

Canada Reports Smooth, Effective Fishing Zone Control

"A very smooth operation and remarkably effective" is how Canadian Fisheries Minister Roméo LeBlanc summed up the first 8 months of Canada's management of the 200-mile offshore fishing zone. The extended zone, which took effect on 1 January 1977, gave Canada an area of more than 600,000 square miles of high seas to patrol and manage.

"We are proving to the world that we have the know-how and the equipment to efficiently manage this vast new area" said LeBlanc. "This isn't a miracle overnight cure for the fisheries, but a long-term plan to build up depleted stocks and develop a new era of prosperity for Canadian fishermen".

"As far as the East Coast stocks are concerned, we are applying strict conservation measures to make sure we do not replace foreign overfishing with Canadian overfishing. We see 1977 as the bottom of the trough for the groundfish catch. With good management it should be possible within 10 years to restore groundfish stocks to their full potential with an annual yield of about 1.6 million metric tons, which is more than double the 1977 TAC (total allowable catch)."

LeBlanc said that foreign fishing fleets have been virtually eliminated from a number of fisheries from which they formerly harvested a substantial portion of the allowable catch. Examples are cod, haddock, pollock, and herring on the Scotian shelf, American plaice and yellowtail flounder on the Grand Bank, and flounders generally on the Scotian shelf. There have also been substantial reductions in the foreign allocations of cod, redfish, and flatfish off Newfoundland-Labrador

and an associated increase in the Canadian shares for these species.

Foreign fleets off Canada's East Coast in 1977 will harvest the bulk of the allowable catches of capelin, roundnose grenadier, silver hake, argentinies, and squid. All of these are species for which so far it has been uneconomical for Canadians to develop a major fishery. By 1978, the foreign fleets will be largely out of the redfish fishery within the Canadian zone and will have smaller allocations of cod and flounder.

"Within the next 5 years, foreign fishing within our zone will likely be restricted to such species as capelin, grenadiers, argentinies, and silver hake, and perhaps some portion of the northern winter cod fishery off northeast Newfoundland-Labrador", the Minister added. "Even for these species and stocks, the foreign share will be significantly decreased as the Canadian capacity to harvest and utilize these species is increased."

In order to manage the fish stocks within the 200-mile zone, the Fisheries and Marine Service has taken steps to substantially bolster its research capability. During 1977, 102 man-years will be added to the marine fisheries research staff, and an additional \$4-6 million will be spent on fisheries research. This represents a doubling of the Service's resource assessment activities in the offshore area. Plans are also in hand for the chartering and construction of new research vessels.

As a condition of licensing, foreign fishing vessels must supply the Canadian authorities with information on catch and fishing effort. In addition, Canada is placing scientific observers

on selected foreign fishing vessels to collect biological data and to obtain more detailed information on bycatches and discards. A number of cooperative research survey experiments involving the use of foreign research vessels have also been initiated. Two of these involve mesh selection experiments with USSR and Cuban research vessels on the Scotian shelf, which should provide better information on the effects of mesh size on bycatch of other species in the directed silver hake fishery.

Playing a vital role in the management of the 200-mile zone is the computerized database system known as FLASH (Foreign Fishing Vessels Licensing and Surveillance Hierarchical Information System). The system keeps track of the foreign vessels operating within the zone and provides up-to-the-minute information on fish catches, quotas, etc.

Developed within the Fisheries and Marine Service, the FLASH system has generated considerable international interest. Visitors from Iceland, Australia, New Zealand, Japan and the United States have seen the system at work. Some countries have expressed strong interest in developing a similar system for their own extension of fisheries jurisdiction.

FLASH: Enforcing Canada's 200-Mile Zone

Along with the 200-mile limit on 1 January 1977, Canada introduced a comprehensive enforcement plan including a computer information bank

on foreign fleet activities, Environment Canada reports.

The computer helps keep track of a dwindling foreign fleet. In 1975, there were 1,500 or more foreign vessels fishing off Canada's coasts. In 1977, there were less than 500 fishing vessels (Table 1), many staying for shorter periods. There will be fewer again this year. These vessels can fish only as specified on the license issued by Canada, spelling out fishing periods, areas, methods, catch regulations, and so on.

The Department of Fisheries and the Environment has eight offshore patrol vessels on the Atlantic coast, three on the Pacific, where the coast is shorter and the fishing banks narrower. In 1977, from the 12 Department of National Defence destroyers on the Atlantic coast, the fisheries department was to get 230 days of fisheries patrol, and from the four on the Pacific coast, 183 days. The fisheries department's own fleet of 11 offshore patrol vessels provides about 1,500 days, and there are about 240 patrol days by Coast Guard vessels, including a large number of icebreaker patrols to police winter fishing to northern areas. Helping guide the combined fleet towards any violators are the air patrols, 4,200 hours (in 1977) by DND Trackers, which once or more every week inspect every key fishing bank and fishing boundary (Table 2). The long-range Argus aircraft also carry out fisheries surveillance along with other work.

