserve only once in any fishing quarter as long as quota remains available.

- If any management area catches less than 8.75 tonnes from its initial allocation during a quarter, it must let the difference revert to the reserve.

(**NOTE:** The rationale for this is that since each area has at least 35 tonnes available to be harvested, and since each quarter of the season is a period which reflects the time necessary to harvest 25% of the season's eventual catch, then given a minimum of 35 tonnes for the season, each area should take at least 8.75t or forego to the reserve, the shortfall.)

- If an area receives a DIP but has not completely harvested it by the close of a quarter, the DIP may be carried over to the next quarter. (**NOTE:** This eliminates the need to rush fishing activity which could adversely affect the market situation.)

- The carryover of a DIP from a previous quarter must be completely exhausted before a new DIP is permitted.

- A "cap" of 105t, an initial allocation and two subsequent dips, will be placed on the amount of tuna that can be harvested by any one management area, pending a review of remaining quota on October 1, 1990.

- When a management area has used up their quota from the inital allocation and subsequent available DIPS, that fishery will be closed by order of the Regional Director General.

- Following October 1, the fishery may reopen depending on the availability of unused quota. During the reallocation process, consideration will be given to those bluefin tuna management areas with late starting dates for their fisheries (For example St. Georges' Bay fishery).

- The offshore fishery will not participate in the reallocation process because of the nature of that fishery.

iv) In order to ensure the availability of quota for traditional fisheries in local areas, a limit of 35 t will be placed on the quantity of fish which may be harvested by vessels outside their own DFO management region.

- Conditions under which this fish may be harvested during 1990 will be determined during local working group consultations. Regardless of where bluefin is caught, it will be counted against the quota of the homeport of the vessel.

- **Note:** An exception to the 35t limit on the quantity of fish which may be harvested by vessels outside their own DFO management region, will be made for tuna caught in NAFO Area 4Wd by Gulf Region based vessels. Bluefin caught in 4Wd by Gulf Region based vessels will not be counted against this 35t limit.

e) Charter Operations:

In management areas with charter boat fisheries, a separate quota reserve will be set aside for charter operations from within quota allocations provided to that area, to ensure continued operation for the balance of the charter season. The provision of quota specifically for charter boat operations will be determined by the Regional Directors General.

4. MONITORING

a) Tuna tags will be used in conjunction with log books for the purpose of catch monitoring. Tags will be issued at a rate determined for the management region, consistent with catch performance and quota availability. Tags will only be issued following log book presentation. All fish must be tagged. It is illegal to be in possession of untagged bluefin tuna.

b) All tags and licence conditions will be issued from fishery offices adjacent to the fishery. Records will be kept of all tags issued including tag number, date, and location of issuance and person to whom tag(s) issued.

c) Vessels operating in areas outside of their home management area will be subject to the conditions specified for the area in which they are fishing.

5. AREAS

a) Management Areas will be those described in the Tuna Fishery Regulations.

b) **Area 4Wd**

Historic participation in the 4Wd fishery will continue and will be closely monitored.

Scotia-Fundy and Gulf Region based licenced bluefin tuna fishermen will be permitted to fish for bluefin in NAFO Area 4Wd under condition of licence using rod and reel ONLY. (Note: This is a change from previous management plans.)

Before a vessel from either Region can begin fishing in Area 4Wd, the licence condition must be issued at the the Department of Fisheries and Oceans office in Canso or Port Hawkesbury, Nova Scotia.

HISTORICAL OVERVIEW

The bluefin tuna fishery has had a long and varied history on the East Coast of Canada. In the Bay of Fundy, the bluefin fishery began in the 1920s as a rod and reel sports fishery. In 1935 the first International Tuna Cup match was held in Wedgeport, Nova Scotia. The tournament was suspended in 1958 after two successive years of no fish. In the early 1960s, about the same time as this decline, came the development of the first trap net operation in St. Margaret's Bay, Nova Scotia. Since then however, declining stocks have created circumstances where the catch of tuna in trap nets for subsequent impounding has reached record low levels.

Scotia-Fundy Region

In past years, the Scotia-Fundy Region had had a fairly active rod and reel fishery during the summer and fall periods. Vessels licensed for this fishery operated primarily as recreational charter boats hired for sports fishing. By 1989, due to the high price for fresh bluefin tuna on the Japanese market, and much higher catch per unit effort by tended lines, the charter fishery was almost completely displaced by a commercial fishery.

