



**FISH HABITAT
CONSERVATION
AND PROTECTION**

**GUIDELINES
FOR ATTAINING
NO NET LOSS**



Fisheries
and Oceans

Pêches
et Océans

Canada

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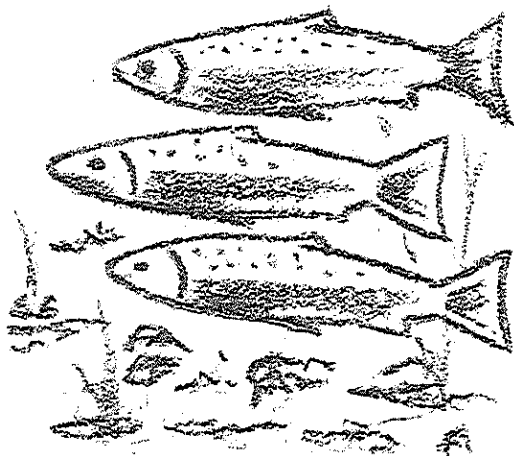
FISH are an important part of Canada's renewable resource base. Commercial and recreational fisheries contribute several billion dollars a year to the national economy. Fish and their habitat are also a valuable tourist attraction, creating local income not directly related to fishing activities. They also generate social benefits such as support for traditional native lifestyles and remote communities.

Few people realize that fishing activity is closely related to the quality of the environment. However, maintaining healthy fish habitat is vital to sustaining the economic and social benefits that fisheries provide.

The ways people affect fish habitat are not always readily apparent. Simply looking at a river, lake or coastal bay does not always reveal the damage that may have occurred beneath the surface. This is the danger: fish habitat can be severely harmed with little visible evidence.

Examples of activities that may adversely affect fish and fish habitat include:

- stream diversions
- intakes for water supplies, cooling water and irrigation
- dredging and filling tidal flats and marshland
- mining



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- land clearing for agricultural or urban development
 - construction of hydroelectric installations
 - building causeways, wharves, marinas and reservoirs
 - logging
 - construction of linear facilities such as pipelines, transmission lines and roads

The Department of Fisheries and Oceans (DFO) works with the provinces and industry to develop tools to protect fish and fish habitat. One of these tools is the Policy for the Management of Fish Habitat (1986). This policy calls for an overall net gain in the productive capacity of fish habitat and promotes habitat conservation and protection through the application of a guiding principle centered on achieving No Net Loss of habitat's capacity to produce fish.

THE FISHERIES ACT AND FISH HABITAT MANAGEMENT POLICY

The *Fisheries Act* contains specific sections designed to protect fish habitat. Fish habitat is defined as spawning grounds and nursery, rearing, food supply and migration areas on which fish depend, directly or indirectly, to carry out their life processes.

Section 35 of the *Fisheries Act* states that no person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat (Subsection 35(1)). However, where harmful alteration, disruption or destruction cannot be avoided or mitigated, it also provides latitude to authorize the means and conditions for allowing development projects to take place (Subsection 35(2)). The Policy for the Management of Fish Habitat gives DFO staff policy direction for interpreting the broad powers mandated in the habitat provisions of the Act.

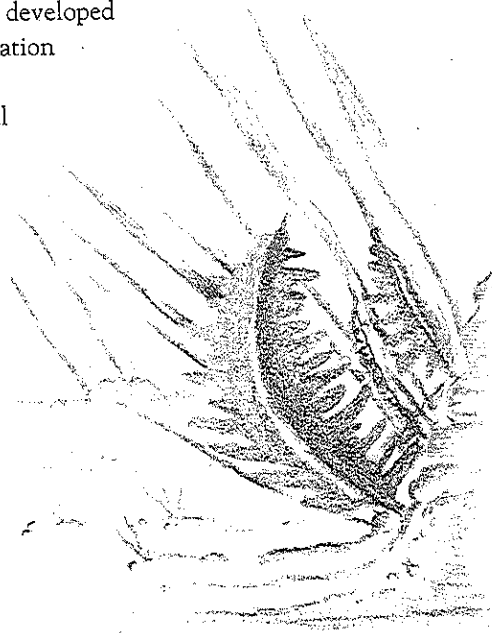
FISH HABITAT CONSERVATION AND PROTECTION GUIDELINES

Habitat conservation and protection involves maintaining the ability of habitat to produce fish and/or food organisms in natural or restored conditions.

