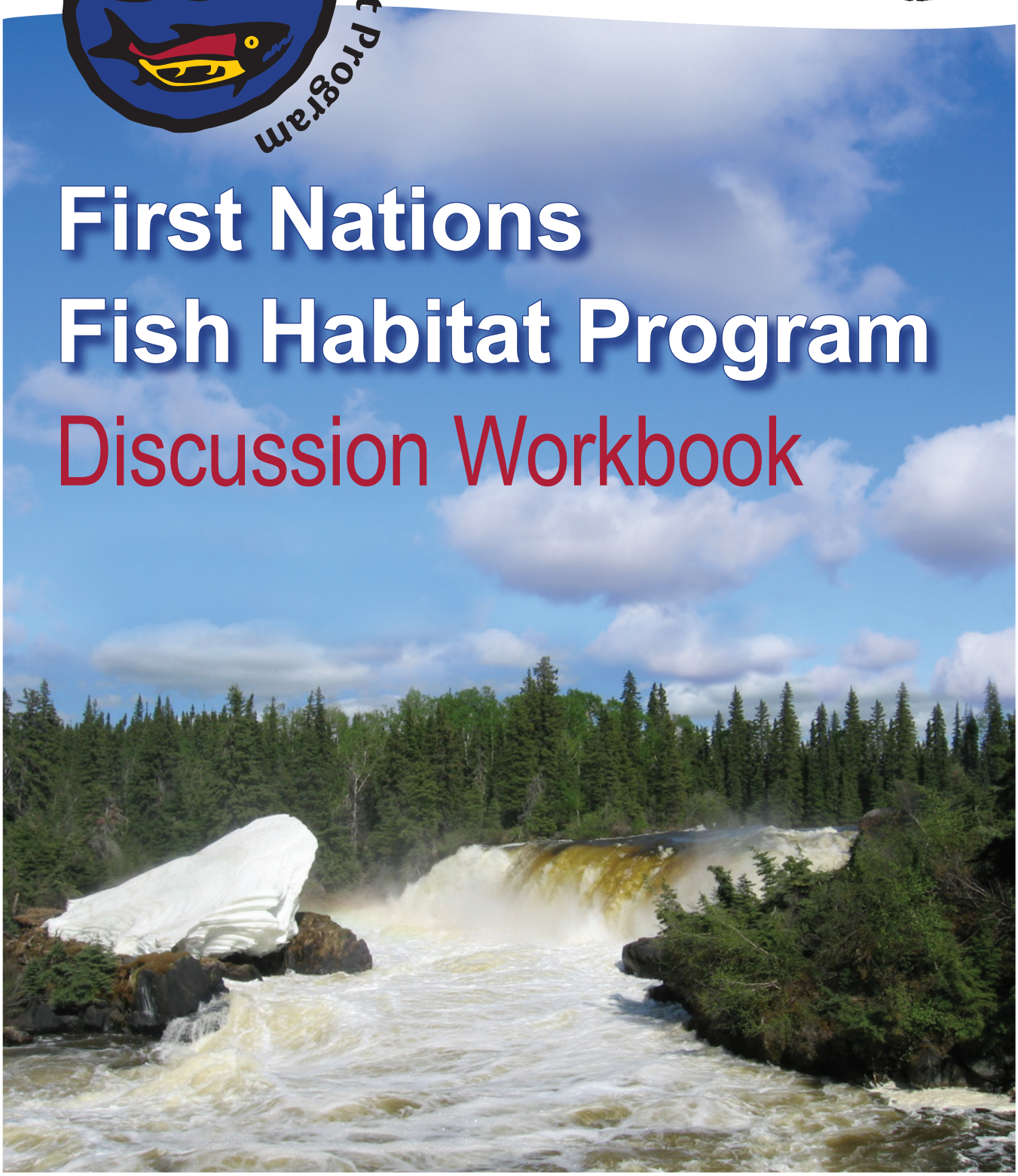
First Nations Fish Habitat Program

Discussion Workbook



The First Nations Fish Habitat Program is a joint initiative of the Centre for Indigenous Environmental Resources (CIER) and The Southern Chiefs' Organization (SCO).

CIER • www.cier.ca

The Centre for Indigenous Environmental Resources, CIER, is a national, First Nation-directed environmental non-profit organisation based in Winnipeg. We support First Nations to build their capacity to address environmental issues.