Newfoundland Region

The tuna fishery expanded to Newfoundland in 1956 and reached a peak there in 1968. It began under the sponsorship of the provincial Department of Tourism with a total of five vessels which landed an average of eight fish annually. The fishery expanded until it peaked in the 1960s with landings of 635 fish by about forty vessels. During the period from 1963 to 1972 landings were moderate at an average of 368 fish annually until 1973 when a sharp drop occurred. With the exception of 1982, less than 10 fish have been landed per year since 1976. At the height of the Newfoundland tuna fishery, vessels were active in Conception Bay and Notre Dame Bay. Until 1989 the fishery consisted primarily of charter boat operations using rod and reel. In that year 12 temporary commercial licences were issued and eight of the existing charter operations converted to commercial. As a result, by the end of the 1989 season there were 25 commercial and 4 charter operations. Landings for 1989 increased significantly from recent years to 116 tonnes or about 350 fish.

Gulf Region

The tuna fishery began in Prince Edward Island in 1967. By the 1970s PEI had become the centre of tuna fishing activity in Atlantic Canada. Tuna landed during this time was used mostly for pet food. During the early 1970s an export market to Japan for fresh tuna was developed and the market value increased

dramatically. In the Gulf area of Nova Scotia, bluefin tuna landings were first reported in the mid-1960s. These fish were taken as a by-catch by fixed gear set for other species. By the late 1970s about 140 vessels were licensed for bluefin. Landings peaked in 1979 at 58 tonnes and then declined steadily to the mid-1980s.

Quebec Region

The Quebec Region enjoyed a profitable charter boat fishery in the Baie des Chaleurs up to the late 1970s. Since then, the tuna fishery in this Region has been in a state of decline. In 1986 only five fish were landed from a quota of 83 fish. In 1988 and 1989 no fish were caught in the waters of the Quebec Region, although Quebec fishermen did catch fish off southwestern Nova Scotia during the 1989 season.

Present Status

A shortage of harvestable bluefin on Canada's East Coast in the last two decades has meant that fishermen have been able to land only a small percentage of the 573 tonne quota assigned to Canada by ICCAT. The appearance of bluefin tuna in large numbers off southwestern Nova Scotia and eastern Newfoundland in the late 1980s has helped to revitalize the commercial fishery. In 1989 a change in the Management Plan allowed bluefin tuna licence holders limited access to the concentrations of fish off southwestern Nova Scotia and off the east coast of Newfoundland.

Offshore

In June 1987, the Minister of Fisheries and Oceans approved two exploratory offshore proposals to direct for non-regulated speices of tunas such as yellowfin, albacore, and bigeye. A portion of Canada's bluefin quota was allocated to these operations to account for a bycatch of bluefin while directing for these other species. One permit was issued to a Newfoundland based company and the other was issued to a Nova Scotia company. From 1987 until the end of the 1989 season, Japanese vessels were chartered to assist the Canadian companies and crews in gaining experience in this fishery. By the beginning of the 1990 season, these companies were required, as a condition of their licence, to introduce Canadian owned vessels into the fishery. This project has also allowed Canadian fishermen to test advanced technology for handling and freezing tuna at sea to meet stringent market requirements.

FISHERY PROFILE

Historically, the Canadian tuna fisheries have used five major gear types: sports rod and reel, purse seine, trap net, harpoon, and incidental catches on longlines and in gill nets. Since 1980, an increasing number of fishermen have used a new method called "tended line" or "keg" fishing, which involves a single hook on a length of buoyed rope attached to the vessel. Currently, the only gear components of the Atlantic Canadian tuna fishery are rod and reel (both sports charters and commercial fishing operations), tended line and offshore longline.

Distribution

West Atlantic bluefin tuna spawn in the Gulf of Mexico. They migrate north in the spring and are most common in warm waters. In the western Atlantic, tuna congregate in the West Indies in April and May, followed by a summer movement as far north as Newfoundland and southern Labrador. Bluefin tuna grow quickly, and the larger they become, the higher the fat content. Tuna with high fat content receive the best prices on the international markets. Bluefin tuna is one of five species of tuna found in the Northeast Atlantic. Other tuna species found in the western Atlantic include yellowfin, bigeye, albacore and blackfin; these species are not subject to quotas.

Value

The impact of the bluefin tuna fishery on the economy of the Atlantic Coast comes from direct income earned by fishermen and vessel owners, from the income generated by vessel owners purchasing supplies, and from personal income used to buy goods and services. The employment multiplier is limited principally to those involved in fishing since bluefin are generally shipped fresh to markets in the United States and Japan. In 1989, at a conservative estimated price of $6.00 per pound, the Canadian bluefin quota would have a landed value of $7.5 million.

Up to 1988, Canadian fishermen landed an average of only 10 to 20% of the available bluefin quota. In 1988, a combination of more efficient use of gear, fishing on non-traditional grounds (Brown's Bank, Virgin Rocks) and higher prices paid to fishermen contributed to an increase in landed value. In 1988, 91% of the quota (522t) was landed, valued at about $7 million. Figures for 1989 show that 566 tonnes of the 573 tonne allocation were caught.

