

These best environmental management practices aim at proponents undertaking a project under the Hunting, Fishing and Trapping rights of the James Bay and Northern Quebec Agreement. Boat ramp and landing installations often lead to adverse impacts on the environment, in particular the aquatic environment. Implementing best practices listed in this document will help mitigate impacts.

POTENTIAL IMPACTS OF THE ACTIVITIES OR WORKS

Site selection and brush cutting / tree clearing for the construction of a boat ramp or landing

When choosing the site and when tree felling/ brush cutting for the construction of a boat ramp or landing, the activities that you undertake can lead to certain impacts:

- Disturbance of banks;
- Disturbance of spawning sites;
- Loss of wildlife habitat;
- Soil erosion or compaction;
- Risk of oil spills through the use of motorized equipment (i.e. loader, chainsaw, small wood chipper, snowmobile and ATV).

Installation of the boat ramp or landing

Installation of the boat ramp or landing can lead to certain impacts:

- Disturbance of banks;
- Disturbance of spawning sites;
- Soil erosion or compaction;
- Risk of oil spills through the use of motorized equipment (i.e. loader, snowmobiles and ATV).

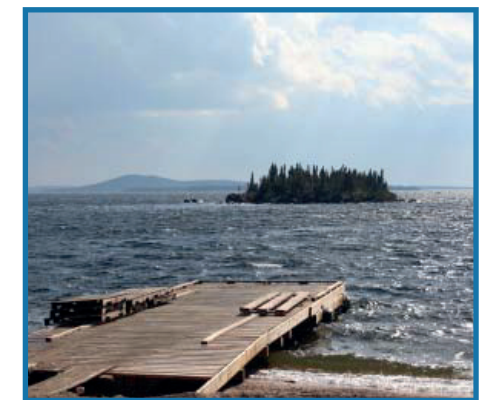
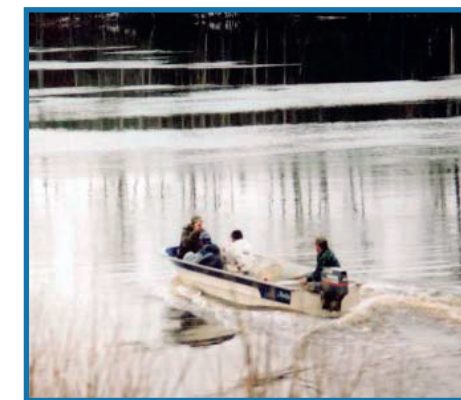
Use of boat ramp or landing

Use of the boat ramp or landing can lead to:

- Risk of oil spills in the water through the use of motorized boats.

CONSERVING THE ENVIRONMENT AND WILDLIFE HABITAT

Activities and work that you undertake to construct your boat ramp or landing may affect the environment. Several components are sensitive and need to be preserved.



Lake, river and stream banks (shorelines)

Several small mammals and birds inhabit streambanks. These areas contain potential spawning habitats for many species of fish (e.g. pike). Particular plant communities thrive here as they are ecological buffer zones between the terrestrial and aquatic ecosystems. These plant communities provide feeding areas for a variety of animals, such as beaver, waterfowl, moose, snowshoe hare, ptarmigan and muskrat. Stream banks are watering points for animals. Banks are important sediment filters that keep them from reaching the aquatic environment.

Fish spawning site

Fish spawning sites are fragile and eggs can be buried and destroyed by eroded soil particles settling in the water. Encroachment on spawning sites can affect future productivity of fish.

Fauna and flora

Some areas or ecosystems, whether legally protected or not, must be preserved when work is undertaken due to their unique features and because they fulfill an important function for animal and plant communities.

Soil and water quality

Soil and water sustain life. Protecting their quality is essential in order to avoid any negative effects on human health and direct impacts on fish and other living organisms.