Into the computer network, called FLASH, go sightings, catch reports, and requests for entrance into the Canadian zone. The computer contains the details of every foreign fishing licence, what each vessel can fish for, where, when, and with what gear. The computer provides reports to St. John's, Halifax, and Vancouver on fleet activities, percentage of quota caught, and other information to help guide surveillance activities.

About 1,000 at-sea and in-port inspections of foreign vessels were expected in 1977. Maximum fines on a single charge are \$25,000; other possible penalties are loss of catch, vessel,

and fishing licence. Jail sentences can go up to 2 years. Given sufficient justification, Canada could also take away the licences of all other vessels from the offender's country.

Up to 31 August 1977, there were nine arrests that resulted in court-imposed fines (Table 3), and a number of warnings and administrative actions such as licence cancellations and refusals. On several occasions, the surveillance authorities caught vessels during their first day of attempted fishing in an illegal area. Besides policing the Canadian zone, Canada retains participation

Table 1.—Foreign fishing vessels licensed by Canada 1 January to 15 August 1977.

Country	Type of vessel			
	Support	Research	Fishing	Total
Atlantic				
Bulgaria	2		7	9
Cuba	4	1	8	13
Denmark	0		34	34
Fed. Rep. Germany	1	1	19	21
France	0	1	20	21
German Dem. Rep.	1	1	14	16
Iceland	0		2	2
Italy	0		6	6
Japan	11		14	25
Norway	0		44	44
Poland	14		18	32
Portugal	0		45	45
Romania	2		4	6
Spain	0		86	86
United Kingdom	0		10	10
USSR	84	3	101	188
Total	119	7	432	558
Pacific				
Japan	21		31	52
Poland	0		6	6
S. Korea	0		1	1
USSR	7		7	14
Total	28		45	73

Table 3.—Violations in Canadian fisheries waters, 1 January-31 August 1977. This table includes only court convictions for infractions within the Canadian zone. Surveillance authorities have also issued several warnings for borderline offences, and have taken administrative actions such as cancelling licences; in other instances, court action is pending. Besides the surveillance checks within the Canadian zone, Canadian authorities have also detected several violations of ICNAF regulations by vessels outside the Canadian Atlantic zone within the ICNAF area. Reports of such violations go to the home country for punitive action through ICNAF.

Vessel	Country	Date	Violations	Measures taken
<i>Bergbjorn</i>	Norway	2/17	Fishing in Canadian zone without licence. Entering zone without 24-hour notice.	Captain convicted, fined \$5,000, licence refused.
<i>Groenland</i>	France	3/30	Fishing with undersized mesh.	Captain convicted, fined \$1,000, net seized.
<i>Ritsa</i>	USSR	4/18	Fishing without a licence.	Detected on first day, captain convicted, fined \$2,500.
<i>Golette</i>	France (St. Pierre)	5/12	Illegal mesh size and illegal chafing gear.	Captain convicted, fined \$1,500 (\$750 each charge), net seized.
<i>Kara Kuny</i>	USSR	5/22	Fishing in unlicensed area.	Captain convicted, fined \$3,500.
<i>Nikolay Papuin</i>	USSR	5/22	Fishing in unlicensed area.	Captain convicted, fined \$3,500.
<i>Auriga</i>	Poland	5/29	Undersized nets.	Captain convicted, fined \$1,000.
<i>Navagante</i>	Portugal	6/19	Fishing after licence had expired.	Captain convicted, fined \$500.
<i>Petrok-repost</i>	USSR	5/22	Fishing without a licence (two incidents).	Captain convicted, fined \$8,000.

in the mutual enforcement scheme of ICNAF (the International Commission for the Northwest Atlantic Fisheries); this lets Canadian inspectors board vessels outside the 200-mile zone subject to ICNAF regulations.

Table 2.—Canadian surveillance of foreign fishing vessels, 1 January to 15 August 1977.

Atlantic inspections	At sea ¹	In port	ICNAF area	Total
Bulgaria	8	10	—	18
Canada	106	2	4	112
Cuba	24	4	—	28
Denmark	2	1	2	5
France	26	1	3	30
Germany (FRG)	7	5	—	12
Germany (GDR)	6	1	—	7
Italy	6	1	—	7
Japan	9	6	—	15
Norway	3	6	—	9
Poland	6	15	—	21
Portugal	14	35	14	63
Romania	2	1	—	3
Spain	43	21	4	68
U. K.	8	5	2	15
USSR	154	57	17	228
USA	5	1	—	6
Nigeria	—	1	—	1
Total	429	173	46	648
Ship days				
DFE ships	578 Sea days	Flying hours	2,266 Hours	
DND ships	209 Sea days	Air patrols	354 Tracker	
DOT ships	250 Sea days		39 Argus	
Total	1,037 Sea days			
Pacific inspections				
Japan	50			
Ship days				
DFE ships	285 Sea days	Flying hours	643.1 Tracker	
DND ships	36 Sea days		218 Argus	
Total	321 Sea days		861 hours	

¹Inside 200-mile zone.