Licences

There are 32 licensed bluefin tuna vessels in the Scotia-Fundy Region, 613 in the Gulf Region, 29 in the Newfoundland Region and 53 in the Quebec Region. A total of ninety vessels were permitted to fish tuna off southwestern Nova Scotia in 1989; thirty-two of which were based in the Scotia-Fundy Region. There were four principal ports in southern Nova Scotia in which tuna vessels tied up and where most landings were made - Lower West Pubnico, West Head, Wood's Harbour and Clark's Harbour. Tuna fishing off southwestern Nova Scotia was concentrated in a small area on the northeast channel between Brown's Bank and George's Bank.

Landings

BLUEFIN TUNA LANDINGS BY FLEET
(tonnes)

1983-1989

	1983	1984	1985	1986	1987	1988	1989
PEI	341.7	174.5	103.0	33.1	23.0	61.0	97.8
NFLD	1.0	1.1	1.2	1.7	2.0	44.0	119.2
NB	52.4	33.3	20.1	1.0	0.4	--	34.3
QUE	22.1	7.3	4.0	1.9	0.4	--	34.0
GNS	8.9	45.0	0.5	0.4	4.0	49.0	75.6
SWNS	--	1.0	9.0	3.0	7.0	204.0	164.1
St. MAR.	6.6	2.7	11.7	1.0	16.9	18.0	--
Offshore	--	--	--	32.0	32.6	146.6	12.2
Seized	--	--	--	--	--	--	29.1
TOTAL	432.7	264.9	149.5	74.1	86.3	522.6	566.3

Market Trends

The demand for sashimi tuna in the Japanese markets was strong throughout 1989. Consumption of sashimi tuna is between 340,000 - 350,000 tonnes annually and is expected to remain constant. Demand for all species of tuna in the United States and Europe is fast approaching the levels consumed in Japan.

While most of the product consumed in the United States and Europe is canned, the market for fresh tuna as steak and sushi is growing rapidly. Although considerable growth has taken place since 1984, uncertainty exists regarding the current total market requirement. Yellowfin tuna is the principal species used in the trade. Bigeye and bluefin are secondary species, primarily

because they are less available and more expensive. Given the recent trends in production, imports and prices, it appears that the market for tuna in the United States is well established and there is room for expansion. One American publication, Seafood International, notes that "continued growth in the use of fresh tuna, perhaps 20 to 25 percent per year, can be expected during the next few years".

Prices for bluefin tend to be lower in mid-summer when the Japanese, American and Canadian fisheries are underway. In some years, an oversupply of tuna and a lower quality product because of a rush to land fish, can mean less money for fishermen. In the fall, when supply dwindles and the fat content of the tuna increases, prices tend to be higher.

Currently, the Japanese demand for tuna is strong and as a result bluefin tuna still commands a high price. The Japanese consumer's desire for sashimi shows no sign of abating.

CONSULTATIVE PROCESS

Bluefin tuna stocks throughout the Atlantic Ocean come under the jurisdiction of the International Commission for the Conservation of Atlantic Tunas (ICCAT). Canada plays a pivotal role in ICCAT with one of our primary concerns being the management measures dictated for the western Atlantic bluefin tuna stocks.

The Atlantic Bluefin Tuna Advisory Committee (ABTAC) serves as the primary vehicle through which the Bluefin Tuna Management Plan covering the Gulf, Quebec, Newfoundland and Scotia-Fundy Regions is developed. ABTAC is one of a dozen or so Atlantic-wide, inter-regional advisory committees sponsored by DFO. Members of the Committee include DFO fishery managers and biologists, bluefin tuna fishermen, representatives from fishermen's associations, processors and provincial government representatives. ABTAC also provides advice to the Minister of Fisheries and Oceans and to the Atlantic Directors-General Committee on matters related to bluefin tuna including: the condition of the stocks, allocation of the resource among fishermen, methods of harvesting, research needs, enforcement requirements, licensing policy and economic analysis of fishing enterprises.

Issues specific to individual Regions are reviewed by regional Bluefin Tuna Advisory Committees and regional Working Groups or through meetings of fishermen who make recommendations to ABTAC (such as in Quebec). These groups prepare recommendations on quota splits, inter-season adjustments, licensing policies, enforcement issues, regulatory changes and gear restrictions.