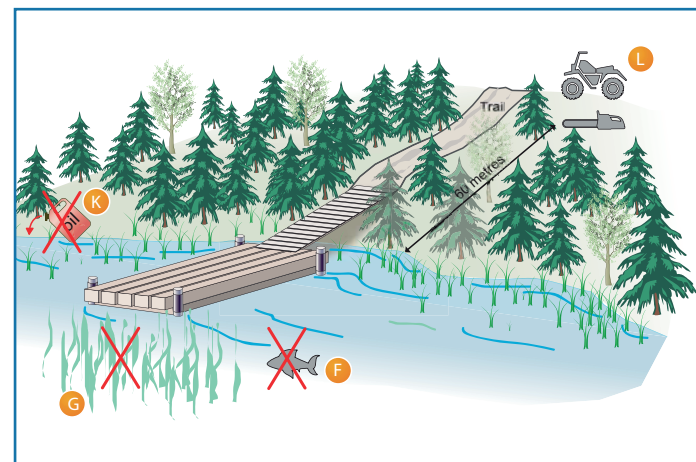
INSTALLATION OF THE BOAT LANDING

What to do

- Install the landing during the lowest water level period and outside the spawning season of fish known to be present in the waterbody (Table page before);
- Design the landing in order to ensure water circulation, three types of landing are common: floating docks, pipe docks and crib docks (rock filled cribs);
- Floating docks have to be solidly anchored to the waterbody's bed to ensure stability. They can easily be removed during the winter to protect them from ice. Floating docks are the least harmful toward fish spawning sites since the anchor or the weight occupies a small surface of the watercourse;
- Pipe docks are usually more stable than floating docks but are more difficult to remove during the winter since the pipes are directly attached to the watercourse bed;
- Crib docks don't have to be removed during the winter but are not recommended when a spawning site is nearby since the cribs occupy a large surface of the watercourse bed. Do not take rocks from the bed of the waterbody and only use clean rocks;
- Always favour rot-resistant material such as hemlock, larch and cedar lumber for structures that will be submerged in water;
- For structures above water, if treated lumber is necessary use approved preservatives such as Alkaline Copper Quaternary (ACQ) and Copper Azole (CA). Creosote treated lumber must not be used in or near water since they release harmful compounds for aquatic habitat. Staining of lumber must be done away from the waterbody. Only install lumber once it is dry;
- Keep the river/lake banks beside the landing in their natural state.

What to avoid

- At all time, in or near any watercourse or wetland, avoid leaving unattended motorized equipment or vehicles, avoid refuelling and avoid changing oil. Never wash any motorized equipment in or near a watercourse or wetland. Avoid oil spills in the ground or in the water. Never encroach on any watercourse or wetland when manoeuvring your motorized equipment or vehicles. **K L**



USE OF THE BOAT RAMP OR LANDING

What to do

- Manage waste (garbage) properly. Garbage must be buried at least 10 meters (33 feet) from the waterbody or brought back to the camp;
- Bring oil and gas containers back to the village for proper storage.

What to avoid

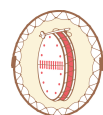
- Avoid oil spills from motorized boats especially when refueling;
- Avoid discarding or dumping any waste in the river or stream.

For more information, contact your Local Niskamoon Coordinator or your Forestry Programs Officer

Available best environmental management practices

- Construction or upgrading of trails
- Construction, upgrading and relocating of cabins
- Construction of boat ramps and boat landings
- Construction and clearing for a goose pond or goose corridor
- Restoration of abandoned roads

The leaflet has been produced by the Cree Nation Government, the Forestry Programs Prioritization Committee and Niskamoon Corporation with the collaboration of TecSult Inc.