Under the ***First Nations Fish Habitat Program***, CIER conducts research, develops and delivers communications, training materials and workshops, and assists SCO affiliated First Nations to undertake management activities to address their regional and local fish habitat issues.

The SCO • www.scoinc.mb.ca

The Southern Chiefs' Organization, SCO, is an independent political forum that works to protect, preserve, promote, and enhance First Nations peoples' inherent rights, languages, customs, and traditions.

The SCO's role in the ***First Nations Fish Habitat Program*** is to facilitate the flow of information to and from its thirty-six member First Nations to help ensure the needs of its communities are being met through this program.

Please direct any inquiries to:

Bruce Maclean or **Krista Scott**
First Nations Fish Habitat Program
Centre for Indigenous Environmental Resources (CIER)
3rd Floor, 245 McDermot Avenue
Winnipeg, MB R3B 0S6
Telephone: 204.956.0660 • Fax: 204.956.1895
Email: bmaclean@cier.ca or kscott@cier.ca

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A joint initiative of the Centre for Indigenous Environmental Resources (CIER) and the Southern Chiefs' Organization (SCO).

Introduction

What is the First Nations Fish Habitat Program?

The Southern Chiefs' Organization (SCO) and the Centre for Indigenous Environmental Resources (CIER) are working together to implement a **First Nations Fish Habitat Program** (FNFHP). The FNFHP aims to support the thirty-six First Nations affiliated with the Southern Chiefs' Organization.

The goal of the FNFHP is to assist First Nations to protect, recover, and manage their fish habitat.

The objectives of the **First Nations Fish Habitat Program** are to:

- Identify regional and local fish habitat management issues;
- Assist First Nations in taking action to improve or protect fish habitat;
- Provide education and training opportunities related to fish habitat management; and,
- Support greater involvement of First Nations in fish habitat management, policy development, and other initiatives.

Activities of the **First Nations Fish Habitat Program** include:

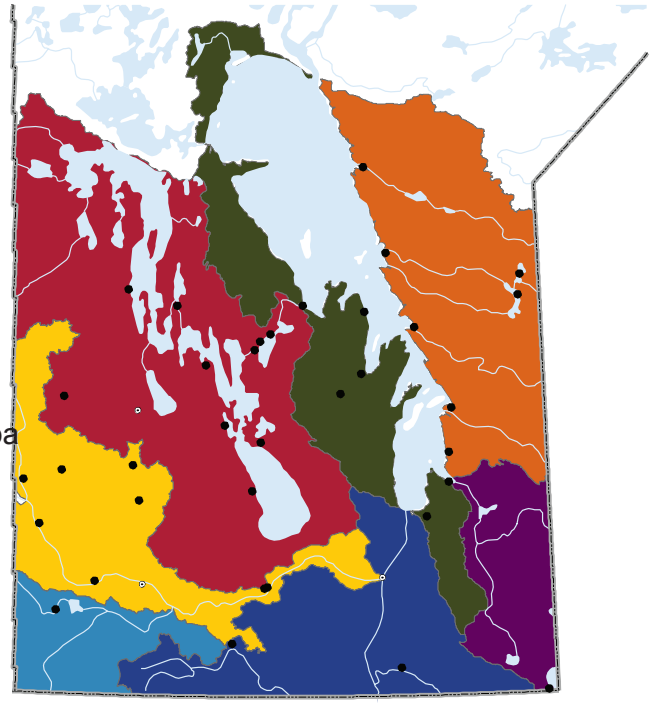
- Facilitate fish habitat discussions at the regional and community level;
- Enhance sharing of information and access to resources;
- Conduct research (legislation, strategies, tools) on fish habitat, management issues and solutions;
- Develop and distribute communication materials related to fish habitat impacts and potential management solutions;
- Support First Nation involvement in watershed management planning and other initiatives;
- Assist First Nations with project design and/or proposal writing to access funding for fish habitat activities;
- Organize workshops for fish habitat training; and,
- Develop training and outreach materials for youth.