Currently, the tuna fishery is regulated by the **Tuna Fishery Regulations.** In 1991, these regulations will be consolidated into the **Atlantic Fishery Regulations, 1985.**

SUMMARY OF CURRENT ISSUES

1. Management of the Atlantic Bluefin Tuna Fishery

The primary intent of the Atlantic Bluefin Tuna Management Plan is to provide the greatest benefit to Canadian fishermen. To achieve this, it must be flexible considering that tuna may appear in a number of places and at varying times along the Atlantic coast during the summer and fall. Up to the late 1980s, Canada had only been able to land a small percentage of its bluefin quota. The shifting patterns of bluefin catches and the inflexibility of previous management plans resulted in Canadian fishermen not being able to take their entire quota allocated by ICCAT. This past situation had supported the position of the Japanese who were pressuring ICCAT for a reallocation of uncaught surpluses to their fleet. With the change in management approach in 1988 and 1989, Canadian fishermen have proven that they are capable of catching their entire allocation.

In 1988, DFO came under industry pressure for additional licences (over 3,500 applications were received), greater vessel mobility, and inter-regional transfers of licences. Tuna fishermen who had traditionally fished in the Gulf of St. Lawrence, wanted to exercise their Atlantic-wide licences. This would have enabled them to fish on the Scotian Shelf where catches were high in 1988. Most tuna fishermen in Southwest Nova Scotia did not want Gulf Region fishermen to have unlimited access. Some Gulf fishermen had also requested permission to transfer their tuna licences to a Southwest Nova Scotia based vessel for the duration of the fishing season.

By the fall of 1988, DFO was faced with a number of new management issues in the bluefin fishery - overfishing by licensed vessels, illegal fishing by unlicensed vessels, transhipping of tuna vessel to vessel for marketing while at sea (which is illegal), misreporting of the species of tuna landed, and the need for more effective surveillance and enforcement of regulations and policies.

DFO and industry agreed that there was a need to review the Atlantic Bluefin Tuna Management Plan. This led to the introduction of The Inshore Tuna Allocation System (ITAS). ITAS was the centrepiece of the 1989 Management Plan.

Each of the management areas were given an initial allocation of 35 t of bluefin. The fishing season in each of these areas was divided into quarters. Within each quarter, fishermen fished against their inital allocation. If they landed more than the assigned amount before the quarter was up, they could "dip" into a reserve quota for more fish. If they landed less than 8.75 t

during the quarter, the difference went into the general reserve. This system was in place for the entire East Coast. This meant that fishermen who had used up their quota and still had access to more bluefin could continue fishing, while other fishermen could not "collect" quotas when tuna were not available to be harvested.

2. Status of Bluefin Tuna Stocks

By the early 1960s, western Atlantic bluefin tuna stocks were in a state of decline. Overfishing, primarily by Canadian and American purse seiners, had exhausted the stock's ability to replenish itself. International intervention via ICCAT resulted in stricter management regimes. Despite pessimistic biological predictions, the bluefin tuna stocks have shown some signs of recovery recently.

Until the late 1980s, catch rates for bluefin tuna had declined all along the East Coast. Recent catch statistics suggest that the population of larger bluefin is declining while the supply of smaller fish is increasing. Biological advice stresses that extensive fishing of smaller bluefin is not desirable. A decrease in the average size of fish being caught means that all nations fishing in the western Atlantic will have to catch a greater number of fish to reach the quotas assigned by ICCAT. The 1982-1984 year-classes are the primary contributors to the present fishery.

Industry members want DFO to do more biological research on western Atlantic bluefin tuna stocks. They are concerned that the current status of the bluefin stocks are not properly understood and quotas are set without a sound biological basis. Understanding of the size, age, sex and migratory behaviour of the stock is limited making it difficult to determine whether changes in hook size, gear type or season should be considered.

The Department advises industry that reliable scientific assessment of stock conditions will depend very much on the quality and accuracy of logbook information submitted by fishermen. An accurate record of the number of fish killed is essential in calculating fishing mortality. Industry will also have to provide additional information not required on log records. This information will be used in studies of morphometric differences (body measurements), in determining what waters tuna are found, the age and sex of the fish, and the overall state the stock.
DFO notes that the practice of highgrading catches has an impact on bluefin tuna stocks which is not known. Highgrading occurs when fishermen release smaller tuna and retain only the larger tuna. Biologists do not know the survival rate of the released tuna. Once hooked, the tuna can become exhausted and among other

risks, an exhausted fish may be more vulnerable to shark predation. Highgrading increases the mortality rate of bluefin tuna stocks.

3. Developmental Tuna Fishery

During 1986-87, the DFO Tuna Proposals Review Committee reviewed 29 proposals and recommended approval of eight experimental projects - six inshore and two offshore. The inshore projects involved trials with modified longline gear, trap nets and harpoons. These six experiments recorded very low landings.