CONSTRUCTION OF BOAT RAMPS AND BOAT LANDINGS

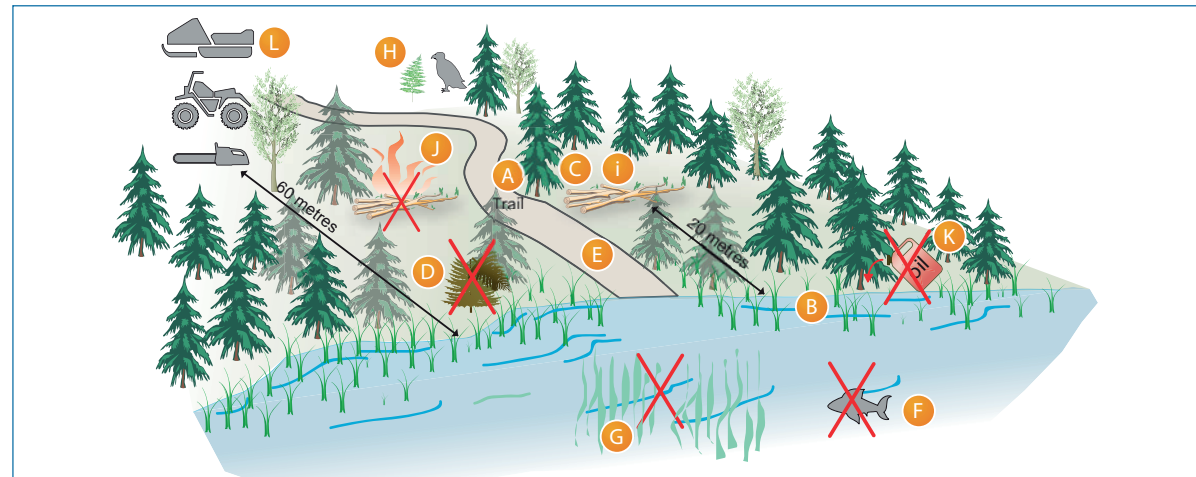


In order to keep works and activities from affecting the environment, several practices must be respected or avoided. These practices do not deal with the use of heavy machinery, if heavy machinery is needed to complete your project, please contact your Local Niskamoon Coordinator or your Forestry Programs Officer.

SITE SELECTION AND BRUSH CUTTING / TREE CLEARING FOR THE CONSTRUCTION OF A BOAT RAMP OR LANDING

What to do

- Check the permit requirements for the kind of work you will conduct and obtain any necessary permits;
- Always select a site far from the river mouth or a joining stream;
- Select a site to install the boat ramp/ landing where the slope is minimal;
- Select a site with sufficient water depth even during the lowest water level period. This way, you avoid having to build a long ramp or landing that encroach on the river / lake;
- Limit the width of the trail leading to the ramp and clear cut the smallest area possible; **A**
- Along the river / lake front keep trees and vegetation intact as much as possible; **B**
- Use the smallest motorized equipment available to clear trees (i.e. chainsaws, snowmobiles and ATV's);
- Leave small wood debris and branches on the side of the trail and pile them in small stacks of a height of 60 centimetres maximum (2 feet), they will be used as shelter by small animals; **C**
- Keep wood debris from falling into the river, stream or lake; **D**
- Whenever possible, use logs from trees you have cleared to build the installations;
- Whenever possible, the trail leading to the ramp / landing has to meander down toward the waterbody. Once in front of the waterbody, the trail has to face it at a right angle; **E**
- Whenever possible, undertake activities and work during the dry seasons (summer and winter) to limit erosion;
- Avoid smoking while brush cutting and tree clearing to reduce the risk of forest fire.



What to avoid

- Avoid installing the boat ramp or landing less than 50 meters (165 feet) from a spawning site; **F**
- Avoid selecting a site with dense aquatic plant population, as it might be a habitat for aquatic fauna and may be a nuisance for motorized boats; **G**
- Avoid selecting a site with signs of erosion (signs of landslip);
- Avoid removing rare plants or destroying habitats of rare wildlife species; **H**
- Whenever possible, avoid clearing large standing hollow trees and mature trees as they often inhabited by birds and animals;
- Avoid piling wood debris within 20 meters (66 feet) of any river, stream, lake or wetland; **I**
- Avoid burning wood debris; they will be used as shelter by small animals; **J**
- At all time, in or near any watercourse or wetland, avoid leaving unattended motorized equipment or vehicles, avoid refuelling and avoid changing oil. Never wash any motorized equipment in or near a watercourse or wetland. Avoid oil spills in the ground or in the water. Never encroach on any watercourse or wetland when manoeuvring your motorized equipment or vehicles. **K L**

