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## Fishery—Development Policy in Canada

WILLIAM C. MACKENZIE  
*Economic Branch of the Fisheries Service  
Department of Fisheries and Forestry  
Ottawa, Canada*

### Abstract

The management of fishery resources is the exclusive responsibility of the federal government in Canada, but the field of industrial development is shared with the provincial administrations. For this and other reasons, fishery development policy has lacked consistency but progress is being made.

The programs in effect hitherto have been principally of two kinds: (a) expansionary programs, e.g. research relating to species utilization, exploratory fishing, product research and subsidization of fishing-craft construction, and (b) stabilization programs, e.g. a low-cost insurance plan for fishing craft and various price-support measures.

More recently, with significant declines in the availability of certain fish stocks, the emphasis is shifting toward "rationalization" of plant-size and location in fish processing, a movement which encounters formidable problems of a socio-economic nature and new areas of policy making.

### INTRODUCTION

UNDER THE CONSTITUTION OF CANADA, the federal government is responsible for the management of all fishery resources in coastal and inland waters. The export trade of the country is also a federal responsibility, and even yet nearly three quarters of our fishery production is exported. The concern of the provincial administrations with fisheries arises from their responsibility for business activities within their borders: port markets, for example, come under the jurisdiction of the provinces.

During the first eighty years of the country's existence, i.e. until about the end of World War II, there was little evidence at either level of government of an interest in fishery development properly so called. Excepting negotiations from time to time to secure export-market outlets for the trade and the financing of some research in product improvement, the federal authorities were exclusively occupied with regulating the use of our fishery resources. Indeed, it might be said that the policy adopted for this purpose (based on the main-

tenance of employment opportunities in fishing), by retarding technological progress in the primary fisheries, positively discouraged development.

All this began to change during the War and the pace of change has tended to accelerate since then. In pursuit of the goals of economic growth, federal and provincial governments have sought increased utilization of fishery as well as other natural resources. To that end assistance from public sources has become available to the fishing industry (until recently at least) in a rising flow. The forms of assistance have been broadly of two kinds, (a) those that serve a stabilizing purpose and (b) those that serve an expansionary purpose.

## STABILIZATION PROGRAMS

### ***Price support***

Price-support legislation for the fishing industry was enacted by the Parliament of Canada in 1944 and provides for a board funded at \$25 million with power (a) to purchase fishery products at prescribed prices and (b) to make "deficiency" payments to producers, the extent of such actions being subject to Government approval. Since the inception of the program in 1948, deficiency payments have totaled \$5.8 million. In addition, the board has incurred losses on supplies purchased and resold to a total of \$4.9 million over the same period. Current purchases under this program, however, are based on a commitment by the firms assisted to buy back all supplies at cost.

### ***Fishing craft insurance***

The Fishermen's Indemnity Plan, which provides low-cost insurance for powered fishing craft (if owned by fishermen), was introduced in 1953. The coverage extends to boats and vessels worth between \$250 and \$25,000 and rates vary from 1 to 2% of the appraised value, depending on location and size category. Deductible amounts as percentages of the appraised value are 15 and 20% in the case of partial loss and 30 to 40% in the case of total loss, again depending on location. At the end of the last fiscal year (March 31, 1969) the appraised value of the craft insured was just over \$38 million. In earlier years claims exceeded premium collections, to the extent of about \$600 thousand all told, but premium rates have been adjusted lately to actuarial reality.

### ***Unemployment insurance (seasonal benefit)***

Unemployment insurance was extended to Canadian fishermen in 1957. Under this program premiums are collected from employees and employers, with some contribution from the federal government. The insured employees can draw benefits for a period when unemployed and unable to find re-employment. Extension of the program to include groups like fishermen, a majority of whom are self-employed in Canada, where, moreover, seasonality in employment is part of the pattern of the fishing industry and not a risk, is a gross distortion of ends and means. The result has been a continuous drain on the insurance fund: each year approximately \$1 million is collected in premiums from the fishing industry and \$11 million is paid to fishermen in winter-unemployment benefits. This represents a transfer not from taxpayers in general but from certain other industries.

The system is currently under review and it is probable that a different program, adapted to the protection of fishermen against the real risks of their occupation, e.g. a catch failure, will be devised.

### ***Bait supply***

Prior to entry into confederation with Canada in 1949, a subsidized bait service had been provided for fishermen by the government of the province of Newfoundland. Under the terms of union, the federal government undertook to maintain this service—in fact it has expanded the service substantially. Bait fish is purchased from fishermen, or imported when not obtainable locally, transported and stored at strategic points and resold at less than cost to line fishermen (engaged in the groundfishery) and to lobster fishermen throughout the island and parts of Labrador. The deficits incurred by the service over the past 20 years of operation total \$8 million. This program too is under review.