Based on the No Net Loss Guiding Principle, DFO has developed Habitat Conservation and Protection Guidelines. These guidelines outline the general principles used by DFO staff to conserve and protect habitat through the assessment of development projects.

They provide for the application of the No Net Loss Guiding Principle in a consistent manner to ensure that proposals for projects that could affect fish or the productive capacity of fish habitat are assessed and treated in a fair and predictable manner across Canada.

The guidelines were developed for internal use by DFO staff. In cases where the provinces are involved in fisheries and habitat management, similar guidelines, which reflect the requirements of the *Fisheries Act* and the Policy for the Management of Fish Habitat, have been or will be developed in cooperation with the provincial agencies.



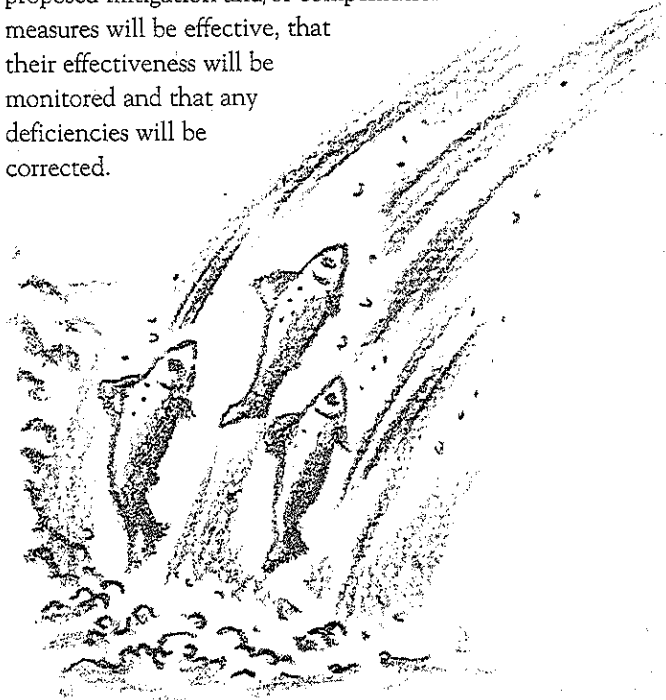
PROPONENT RESPONSIBILITIES

In order to comply with the *Fisheries Act*, anyone planning to conduct work in or near water (i.e., project proponents) must accept specific responsibilities for the conservation and protection of fish habitat. The legal obligations are described in the brochure entitled *Fish Habitat Conservation and Protection – What the Law Requires*.

When submitting project proposals that could adversely affect fish and fish habitat, proponents must provide DFO, or the appropriate provincial agency, with:

- all plans, specifications, studies, procedures, samples and other information required to permit an assessment of the potential impact of the project on fish and fish habitat; and,
- mitigation and/or compensation measures proposed to alleviate potential impacts and/or compensate for any loss in the capacity of habitat to produce fish.

The proponent must also provide evidence that proposed mitigation and/or compensation measures will be effective, that their effectiveness will be monitored and that any deficiencies will be corrected.



When sufficient information on fish and fish habitat is not already available for targeted areas, proponents are responsible for conducting the studies required to obtain it.

APPLICATION OF FISH HABITAT CONSERVATION AND PROTECTION GUIDELINES

DFO's guidelines apply to habitat that:

- currently produces fish that are harvested in a subsistence, commercial or recreational fishery;
- though not directly supporting fish, provides nutrients and/or food supply to adjacent or downstream habitat or contributes to water quality for fish;
- sustains fish that could support a new fishery in the future;
- has been identified by DFO or a provincial fisheries agency as a candidate for enhancement; or,
- supports fisheries resources that are socially or ecologically important to Canadians.

