



# FISH AND FISH HABITAT PLAIN LANGUAGE SUMMARY

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The areas studied for the Community Access Road have many lakes and rivers. These waterbodies are important for fish to live, eat, reproduce and migrate. Our studies looked at fish and fish habitat in the area close to the Community Access Road footprint, plus an extra 2.5 kilometres around the route; this is called the Local Study Area. In places where the proposed routes would cross water, a larger area was looked at. Most of these areas are in the Albany River watershed, including parts of the Upper Albany Makokibatan, Lower Ogoki and Upper Albany Muswabik watersheds.

From the feedback we have received from Indigenous peoples, the public, federal authorities and other interested groups, six types of fish were highlighted as important for the Community Access Road project to study; these have been identified as 'valued components'. The six species of fish are:

- Nameh / Lake Sturgeon
- Okaas / Pickerel / Walleye
- Masamekos / Speckled Trout / Brook Trout
- Naiwabe / Northern Pike
- Atikameg / Lake Whitefish
- Mihzhash / Ling / Burbot

These six species of fish have either been referenced in historical records or found during field studies in the different study areas (e.g., Construction Disturbance Area, Local Study Area and Regional Study Area).



## Fish Habitat

We assessed 91 water crossings throughout the study area. Nine of these crossings are on large, well-known rivers like the Albany, Wabassi, Dusey and Ogoki rivers. Local Indigenous communities have identified the Ogoki and Albany rivers, and Gourlie Creek, as having high traditional value. Indigenous Knowledge indicates that the Albany River is a spawning habitat for sportfish like Lake Sturgeon, Walleye and Brook Trout, while the Dusey River is a spawning habitat for Brook Trout and Northern Pike.

Field studies found spawning areas for six fish species (Lake Sturgeon, Lake Whitefish, Brook Trout, Walleye, Northern Pike and Burbot) in Gourlie Creek and the Albany, Ogoki and Dusey rivers.

The Local Study Area has many lakes and rivers that provide habitat for fish. It supports 37 fish species, including the six fish species mentioned above. The larger waterbodies provide fish habitat year-round, including spawning, rearing, feeding and overwintering habitat. The smaller, shallower lakes and rivers often freeze in winter, so they cannot be used by fish for overwintering. They do, however, offer good habitat for spawning, rearing and feeding during parts of the year, especially in early spring and after the spring thaw.

Streams with fast-moving water and gravel or cobble bottoms provide fall spawning habitats for Brook Trout and spring spawning habitats for sucker species. Some larger streams may also offer spawning habitats for Lake Sturgeon. Lakes like Patience Lake may provide spawning habitats for species like Walleye.

## Fish Presence

There are 64 crossings in the Construction Disturbance Area that are either on waterbodies with known fish or are connected within 2 km of such water bodies. Most of the fish data comes from past field surveys. Many named waterbodies and some of the smaller streams have fish. Even if there are no records, fish are likely present in these waterbodies. During recent field surveys, fish were found at 16 of the 46 sites sampled.



What is the...

**Construction Disturbance Area:** the area of direct disturbance by construction

**Local Study Area:** the area where direct effects of the road are likely to take place

**Regional Study Area:** the area where indirect effects are likely to occur



## Potential Effects and Mitigations:

The construction and long-term use of the Community Access Road has the potential to affect Fish and Fish Habitat. The below highlights the potential effects and mitigation measures that may be put in place to lessen possible negative effects of the Community Access Road.

### Changes to Fish Habitat from Structures Installed on or over Waterbodies

The construction and operations of the Community Access Road could impact fish habitats, especially when installing culverts (a pipe that lets water pass underneath a road) and bridges. To reduce these impacts, best management practices will be followed, like only working within the area needed, using existing access roads and bridges when possible, and having Environmental Monitors on site during construction. To make sure that fish habitats remain functional, with only minor decreases in productivity, erosion control measures will be in place. Timing restrictions on certain construction activities, when necessary, will also be used to protect fish habitats during important life stages.

### Changes to Fish Habitat due to Clearing Vegetation

Clearing vegetation along the Community Access Road can harm fish habitat by changing water temperature, food supply and habitat structure, especially in smaller watercourses. To reduce these effects, guidelines for clearing and revegetating the riparian zone will be followed, like avoiding use of herbicides and adhering to timing windows, where possible, to restrict activities during spawning and other important life stages. These measures will help ensure that the negative impacts on fish habitats are minimal and mostly reversible.

### Injury or Mortality of Fish from In-stream Construction

In-stream construction can harm fish through physical injuries or death caused by heavy machinery and placing materials in waterbodies. To reduce these effects, any water taken will be screened to keep fish out, and Aquatics Specialists will rescue and relocate fish before construction starts. With these measures in place, negative impacts are expected to be minor, localized and short-term.