## PROGRAMS OF EXPANSION

### ***Research***

A research program directed specifically to the problems of the fisheries was instituted about the turn of the century and has been expanded more or less steadily ever since. It is considered to be one of the most massive of national fishery-research programs. It is managed by a semi-autonomous board which operates six research stations and a number of other installations across the country and also supports fishery-oriented research at universities in Canada. The program embraces research in oceanography, aquatic biology, chemistry as related to food processing and associated fields. Research in economic aspects of the fisheries, both commercial and recreational, is carried on under separate auspices. The total budget for fishery research in Canada at present approximates \$17 million annually.

### ***Exploration and demonstration***

This program embraces a wide range of projects to apply the results of research and the knowledge and experience available from any source for the support and modernization of the fishing industry in Canada. It includes (a) exploratory-fishing operations, to locate new stocks of fish, (b) design and testing of new types of fishing craft and equipment and (c) demonstrating the use of such craft and equipment in practice and instructing fishermen in their operation and so on. Many of the projects are organized and financed jointly with the provincial fishery administrations; some, however, are wholly federal and a few wholly provincial projects. The total expenditure involved, therefore, is not readily calculated—the federal contribution is currently in the neighborhood of \$3 million per year.

### ***Pisciculture***

Included under this head are various projects (a) to improve the habitat for anadromous species (among the most important in the Canadian fisheries), for example, and (b) to augment the natural stocks of such species as may be feasible. To some extent, these projects may be viewed as holding or rearguard actions, i.e. efforts to replace the losses to the natural resource that result from the encroachment of industrial society, but the objective is basically developmental. So far this has been mainly a federal program in Canada, but not exclusively so: provincial-government and private agencies have been involved in some degree. The federal expenditure for the purpose has been increasing in recent years and now stands at about \$6 million annually, one-fifth of which is a capital expenditure.

## **Direct financial aids**

### **LOANS**

The role of the federal government of Canada in the provision of credit for the fishing industry has been a minor one as yet. The Fisheries Improvement Loans Act, passed in 1955 and amended from time to time, empowers the government to guarantee loans by approved lending institutions to fishermen for purposes such as the purchase, construction and repair of fishing craft, equipment and premises. Prime rates of interest are charged; the amount that may be borrowed and the repayment period vary with the purpose of the loan. At present a ceiling has been set at \$25 thousand. Since the act came into force, some 2,600 loans, amounting to a total of \$6.2 million, have been made. Most of these (85%) have been for the acquisition and repair of fishing craft. Loans have tended to increase in individual amount over the period.

In the spring of this year (1969) the federal government provided loans, to a total of \$4 million or thereabouts, for a sector of the fish-processing industry in Canada, i.e. the firms engaged in the filleting and freezing of groundfish. Commercial interest rates are charged for these loans but repayment may be deferred until the firms concerned have recovered from the effects of the 1967-69 depression in the market for their products. This is an *ad hoc* measure, unlikely to be repeated; other means are being devised to strengthen this sector of the industry.

Of greater significance than the federal loan programs for the expansion of the commercial fisheries over the past two decades have been those of the provincial governments. Starting in 1947, such programs have been established in the five Atlantic provinces for a number of years and more recently one or two of the central provinces have moved to establish similar programs. The original objectives of all these programs were (a) to modernize the fishing fleets (which following years of economic depression had become antiquated and rundown), and (b) to foster ownership of the fleets by fishermen individually or in groups, i.e. to prevent absolute domination of the fisheries by the vertically-integrated fishing and processing companies. No comment is implied here on the social philosophy underlying the latter objective—it is widely shared in Canada, anyway. Under certain conditions, however, the provincial lending agencies may make loans to fish buyers (processing companies) and to builders of fishing vessels as well as to active fishermen.

The loans are made for the purchase or construction, and repair in some instances, of hulls and for the purchase and installation of engines and gear, provided specific requirements, including a substantial initial payment by the borrower, are met. The loans generally carry preferred rates of interest (in a few cases they may be interest-free) and repayment usually may be arranged on relatively easy terms. They vary greatly in individual amount but the average is in the vicinity of \$30 thousand with a tendency to increase over the years. Prior to the pause in expansion of the groundfishery, already alluded to, loans reached an annual total of nearly \$12 million in the Atlantic provinces. At present something like \$40 million in loans is outstanding. The record of recovery for all the agencies, incidentally, has been very satisfactory.

### **SUBSIDIES**

During the War (1939-45) and the immediate post-war years the federal government of Canada (with the object of increasing food production) encouraged fishing enterprises to expand and modernize by providing (a) grants for vessel construction and conversion and (b) accelerated depreciation (under

income-tax regulations) on new construction. A few years later the provision of construction subsidies became associated for administrative purposes with the provincially sponsored loan plans already noted. The subsidy program has been modified in various ways to meet changing requirements, in line with the objectives of the loan plans.