Major Watersheds in Southern Manitoba

- The SCO Affiliated First Nations

Major Watersheds

- Assiniboine
- Eastern Lake Winnipeg
- Lake Winnipegosis and Lake Manitoba
- Red River
- Souris
- Western Lake Winnipeg
- Winnipeg

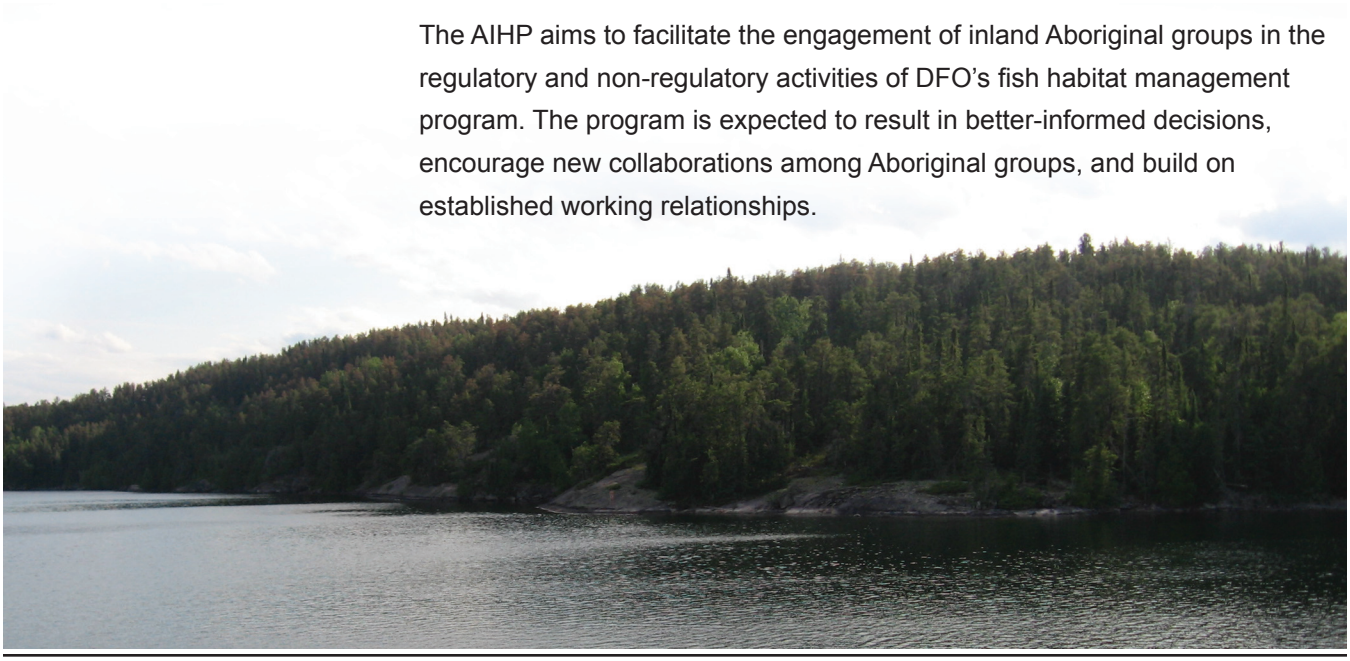


The area covered by the First Nations Fish Habitat Program is approximately 180,000 km^2 and includes seven major watersheds.

What is the Aboriginal Inland Habitat Program?

The FNFHP is funded through the Department of Fisheries and Oceans Canada's (DFO) Aboriginal Inland Habitat Program (AIHP).

The AIHP aims to facilitate the engagement of inland Aboriginal groups in the regulatory and non-regulatory activities of DFO's fish habitat management program. The program is expected to result in better-informed decisions, encourage new collaborations among Aboriginal groups, and build on established working relationships.



I) Valued Fish Species

Which fish (species) are the most important to your First Nation? Why?

Does your First Nation do any commercial or sustenance fishing? What species?

"FISH" INCLUDES:

(a) Parts of fish;

(b) Shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals; and

(c) The eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.

Section 2, Fisheries Act, 1985

What fish species are culturally important to your First Nation?

Of the 13 species harvested in Manitoba, pickerel (walleye), sauger, lake whitefish, northern pike, yellow perch and lake trout are the most highly valued species.[1] Other harvested species include white sucker, tullibee (cisco), carp, maria or burbot *(lota lota)*, lake sturgeon, goldeye and white bass.[2]

Do you think fish populations are healthy in and around your First Nation?

Lake sturgeon was, and continues to be, an important species to many First Nations.[3] Harvested during the spring spawning run, sturgeon historically were used for many purposes.