The two offshore projects were directed at developing a year-round offshore longline fishery for species of tuna other than bluefin (a limited by-catch of bluefin was permitted). Two Canadian companies were given permission to temporarily charter two Japanese longline tuna vessels. The charter vessels, which were crewed by Japanese fishermen, were utilized to gain access to their proven technology and expertise. These vessels were to be replaced by Canadian flagged vessels and by 1990 crewed by Canadian fishermen.

DFO would like to see an economically viable fishery for tuna species other than bluefin however, little is known about the biomass of these species. One of the questions to be answered in the exploratory fishery is to determine what bycatch of bluefin is necessary for the operation of that fishery. It is anticipated that results from the experimental fishery will allow Canada to compete successfully in the world marketplace for tuna and shark. The experimental fishery will be reviewed in 1990. DFO will determine what the future status of these projects will be.

4. Tuna Identification Program

Bluefin fishermen are not restricted in their catches of other species of tuna such as bigeye and albacore. Once these tuna are landed, gutted and dressed, it is very difficult to distinguish one species from another. After they are ready for market, many species of tuna look more or less the same.

DFO is in the process of developing an identification program to provide fishery officers, fish inspectors and other officials with the necessary tools to identify the various species of tuna. Once the program is in place, DFO will be in a better position to ensure that all landings of bluefin are recorded, and quotas are not exceeded. The program will also respond to industry requests for better enforcement of regulations and management policies.

It may be possible to identify tuna species by DNA testing. The genetic make-up, and thus the exact species, could be determined through the analysis of a small tissue sample. Such an approach, if implemented successfully, would allow DFO to prove conclusively to the courts when a violation of the Tuna Fishery Regulations has occurred.

5. Increased Monitoring of Bluefin Tuna Fishery

A large number of bluefin tuna were landed illegally during the 1989 fishing season resulting in several charges being laid under the Tuna Fishery Regulations.

DFO notes that it is necessary to improve the coordination of enforcement efforts. Monitoring of tuna shipments requires input from all four Regions. ABTAC could be called upon to develop an Atlantic-wide licence suspension policy for repeat offenders. All bluefin tuna licence holders on the East Coast would be subject to the same enforcement procedures. As well, DFO may pool its enforcement resources, and shift them among Regions to match the movement of the bluefin tuna fleet.

In the summer of 1989, DFO announced plans to increase monitoring of the bluefin fishery. Helicopter/aircraft and patrol vessel surveillance were used to watch the fishing grounds. Landed bluefin catches were subject to inspection at wharfside, processing plants, during transport, and before export to markets. This increased enforcement effort was in response to requests from members of the tuna industry.

The offshore tuna vessels are subject to 100% observer coverage. Observer coverage of this fishery is used as a means of enforcing the by-catch limitations for bluefin tuna and to gain valuable scientific information about Atlantic tuna stocks.

Industry members have asked DFO to adopt a stricter penalty schedule for the bluefin fishery. Among the specific penalties would be higher fines for convictions, and possible suspension of vessel registration for a number of months following conviction. The industry wants a penalty package in place that will deter illegal fishing.

LICENSING POLICY

1. Application: This policy applies to the harvesting of bluefin in the waters off the Atlantic Coast of Canada.

2. Entry Controls: Licences may only be issued to fishermen who held a licence in the preceding calendar year or who acquired such a licence through reissuance procedures outlined below.

3. Gear Restrictions:

   (a) Commercial - commercial tuna fishermen are permitted to use rod and reel and/or tended lines. The following conditions apply to tended line fishing:

   - the line must be attached to the vessel and attended at all times;
   - a total of two tended lines may be fished at any one time;
   - a maximum of one (1) hook per tended line may be fished at any one time; and
   - one buoy per line must be on board the vessel when tended lines are used.

4. Charter Vessel Licences: Charter vessels will be limited to the use of rod and reel only.

5. Licence Conditions: Bluefin tuna licence conditions will be issued separate to the licence and must be annotated as follows:

   "NOT VALID UNLESS LICENCE CONDITIONS ARE ATTACHED."

   Examples of the 1990 licence conditions are included in Appendices IIA and IIB.

6. Vessel Replacement Rules: Where a licence holder retains licences for other species, the replacement vessel size is governed by the most restrictive replacement policy.

7. Change of Licence Holder:

   (a) Commercial Tuna Licences:

   i) Licences may only be reissued to eligible fishermen as per the Commercial Fisheries Licensing Policy for Eastern Canada. In the case of licence splits, refer

to Section 18 of the Commercial Fisheries Licensing Policy for Eastern Canada.

ii) Upon reissuance, all conditions of licence (i.e., area, gear type, quantity, etc.) will be maintained by the new licence holder (Section 17.20 of the Commercial Fisheries Licensing Policy for Eastern Canada).