### Changes in Habitat Quality from the Release of Sediment During Construction at Waterbody Crossings

Construction at waterbody crossings can increase sediment in the water, which can stress or harm fish and change their habitats. The impact depends on how much sediment there is and how long it lasts. Fine sediments can smother plants and reduce habitat quality. To minimize these negative effects, erosion control and careful construction practices will be used. These measures will help minimize negative effects, making them local, infrequent and short-term.

## Potential Effects and Mitigations

### Changes to Fish Habitat from the Placement of Water Crossings

Different parts of a watercourse, like deep areas, shallow areas with fast water and smooth flowing sections are important for fish habitat. Construction can change the shape and stability of the channel, increase sediment and affect water flow, which can lead to long term changes from permanent features like bridges. Culverts may also narrow the channel and change water flow patterns. To reduce these effects, measures to prevent erosion will be used to reshape disturbed areas and avoid grading the banks as much as possible. When waterbody crossings are installed below the high-water mark, they can negatively impact fish habitats, but only in the immediate construction area. The changes are minor and will not cause loss of habitat or fish. For permanent crossings, these effects will last a long time and cannot be reversed. For temporary crossings, the effects will last until the crossings are removed.

### Changes to Fish Survival, Reproduction and Distribution from Permanent Water Crossing

Waterbody crossing structures can block fish from reaching their habitats. To prevent this, culverts will be designed to allow fish to pass through. With these measures, the impact on fish survival and reproduction is expected to be minor and localized.

### Changes to Fish Habitat due to Changes in Groundwater

Changes in water flow can impact fish habitats, affecting their spawning, feeding and migration. Construction might alter groundwater flows, changing drainage, water levels and fish habitats. Mitigation measures like surface water management and erosion control will help ensure these impacts are minor and localized.

### Blasting Related Injuries or Mortality to Fish

Blasting in or near water can harm fish by creating shock waves that injure or kill depending on the type of explosive and how close the fish are. To minimize harm, blasting will only be used if other methods are not possible. A detailed Blasting and Communication Management Plan will be created and followed. The guidelines include keeping pressure changes and vibrations at safe levels, as outlined by Fisheries and Oceans Canada, to minimize impacts on fish and their habitats.

### Changes to Fish Habitat Quality from Air Contaminants and Dust

Construction will create air contaminants and dust, which can affect water quality and fish habitats. To reduce these effects, a Dust and Air Quality Management Plan will be prepared and implemented. This plan includes measures like using multi-passenger vehicles, controlling dust and minimizing vehicle emissions during high winds. These actions will help protect fish habitats and maintain water quality.

## Potential Effects and Mitigations

### Changes to Fish Survival and Reproduction from Improved Public Access to Recreational Angling Areas

The Community Access Road could lead to more fishing by nearby communities and construction workers. An increase in recreational fishing, however, is unlikely because the area is remote. Increased access might also spread invasive species and diseases. Mitigation measures, like removing temporary infrastructure and developing policies for project workers, will help minimize these impacts resulting in minor effects on fish populations.

### Changes to Fish Survival and Reproduction from Spills of Fuel or Other Materials

Spills during construction can harm water quality and fish by causing toxicity that affects their reproduction and survival. To prevent this, a Spill Prevention and Emergency Response Plan will be prepared and implemented. This plan includes having spill containment equipment onsite and personnel trained in spill response. Effective planning and mitigation measures will minimize the impact of spills, making any negative effects minor and localized.

## Residual Effects

Through the proper use of mitigation measures, the potential effects from the construction and long-term use of the Community Access Road are expected to be effectively managed, minimized or mitigated.

The Community Access Road will cause changes to fish habitat quantity and quality through physical alteration of waterbodies where construction is completed below the high-water mark. Fish survival and reproduction will also be impacted due to improved public access to recreational angling areas. Mitigation measures and best management practices will be implemented to reduce the effects on the habitats.

## Cumulative Effects

The Cumulative Effects Assessment considered the residual effects (left over effects after a mitigation measure is applied) of the Community Access Road and other future developments, such as the Northern Road Link, Anaconda and Painter Lake Forestry Access Road Upgrades and Rapid Lynx Broadband projects on fish habitats by changing waterbodies with crossing structures.

These changes can impact fish habitats by disturbing the waterbody bed, altering food supply, and changing water flows and the shapes and layouts of banks. The impact will depend on factors like the type and timing of construction, the specific habitats at the crossing sites, and whether the crossings are temporary or permanent.

To limit habitat loss, each project will have its own specific mitigation measures, including appropriate waterbody crossing structures, erosion control and environmental monitoring. These measures will follow best management practices and regulatory requirements, such as permitting.



## Want to learn more?

If you are interested in learning more about this topic, please review the technical report available in the appendix of the Draft Environmental Assessment / Impact Statement.

### Contact Info

You are welcome to contact the Marten Falls First Nation Community Access Road Project Team at any time with questions or comments.

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