II) The Meaning of Fish Habitat

What is your definition of 'fish habitat'?

Is your definition specific to a particular species, or specific to an environment type, or specific to a fish life phase?

Manitoba has the third largest diversity of fish in Canada. Manitoba's lakes, streams, and rivers provide habitat for approximately 95 species of fish (including 10 introduced species and two human made hybrids).[4]

How do you determine the health of fish habitat?

Fish need healthy places to live, feed and reproduce, and suitable corridors to migrate between these places. The term 'fish habitat' can include all the places that supply fish with their life cycle requirements for food, shelter, reproduction and movement.

The definition for 'fish habitat' provided in the *(Federal) Fisheries Act* is:
"the spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes"

Section 34, Fisheries Act, 1985

III) Important Fish Habitat

What water bodies are important for fishing to your First Nation?

Lakes, reservoirs, rivers, streams, marshes, wetlands, canals, and drainage ditches can all provide important habitat for fish. Most fish are very particular in selecting spawning grounds. Reproduction may only occur if fish can find the right type of substrate and the right water quality.[5]

What specific areas of these water bodies are important fish habitats? Why?

Freshwater ecosystems are among the world's most threatened ecosystems.[6] Physical alterations, water use, pollution, introduction of invasive species have caused habitat loss, degradation of water quality, and loss of species.

Fish habitat management includes taking actions to:
Prevent habitat damage by managing negative impacts to water environments; and
Enhance and recover fish habitat by improving water environments.[7]

IV) Threats to Fish Habitats

Is the fish habitat in and around your First Nation healthy?

What changes to fish habitat have occurred? Since when?

Development activities such as forestry, mining, and hydro development can affect fish and fish habitat through associated impacts, including increased sediments in waterways, erosion, changes in water flow, habitat fragmentation, and release of pollutants.

Are there specific fish habitats that are under stress (i.e. the health is threatened)?

Agricultural land use practices can lead to fish habitat losses as a result of stream channelization and drainage activities for irrigation. Livestock access to stream shorelines can increase bank erosion and sediment loading. Agricultural runoff can contribute to nutrient loading and pollution to waterways.

What are the major threats to fish habitat in and around your First Nation?

Climate change is a long-term threat to existing fish habitat and fish populations. For example, warming climate may result in higher temperatures and lower water levels, impacting cold-water fish species and accelerating algal growth. A reduction in spring runoff, from less winter snow accumulations, may reduce available spawning habitat.

V) Management and Mitigation

What fish habitat management issues are of greatest concern to you or to your First Nation?

Does your First Nation have fish habitat management or enhancement programs or projects (currently or in the past)?

Research needs:
Basic research on fish habitat management is still needed. For instance, we cannot accurately predict the amount of mercury accumulation in aquatic ecosystems due to run-off resulting from forest clear-cutting. We also do not know to the extent that lake sturgeon can survive increasing habitat fragmentation resulting from the construction of dams.

Are partners or other organisations involved in these initiatives?

Habitat management for migration barriers:
Fishways or fish ladders are structures that allow fish to swim around dams and other barriers. Fish ladders use baffles that slow water flow and form compartments where fish can rest. But they work only for certain species. Whitefish, a medium-size fish, has been known to use ladders. Lake sturgeon, a large fish, and minnows, have difficulty.[8]

What do you think needs to be done to mitigate the impacts and improve the health of fish habitat in your area?

Habitat management for nutrient pollution:
Nutrient pollution promotes the growth of algae. As the algae decays, oxygen levels are depleted, which can lead to the decline of fish stocks. Aerating systems have been installed in some lakes and reservoirs to reduce fish declines resulting from lower oxygen levels, especially during the winter. Aerators force the air into perforated tubing at the bottom of the lake. As the bubbles rise, oxygen is dissolved in the water and the bubbles also set up currents that help keep ice from forming, allowing air to enter the water, raising oxygen levels.[9]

VI) Opportunities and Challenges

What obstacles to successfully managing fish habitat exist in your First Nation?

What capacity does your First Nation require in order to become effective managers of fish habitat?

What type of training would be helpful for you to be able to better manage fish habitat?

What funding options are you aware of to assist in managing fish habitat?

What successes and challenges have you had in securing funding for fish habitat management?

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