(b) Charter Vessel Licences in Newfoundland Region:

i) Charter vessel licences may be reissued to non-fishermen for charter purposes.

ii) Charter vessel licences available in 1989 in the Newfoundland Region cannot be reissued as Commercial Tuna Licences in 1990.

Appendix I

INSHORE TUNA ALLOCATION SYSTEM (ITAS)

1990

FISHING SEASON QUARTERLY DATES BY AREA

Management Area	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
P.E.I.	Aug. 1- Sept. 6	Sept. 7- Sept. 17	Sept. 18- Oct. 2	Oct. 3- Dec. 31
Newfoundland	Aug. 15- Aug. 31 Jul. 12- Aug. 31 (Rod & Reel)	Sept. 1- Sept. 30	Oct. 1- Oct. 15	Oct.16- Dec. 31
New Brunswick	Aug. 1- Sept. 1	Sept. 2- Sept. 15	Sept. 16- Sept. 30	Oct. 1- Nov. 15
Québec	Aug. 1- Aug. 31	Sept. 1- Sept. 15	Sept. 16- Sept. 30	Oct. 1- Nov. 15
Gulf Nova Scotia	Aug. 1- Sept. 15	Sept. 16- Oct. 19	Oct. 20- Oct. 24	Oct.25- Nov. 15
Southwest N.S.	Aug. 28- Sept. 10	Sept. 11 Sept. 18	Sept. 18- Sept. 24	Sep.25- Oct. 1
St. Margaret's Bay	Jun. 1- Jun. 14	Jun. 15- Jun. 30	Jul. 1- Jul. 19	Jul.20- Aug. 15

Appendix II-A
CONDITION OF TUNA FISHING LICENCE 1990

Pursuant to Subsection 33 (1) of the Atlantic Fishery Regulations, 1985, the following conditions are specified for Tuna Fishing Licence No. _____ issued in respect of the fishing vessel _____ CFV # _____ operated out of the following fishing port; _____.

1. The fishing vessel is to be operated by _____ only.

2. These licence conditions are valid for one fishing trip during the period beginning _____ and ending _____.

3. While operating under these conditions you are only permitted to take a total of _____ tuna regardless of species.

4. All bluefin tuna must be tagged immediately and no person shall be in possession of any bluefin tuna unless it is properly tagged.

5. All holders of a tuna licence must submit a completed logbook to a Fishery Officer at the completion of each trip.

6. All tuna taken under the authority of this condition must be kept on board the vessel _____ until the completion of the fishing trip.
   For the purpose of this item of this condition and under the definition of a fishing trip under the Tuna Fishery Regulations, a fishing trip is defined as "The period beginning on the day the vessel leaves a port to engage in fishing and ending on the day the vessel lands at a port to offload any fish caught during that period."

7. The following bluefin tuna tags are valid for this fishing trip only:

Tag # _____	Tag # _____	Tag # _____
Tag # _____	Tag # _____	Tag # _____
Tag # _____	Tag # _____	Tag # _____
Tag # _____	Tag # _____	Tag # _____

8. Fishing under this licence is authorized for NAFO Areas _____ _____ ONLY, with the exception of Area 4Wd.

I understand and acknowledge the conditions issued with and attached to my licence for tuna,

OR

I request this amendement to / replacement of my tuna licence conditions,

Licence Holder : _____ Date: _____

Fishery Officer: _____ Date: _____

Appendix II-B

CONDITION OF LICENCE FOR FISHING BLUEFIN IN NAFO DIVISION 4WD

Pursuant to Subsection 33 (1) of the Atlantic Fishery Regulations, 1985, the following conditions are specified for Tuna Fishing Licence No. _____ issued in respect of the fishing vessel _____ CFV # _____ operated out of the following fishing port; _____.

1. The fishing vessel is to be operated by _____ only.

2. These licence conditions are valid for one fishing trip during the period beginning _____ and ending _____.

3. While operating under these conditions you are only permitted to take a total of _____ tuna regardless of species.

4. All bluefin tuna must be tagged immediately and no person shall be in possession of any bluefin tuna unless it is properly tagged.

5. All holders of a tuna licence must submit a completed logbook to a Fishery Officer at the completion of each trip.

6. All tuna taken under the authority of this condition must be kept on board the vessel _____ until the completion of the fishing trip.