At present, regulations under the Fisheries Development Act (1968) provide grants to owners of fishing craft as follows: (a) for wooden vessels of a minimum length of 45 feet overall and a maximum tonnage of just under 100 tons gross—30% of the approved cost of construction (equipped and ready for operation), and (b) for wooden vessels of 100 gross tons and over in size—40% of the approved construction cost. To the end of March, 1969, a total of slightly more than \$17 million had been expended on this program, 70% of which was expended in the last 4 years of operation and 35% in fiscal 1967-68 alone. The fund for this purpose has been reduced to about \$500 thousand for the current year, an amount specified under a special agreement with the province of Newfoundland, and the entire program is under review.

Of the 1,500 or more fishing craft subsidized under this program, at least 1,000 more were smaller than 25 gross tons. Prior to its virtual suspension two trends had become apparent, (a) the minimum eligible size was being lowered progressively, and (b) the subsidy was being used to assist in the financing of replacements for vessels previously subsidized. The first of these trends represented a dilution of an original objective of the program, which was to facilitate by gradual stages a shift from small-boat to distant-water fishing. The second indicated that to a considerable extent the program failed to develop viable fishing enterprises. Over the period since its inception, it had contributed approximately 20% to the total investment in the craft assisted—the provincial lending agencies provided 60% and 20% was found by the owners.

In addition to the program just described, reference should be made to a program introduced by the federal government in 1961 to assist the ship-building industry in Canada toward greater efficiency. This provides a subsidy designed to equalize the cost to an owner of a vessel built in a Canadian yard with that one built in a foreign yard. The general rate was originally set at 40% of the approved cost of construction. This rate is being gradually reduced. It is now 23% and it will drop to 17% in 1972 and probably remain at that level. Because the international market is more competitive with respect to steel trawlers than other types of vessels, the program has provided a differential rate of subsidy for the former: 50% of approved cost at the beginning and 35% currently. Initially the differential rate was available only for replacements in the trawler fleets and only for the fleet on the Atlantic coast but both restrictions have been withdrawn. Altogether Canadian shipyards have received subsidies on some 270 fishing vessels, and the cost to the federal treasury has been somewhat more than \$90 million.

Although this program has not been directed toward expansion of the fishing industry, it may have contributed in some degree to over expansion of the Atlantic groundfishing fleet in the 1960's. This expansion was fueled by a number of other factors, e.g. rising product prices and the entry of private funds seeking opportunities for profitable investment. The role of subsidization, therefore, is rather difficult to assess. Besides the major programs we have outlined there have been two or three minor ones. The federal subsidy program has been supplemented by provincial-government subsidies for the acquisition

of small boats and gear in Newfoundland and Quebec, averaging less than \$1 million a year. The federal Fisheries Development Act provides a subsidy for the construction and modification of cold-storage warehouses, to provide suitable facilities to hold fish products throughout the "cold chain"; but this program is not funded at present. A number of other subsidy programs, e.g. to provide salt for the fish-curing sector, have been discontinued.

Firms in the fishing industry may also avail themselves of financial assistance provided under several programs for economic development of the backward regions of Canada, e.g. the Atlantic provinces. These are available for all industrial sectors and are intended to encourage the expansion of urban growth centers, the concentration of industry for that purpose and the like. With particular reference to fisheries, grants have been provided from federal and provincial sources for plant expansion, the location of new plants, innovation of products and processes and the resettlement and retraining of workers. It is not possible to estimate expenditures for these purposes in recent years but undoubtedly they have amounted to several millions of dollars and they may be expected to increase rapidly in the future.

This completes our review of programs for the stabilization and expansion of the commercial fisheries in Canada. Programs of resource management specifically, costing slightly over \$9 million per year currently at the federal level, and of quality control (plant and product inspection) which now cost about \$4 million per annum, are not taken into account although both may contribute to the health and progress of the industry. Programs in the area of marketing organization, however, cannot be ignored. The most important of these up to the present is that of the Freshwater Fish Marketing Corporation instituted this year, which establishes a central-desk sales system for the products of about half the freshwater fisheries of Canada and has as its objective the maximization of returns to primary producers in these fisheries. It is funded by means of a government-guaranteed line of credit at \$5 million but operates as a fully commercial enterprise. Further developments in this area may be expected.

## POLICY CONSIDERATIONS

This review will have suggested the presence of certain anomalies, not to say disarray, in Canada's fishery-development policy. Programs for modernization, e.g. subsidization of fleet expansion and of the withdrawal of manpower from the fisheries, are in conflict with programs to promote social welfare among the fishery-dependent population, e.g. subsidization of unemployment benefits for fishermen. The confusion in policy stems from the tendency to look upon the fisheries as a way of life and not as an industry like other industries. As a consequence of this attitude, policy has been concerned largely with maintaining the way of life and less with development of a viable industry. Instead of the maximization of efficiency in the utilization of fishery resources, the objective generally has been to maximize employment opportunities in fishing and fish handling.

