

# The Monitoring and Control of Canadian Fisheries

Canadian fisheries are among the world's most closely monitored. Air, sea and land surveillance combined with on-board observers, satellite tracking and dockside inspections are used to enforce fisheries regulations.

Canada's fishing industry, working with the federal Department of Fisheries and Oceans (DFO), has taken steps to protect and conserve fish stocks. These measures include quotas for targeted species; limits on fish size; limits on by-catch of non-targeted species; limits on fishing in certain areas and at certain times; and restrictions on the type of gear that can be used in a particular area.

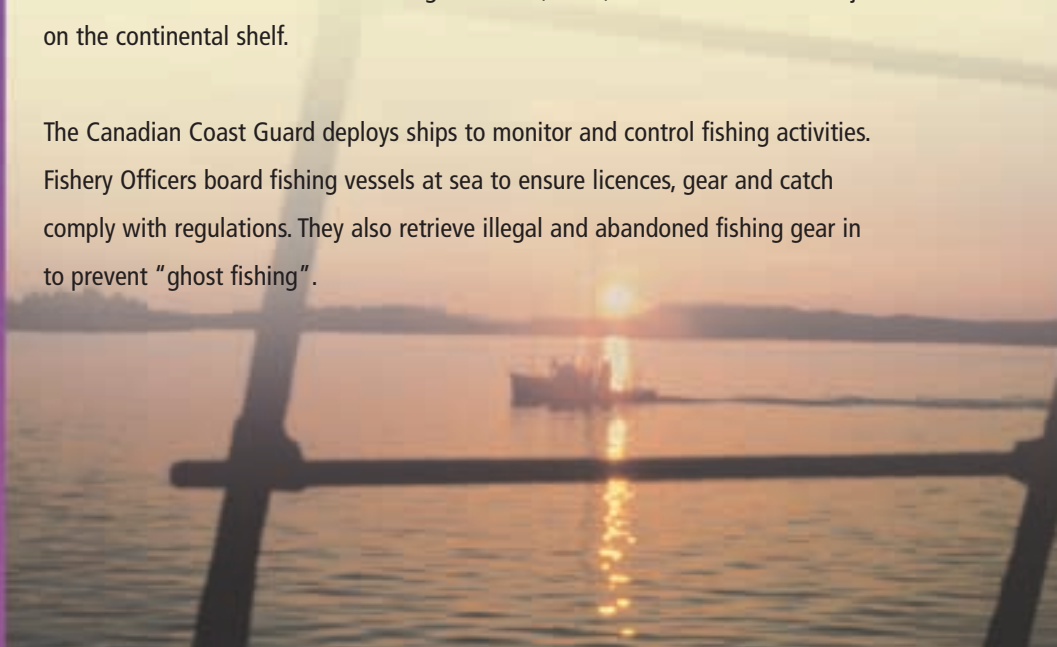
DFO's Conservation and Protection program uses highly trained enforcement officers, at-sea fisheries observers, patrol vessels and aerial surveillance.

Daily air surveillance of fishing activities by DFO and the Department of National Defence helps enforce Canada's fisheries regulations. These flights track fishing vessels and monitor open and closed areas and fishing activities. They also provide aerial surveillance of the Northwest Atlantic Fisheries Organization (NAFO) area outside Canada's jurisdiction on the continental shelf.

The Canadian Coast Guard deploys ships to monitor and control fishing activities. Fishery Officers board fishing vessels at sea to ensure licences, gear and catch comply with regulations. They also retrieve illegal and abandoned fishing gear in to prevent "ghost fishing".



*Fishery Officers regularly examine landings.*



## On shore

DFO also employs Fishery Officers stationed in various locations along the coast. It is their job to monitor landings, patrol in-shore waters and inspect fishing vessels at port.

To check quotas, independent dockside monitors weigh the catch of most Canadian fishing vessels every time the vessels dock. Observers also take samples and monitor size and by-catch. These activities are funded by the fishing enterprise.

## On board

DFO also uses on-board fishery observers. These observers provide information on catch rates, regulatory compliance with closed areas, by-catch levels, landing requirements, gear restrictions, foreign fishery guidelines, and discarding and reporting requirements. They also collect scientific data and management information for use by fisheries managers.



*Measuring carapace length*

## From space

Satellite-based communication systems are another effective tool for achieving conservation goals in fisheries.



### RADARSAT

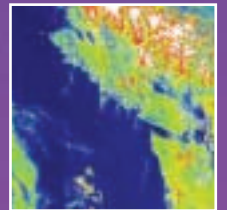
RADARSAT technology can detect fishing vessels by satellite using an active radar sensor on the vessel. This technology is useful in open ocean and in-shore areas, and can be used to identify vessels of various sizes.

### Global Positioning Systems

Global Positioning Systems (GPS) are increasingly used to monitor fishing activities. Their use is mandatory on large Canadian fishing vessels and on all vessels fishing in the NAFO area. GPS collects navigational information from the vessel and transmits it to a shore station, where the vessel's identification and position at sea can be forwarded to air and sea patrols.

### Canadian Fisheries Information Network

All this surveillance data from all sources is stored in the Canadian Fisheries Information Network (CFIN). This integrated database provides useful information for planning what areas to cover and scheduling patrols.



*above: Satellite image, Vancouver Island*

*left: Air Surveillance photo courtesy of Todd MacMillan Provincial Airlines Ltd. Photographic Services*