7. The following bluefin tuna tags are valid for this fishing trip only:

Tag # _____	Tag # _____	Tag # _____
Tag # _____	Tag # _____	Tag # _____
Tag # _____	Tag # _____	Tag # _____
Tag # _____	Tag # _____	Tag # _____

8. Fishing under this licence is authorized for NAFO Division 4Wd only.

9. Fishing in Division 4Wd under the authority of this licence is restricted to the use of rod and reel fishing gear.

I understand and acknowledge the conditions issued with and attached to my licence for tuna,

OR

I request this amendement to / replacement of my tuna licence conditions,

Licence Holder : _____ Date: _____

Fishery Officer: _____ Date: _____

Appendix III

NEWS RELEASE
COMMUNIQUÉ

NR-HQ-90-020E

FOR IMMEDIATE RELEASE
JULY 6, 1990

1990-91 ATLANTIC BLUEFIN TUNA MANAGEMENT PLAN

OTTAWA ... Fisheries and Oceans Minister Bernard Valcourt today announced details of the 1990-91 Atlantic Bluefin Tuna Management Plan.

The plan calls for a total Canadian allocation of 573 tonnes set by the International Commission for the Conservation of Atlantic Tunas and an inshore allocation system aimed at improving the distribution of catches throughout the seven tuna management areas.

The cornerstone of this year's plan is the Inshore Allocation System, first introduced in 1989. It features an initial allocation for each management area and a reserve from which additional quota may be taken later in the season under conditions set out in the plan. As in 1989, each fleet will be limited to harvesting a maximum of 35 tonnes outside of its home management region to ensure the availability of quota for traditional fisheries in local areas.

"This new allocation system is allowing our fishermen to harvest more effectively Canada's bluefin tuna quota," said Mr. Valcourt.

"The 1990-91 plan also responds to concerns raised by fishermen at recent advisory committee meetings concerning the distribution

... / 2

of catches," said Mr. Valcourt. "A 105-tonne cap will be placed on catches by vessels from each management area pending an in season review of the fishery. This will ensure that quota remains in reserve for fisheries occurring later in the season," added the Minister.

DFO officials will review catches in October to consider possible reallocation of quota, as agreed upon by the Atlantic Bluefin Tuna Advisory Committee.

"True to the historical fishery that takes place in 4Wd, harvesting in this area will be permitted using rod and reel gear only," said the Minister.

Mr. Valcourt concurred with industry's concern about the health of the stock. "This is a valuable resource and we must conserve and protect it," said Mr. Valcourt. "My department will monitor this fishery closely and will take the necessary enforcement steps to deal with violators."

Under the 1990-91 management plan, fishermen who fish outside their resident management region must use their own vessels or lease a vessel from their own area. Further details concerning the 1990-91 Atlantic Bluefin Tuna Management Plan are available from area offices.

- 30 -

FOR INFORMATION:

Don Aldous
Fisheries and Oceans
Scotia-Fundy Region
Halifax, N.S.
(902) 426-8859

Réjean Hébert
Fisheries and Oceans
Gulf Region
Moncton, N.B.
(506) 851-7792

Mike Calcutt
Fisheries and Oceans
Ottawa, Ontario
(613) 990-0107

Denis Tremblay
Fisheries and Oceans
Québec Region
Québec City (Québec)
(418) 648-5885

John Moores
Fisheries and Oceans
Newfoundland Region
St. John's, Nfld.
(709) 772-2350

Appendix IV

ATLANTIC BLUEFIN TUNA ADVISORY COMMITTEE

MEMBERSHIP LIST

DFO Personnel

Mr. David Tobin
Chairman
Atlantic Operations Directorate
200 Kent Street
Ottawa, Ontario
K1A 0E6

Mr. Mike Calcutt
Secretary
Resource Allocation Branch
200 Kent Street
Ottawa, Ontario
K1A 0E6

Mr. Denis Tremblay
Resource Allocation Branch
Québec Region
P.O. Box 15,500
Québec (Québec)
G1K 7Y7

Mr. Frank Ring
Gulf Region
Resource Allocation Branch
P.O. 5030
Moncton, New Brunswick
E1C 9B6

Mr. Don Aldous
Scotia-Fundy Region
Resource Allocation Branch
P.O. 550
Halifax, Nova Scotia
B3J 2S7

Mr. John Moores
Newfoundland Region
Resource Allocation Branch
P.O. Box 5667
St. John's, Newfoundland
A1C 5X1

Mr. Doug Clay
Gulf Region
Science Branch
P.O. Box 5030
Moncton, New Brunwick
E1C 9B6

Mr. David Knowles
ECAD Branch
Headquarters Branch
200 Kent Street
Ottawa, Ontario
K1A 0E6

Ms. Julie Porter
Scotia-Fundy Region
Biological Station
St. Andrews, N.B.
E0G 2X0

Québec Region

M. Pierre Vagneux
M.A.P.A.Q.
200-A Chemin Ste-Foy
Ste-Foy (Québec)
G1R 4X6

M. Romuald Cormier
Président
Assoc. des pêcheurs de thon
de la Gaspésie
Case Postale 235
Port Daniel
Compté Bonaventure (Québec)
G0C 2N0