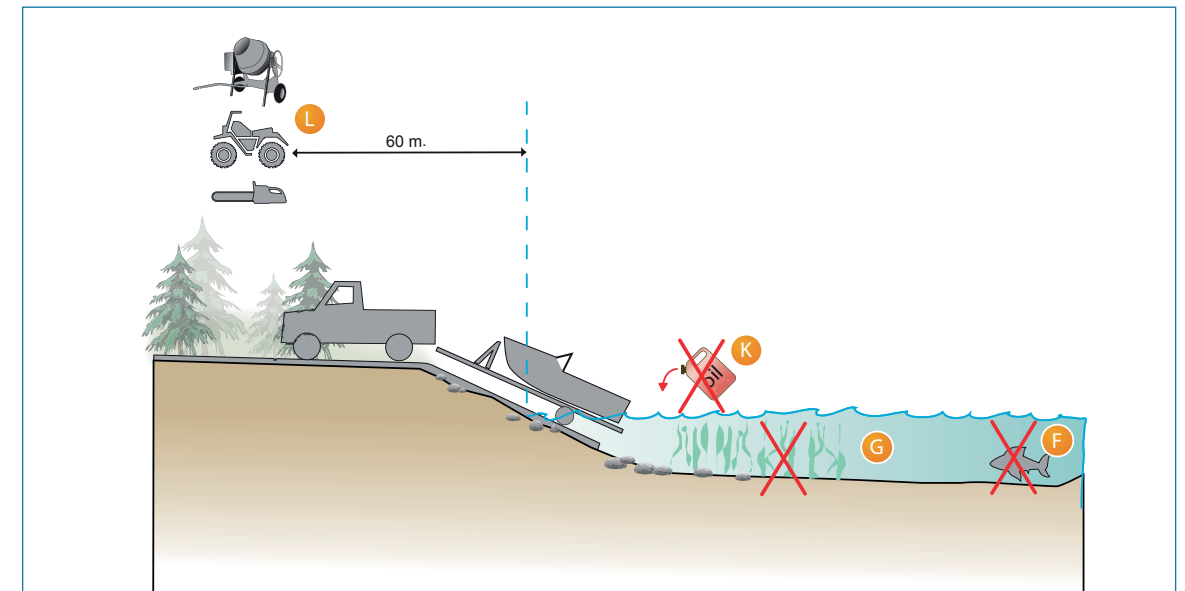
INSTALLATION OF THE BOAT RAMP

What to do

- Install the boat ramp during the lowest water level period and outside the spawning season of fish known to be present in the waterbody (table below);
- The boat ramp should have sufficient width to allow the boater to manoeuvre the trailer without encroaching on the waterbody banks (shorelines);
- Build the ramp with stable lining material such as concrete;
- Keep the river or lake banks beside the ramp in their natural state;
- Transport the excavated material outside the site, away from any river, stream or wetland.

What to avoid

- At all time, in or near any watercourse or wetland, avoid leaving unattended motorized equipment or vehicles, avoid refuelling and avoid changing oil. Never wash any motorized equipment in or near a watercourse or wetland. Avoid oil spills in the ground or in the water. Never encroach on any watercourse or wetland when manoeuvring your motorized equipment or vehicles. **K L**
- Avoid using unstable lining material such as gravel for the construction of the ramp;
- Avoid leakage of fresh concrete, concrete debris and wash water in the aquatic environment.



No Construction Period
Fish spawning season

| | April | | May | | June | | July | | Aug. | | Sept. | | Oct. | |
|---------------------|-------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|------|-------|
| | 1-15 | 16-30 | 1-15 | 16-31 | 1-15 | 16-30 | 1-15 | 16-31 | 1-15 | 16-31 | 1-15 | 16-30 | 1-15 | 16-31 |
| Suckers | | | | | | | | | | | | | | |
| Yellow walleye | | | | | | | | | | | | | | |
| Sauger | | | | | | | | | | | | | | |
| Lake sturgeon | | | | | | | | | | | | | | |
| Northern pike | | | | | | | | | | | | | | |
| Goldeye and Mooneye | | | | | | | | | | | | | | |
| Lake Cisco | | | | | | | | | | | | | | |
| Lake whitefish | | | | | | | | | | | | | | |
| Brook trout | | | | | | | | | | | | | | |
| Lake charr | | | | | | | | | | | | | | |

Spawning season, period of work restriction