Accordingly, various schemes have been introduced to maintain the *status quo*, e.g. subsidies for the construction of small boats (less than 50 feet in length), a subsidized bait service, price subsidies (in the guise of off-season unemployment benefits), grants and loans for the dispersion of processing facilities (to provide outlets for small-boat fishermen) and so on. The result of

all this is that the ratio of the cost of government services for the primary fishing industry to the gross value of the production (landings) of that industry on the Atlantic coast of Canada approximates 0.50. On the Pacific coast, where provincial services for the commercial fisheries are virtually non-existent and federal services on the whole are less lavish, the ratio is closer to 0.25.

In the formulation of a realistic policy for fishery development it is necessary to recognize that a commercial fishery normally evolves through three stages which, for want of better terms, may be designated (a) development, (b) maturity and (c) stabilization. The duration of the first and second stages depends, among other things, on the rapidity of growth of the aggregate demand for the products of the fishery, on the size of the standing stock of the resources exploited and on the response of the species to the intensification of fishing pressure. Certain features, however, are characteristic of each stage.

In the first stage the ratio of output, i.e. catch, to input (fleet tonnage or other unit of measurement) declines relatively slowly. At the beginning it may be more or less constant for some time or it may even increase — due to increasing efficiency in operation as more vessels are added to the fleet and the skippers' knowledge of stock location and behavior improves. This is the stage during which the "accumulated stock" of the resource is used up. The growth in demand for the product is met without a significant rise in production costs and returns to capital and labor are usually large. Consequently, prices in the port market for the landings of the fishery tend to remain unchanged for long periods.

In the second stage, that of the maturity of a fishery, the ratio of output to input begins to fall rapidly as fishing operations are intensified on the more accessible stocks and are extended to less accessible ones. The supply (catch) can be expanded only at increasing cost and port-market prices tend gradually to rise. Toward the end of this stage the catch may approach the maximum sustainable yield of the stocks exploited, i.e. the physical optimum. Under certain conditions, in some fisheries, it may exceed the optimum. In that case the total catch, and not merely the catch per vessel-ton-year will drop.

In most cases, however, an economic optimum will have been reached at a point short of that. This may be defined as the point where the difference between costs and returns for the participating enterprises as a group is at a maximum. Since access to a fishery usually is free, i.e. use of the resource is costless, the continuous rise in prices characteristic of a mature fishery attracts excessive investment and manpower. The economic optimum thus tends inevitably to be surpassed. When this happens, signs of acute distress appear, e.g. falling incomes, capital losses and the like.

To alleviate the distress in such cases, or, as sometimes happens, to prevent its occurring, management authorities, i.e. governments, institute measures to stabilize the fishery involved, which then enters the third stage mentioned. These measures frequently have taken the form of regulations to reduce the operational efficiency of the fishing fleet, e.g. by controlling the length of the operating season and the kind of gear used, often in association with a quota on the catch that may be taken. Occasionally a quota on inputs, i.e. on investment and employment in the fishery, has been established.

Policies for fishery management and development should be adapted to the different stages described. In the case of a developing fishery, for example, research should be directed to determining the extent of the stocks of the main

and supplementary species, analysing the causes of their behavior and the effect of the fishery thereon, to ascertaining the technical requirements for utilization of the raw material and to measuring the demand for the products derived therefrom. Developmental programs should be directed to perfecting techniques and equipment for the capture of the species and its processing in the forms required by the market and to controlling the extent and location of productive capacity so as ultimately to ensure minimization of production costs.

A maturing fishery, on the other hand, calls for a policy of rationalization. The entry of men and equipment should be halted and, if necessary, investment and employment should be reduced to the point where the rent of the fishery is maximized. Processing capacity should be consolidated to the point where economies of location and scale are maximized in the plants and in the fleets. Research and development programs should be directed to the discovery and application, if feasible, of piscicultural (or, if you prefer, aquacultural) methods to augment the supply available from natural resources.

Because of its tendency to distort allocation by the market of capital and labor resources in the fisheries, subsidization generally should be eschewed in fishery-development policy. Shortages of private investment funds for such purposes as fleet modernization may be met by the institution of an appropriate loan program. The financing of improvements or expansion on the basis of borrowed capital would ensure that all relevant costs are given due weight in the private decision to invest. An inflation of productive capacity, unjustified by market and/or supply prospects, might thus be avoided. Encouragement of technological innovation, as desirable, could be provided by inserting "forgiveness" or "write-off" clauses for this purpose (applicable in the case of unsuccessful projects) in the relevant legislation.