M. Hugh Journeaux
Case Postale 8
Port Daniel
Comté Bonaventure (Québec)
G0C 2N0

M. L.T. Poirier
Assoc. des pêcheurs-
propriétaires des Iles-
de-la-Madeleine
Cap-aux-Meulies
Iles-de-la-Madeleine (Québec)
G0B 1B0

Gulf Region

M. Victor Lanteigne
Case Postale 266
Caraquent (Nouveau-Brunswick)
E0B 1K0

M. Paul Noël
Case Postale 150
Lameque (Nouveau-Brunswick)
E0B 1V0

Mr. Elmer Perry
P.O. Box 72
Tignish, P.E.I.
C0A 0S0

Mr. Henri Legaré
Assistant Deputy Minister
Dept. of Fisheries and
Aquaculture
P.O. Box 6000
Fredricton, New Brunswick
E3B 5H1
FAX: (506) 453-5210

Mr. Friend Herring
P.E.I. Dept. of Fisheries
P.O. Box 2000
Charlottetown, P.E.I.
C1A 7N8
FAX: (902) 892-3420

Mr. Cliff Thompson
Eastern Fishermen's Fed.
P.O. Box 2350
Charlottetown, P.E.I.
C1A 8C1
FAX: (902) 368-3748

M. Eudore Dugas
Ministère des Pêches et de
l'Aquaculture
Case Postale 488
Caraquet (Nouveau-Brunswick)
E0B 1K0
FAX: (506) 727-7464

Mr. Michael Belliveau
Maritime Fishermen's Union
P.O. Box 1418
Shediac, New Brunswick
E0A 3G0
FAX: (506) 532-8568

Mr. Robert McFadden
Morrell Post Office
Morrel, P.E.I.
C0A 2S0

Mr. Allan Anderson
H. Anderson Lobster Sales
Ltd.
R.R.#1
Havre Boucher
Antigonish County, N.S.
B0H 1P0

Mrs. Shirley Bennett
R.R.#1 North Lake
Elmira, P.E.I.
C0A 1K0

Mr. Garth Jenkins
Avegweit Seafoods Inc.
P.O. Box 3262
Charlottetown, P.E.I.
C1A 8W5
FAX: (902) 569-3688

Mr. Daniel MacDougal
R.R.#3
North Grant
Antigonish, Nova Scotia
B2G 2L3

John Jamieson
Managing Director
PEI Fishermen's Assoc. Ltd.
P.O. Box 2224
Charlottetown, PEI
C1A 8B9
FAX: (902) 368-3748

Scotia-Fundy Region

Mr. Art Longard
Nova Scotia Dept. of Fisheries
P.O. Box 2223
Halifax, Nova Scotia
B3J 3C4
FAX: (902) 424-4671

Mr. Robert Swim
Northeast Point
Cape Sable Island
Shelburne Co., Nova Scotia
B0W 2P0

Mr. Graham Garrison
President
Grand North Fisheries Ltd.
3 Avon Crescent
Halifax, Nova Scotia
B3R 2E2
FAX: (902) 477-3764

Mr. Brian T. Coolen
R.R.#1, Hubbard's
Halifax, Nova Scotia
B0J 1T0

Mr. Roger Stirling
President
SPANS
Dartmouth, Nova Scotia
B2Y 3Y6
FAX: (902) 469-8294

Mr. Chris Malone
Dockside Fisheries Ltd.
Woods Harbour, Nova Scotia
B0W 2E0
FAX: (902) 723-2927

Mr. Robert MacDonald
P.O. Box 6
Mulgrave, Nova Scotia
B0E 2G0

Newfoundland Region

Mr. David Vardy
Deputy Minister
Department of Fisheries
Province of Nfld. & Labrador
P.O. Box 4750
St. John's, Newfoundland
A1C 5T7
FAX: (709) 576-6082

Mr. Max Short
Fishermen Food and Allied
Workers' Union
P.O. Box 10
St. John's, Newfoundland
A1C 5H5
FAX: (709) 576-1962

Mr. Robert Murray
52 Toronto Street
St. John's, Newfoundland
A1A 2T4

Mr. Edwin Hussey
Aquatic Offshore Fisheries
62-64 Pippy Place
P.O. Box 14057
St. John's, Newfoundland
A1B 4G8
FAX: (709) 576-6101

Mr. Bud O'Brien
Independent Fish Processors
Bay of Bulls, Newfoundland

Mr. Lester Petten
P.O. Box 3
Port-de-Grave, Newfoundland
A0A 3J0

Mr. Bruce Chapman
Fisheries Association of
Newfoundland & Labrador
P.O. Box 8900
St. John's, Newfoundland
A1B 3R9
FAX: (709) 739-0195