HIERARCHY OF PREFERRED OPTIONS

The guidelines identify a hierarchy of options to protect habitat from adverse effects in accordance with the No Net Loss Guiding Principle. The hierarchy of options is as follows (in order of preference):

Relocation or physically moving a project, or part of a project, to eliminate adverse impacts on fish habitat.

Redesign of a project so that it no longer has negative impacts on fish habitat.

Mitigation of impacts in cases where relocation and redesign are not possible.

In practice, relocation, redesign and mitigation are frequently used in combination to avoid harmful alteration, disruption or destruction of fish habitat, and to ensure that projects comply with the Fisheries Act.

Compensation, which involves replacing damaged habitat with newly created habitat or improving the productive capacity of some other natural habitat, is DFO's least preferred option. Compensation should only be considered when relocation and redesign prove impractical and where mitigation measures fail to avoid harmful alteration, disruption or destruction of fish habitat. In these cases, measures to compensate for the harmed habitat should generally be developed following a hierarchy of preferred compensation options and included in a *Fisheries Act* Authorization (Subsection 35(2)) for implementation. Conditions regarding compensation measures must, however, be formalized through legal agreement.

The hierarchy of preferred compensation options is:

- create similar habitat at or near the development site within the same ecological unit;
- create similar habitat in a different ecological unit that supports the same stock or species;



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- increase the productive capacity of existing habitat at or near the development site and within the same ecological unit;
 - increase the productive capacity of a different ecological unit that supports the same stock or species;
 - increase the productive capacity of existing habitat for a different stock or a different species of fish either on or off site.

Compensation may not be an option for particularly valuable habitat.

In some cases, more than one option may be used in a single project to protect and maintain habitat capacity to produce fish.

FACTORS AFFECTING PROJECT ASSESSMENT

In order to determine the severity of a project's potential impacts, the following factors are considered:

- the project's potential to affect fish, habitat and/or people's use of fish, and the nature of the effect;
- the abundance of the species that is, or has the potential to be, harvested in a subsistence, commercial and/or recreational fishery;
- whether or not the species at risk is considered threatened or endangered and forms or has formed part of a fishery;
- the capability of the habitat to support fish and/or the degree to which it supports an important lifecycle process (e.g., spawning grounds and nursery, rearing, food supply and migration areas);
- the availability and anticipated effectiveness of proposed mitigation and/or compensation measures;
- proportion of similar habitat contributing to the production of the fish stock that may be affected;
- the habitat's resilience and the amount of time it would need to recover.

For further information on the Policy for the Management of Fish Habitat and the Habitat Conservation and Protection Guidelines, please contact one of the DFO offices listed below:

Habitat Management and
Environmental Science
Fisheries and Oceans
200 Kent Street
Ottawa, Ontario
K1A 0E6
Telephone: (613) 991-1280

Habitat Management
Gulf Region
Fisheries and Oceans
P.O. Box 5030
Moncton, New Brunswick
E1C 9B6
Telephone: (506) 851-7768

Habitat Management
Pacific and Yukon Region
Fisheries and Oceans
555 West Hastings Street
Vancouver, British Columbia
V6B 5G3
Telephone: (604) 666-3282

Habitat Management
Scotia-Fundy Region
Fisheries and Oceans
P.O. Box 550
Halifax, Nova Scotia
B3J 2S7
Telephone: (902) 426-5933

Habitat Management
Central & Arctic Region
Fisheries and Oceans
501 University Crescent
Winnipeg, Manitoba
R3T 2N6
Telephone: (204) 983-5164

Habitat Management
Newfoundland Region
Fisheries and Oceans
P.O. Box 5667
St. John's, Newfoundland
A1C 5X1
Telephone: (709) 772-2442

Habitat Management
Quebec Region
Fisheries and Oceans
P.O. Box 15 500
Québec, Québec
G1K 7Y7
Telephone: (418) 648-2509

FURTHER READING:

Department of Fisheries and Oceans. 1986.
Policy for the Management of Fish Habitat.

Department of Fisheries and Oceans. 1987.
Fish Habitat, Conserving our Hidden Assets.

Department of Fisheries and Oceans. 1994.
Habitat Conservation and Protection Guidelines.