

Canada's fisheries resources have come under scientific management, meaning that the fishing effort is concentrated not only on the biological condition of the stocks but also on economic realities: fishermen must earn a decent living and fish must bring a good price.

The foundation of this kind of management is scientific research: solid information about the stocks themselves; their present numbers; age composition; and the factors that affect their abundance over the long term.

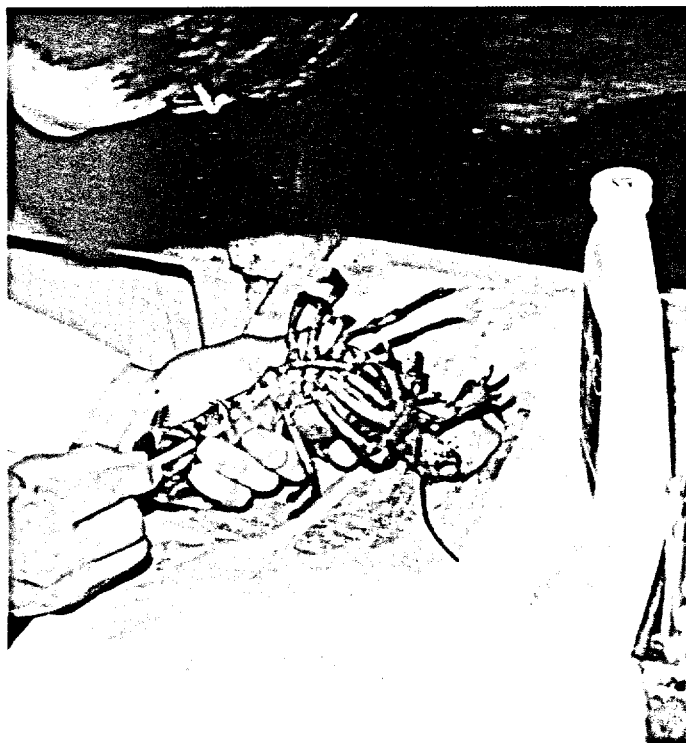
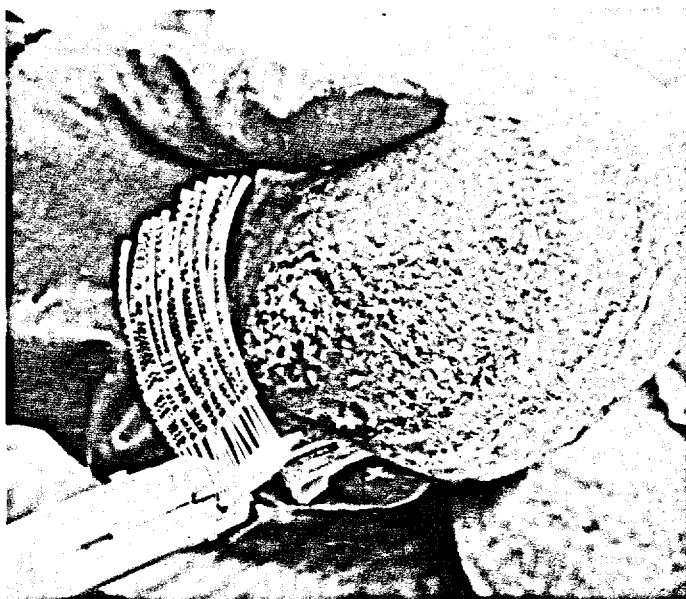
In Canada, the responsibility for overseeing the fisheries rests with the federal government, primarily with the Department of Fisheries and Oceans. The department, which traces its beginnings back to 1867, the year Canada became a nation, has achieved an international reputation in fisheries research.

Since the declaration of the 200-mile zone, Canada's marine fisheries research programs have expanded. Canada employs some 440 scientists in fisheries programs. An important and now almost routine aspect of their work is the measuring of the size and composition of fish populations — "stock assessments" as fisheries biologists call them. Canadian scientists are engaged in these ongoing studies of 50 key stocks on the Atlantic coast and 30 more on the Pacific. Since catch quotas and estimates of yield are based on these studies, and since good management starts with exploitation set at a rate that is neither too high nor too low for optimum economic yield, a great deal depends on the soundness of stock assessments.

But stock assessments represent only the day-to-day housekeeping aspects of fisheries management. Other more complex and difficult riddles need to be solved — questions which, if answered, could make fisheries management a more precise art, and the industry a more secure environment for earning a living.

The impacts of overfishing, however lethal, are only part of the pressures put on fish stocks. Fish vie with fish, competing for food supplies, in some cases providing food for each other. Canadian scientists are investigating the interactions and interdependence of fish stocks. They are also heavily engaged in studies of fish habitat — the areas in which fish breed, rear and live, and whose destruction by pollution and general industrial heedlessness represents as dangerous a threat as overfishing ever did.

Establishment of fishing zones has done nothing to prevent fish from behaving like fish — i.e. as citizens of the world! Some stocks, by fortunate coincidence, live and die within one fishing zone. Many straddle national boundaries (such as Canada-US borders) and still others, such as tuna, make the whole world their home. Not surprisingly, fisheries science is marked by a close degree of international cooperation in which Canada is prominently involved. The nation is represented on a dozen international fisheries commissions (including the Northwest Atlantic Fisheries Organization — NAFO — which oversees the stocks that spill over the 200-mile limit into northwestern Atlantic international waters). Most of these organizations exchange data and ideas on fisheries management, and their representatives serve on industry groups set up by bodies like the Food and Agriculture Organization (FAO) of the United Nations.



*Scallops are tagged by research technicians.*

*Blood samples are taken from lobster.*