

## CONSTRUCTION OR UPGRADING OF TRAILS

### BEST ENVIRONMENTAL MANAGEMENT PRACTICES

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. Building or upgrading a trail may impact the environment even trails used for ATV's or snowmobiles. Implementing best practices listed in this document will help mitigate impacts.

#### POTENTIAL IMPACTS OF THE ACTIVITIES OR WORKS

##### Choosing the site for tree felling / brush cutting

When choosing the site and tree felling/ brush cutting for the construction or upgrading of trails, the activities that you undertake can lead to certain impacts:

- Loss of wildlife habitat;
- Soil erosion or compaction;
- Risk of oil spills through the use of motorized engines and equipment (chainsaw, small wood chipper, snowmobile and ATV).

##### Stream crossing

When the trail requires crossing a stream, a log crossing can lead to certain impacts:

- Loss of spawning sites;
- Impairment of water quality as a result of input of soil debris or oil spills;
- Disturbance of streambanks.

#### CONSERVING THE ENVIRONMENT AND WILDLIFE HABITAT

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



##### 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

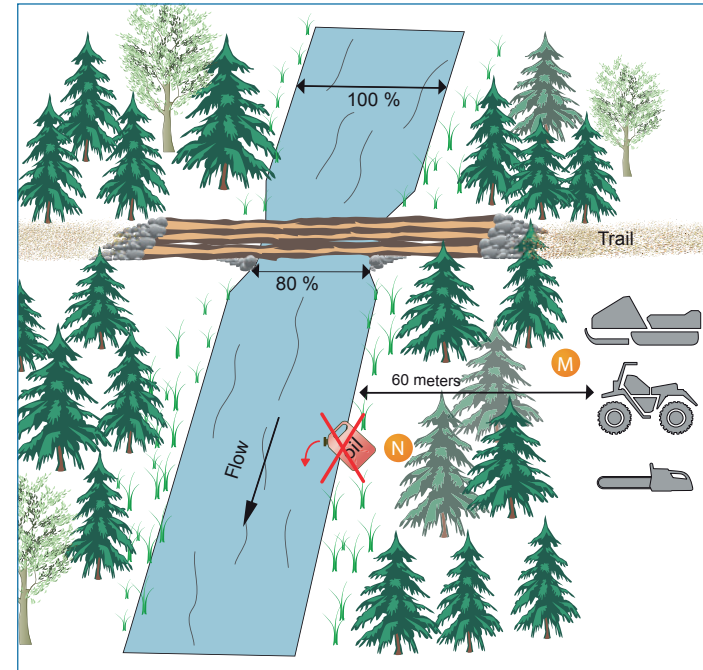
Soil and water sustain life. Protecting their quality is essential in order to avoid any negative effects on human health and direct impacts on fish and other living organisms.

##### Fish spawning sites

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.

##### 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.

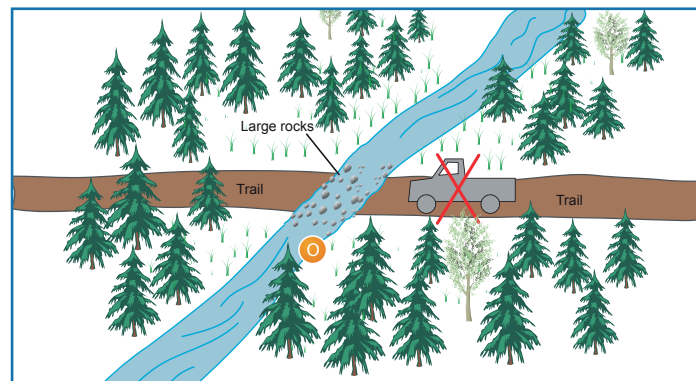


#### What to avoid

- Avoid reducing the width of the stream by more than 20 % measured from the natural high water mark when installing the logs. The natural high water mark represents the water level during the flooding season of the spring or the fall;
- Avoid changing the natural speed of the water flow through the crossing;
- Never restrain water flow during installation of the logs;
- Avoid selecting a crossing site where there are signs of erosion (signs of landslide);
- Avoid selecting a crossing site with a steep slope;
- At all time, between the trail and 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; (M N)
- Avoid stream crossing in rapids since they are often fish spawning sites.

#### FORD CROSSING

##### (CROSSING THROUGH A STREAM WITHOUT ANY BRIDGE OR OTHER STRUCTURE)



When crossing a small intermittent stream, the stream can only be forded when all the following conditions are met: (O)

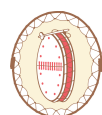
- The stream banks are inexistent or very low (less than 30 cm, one foot);
- The stream bottom is hard and levelled to avoid erosion (presence of large rocks capable of bearing the weight of an ATV or snowmobile);
- The stream must be intermittent and small (i.e. dry channels that only fill with flow from snowmelt or rainwater);
- Only snowmobiles and ATV's are used to cross the stream;
- Activities only involve occasional crossings.

#### 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

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

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



FORESTRY  
PROGRAMS  
PRIORITIZATION  
COMMITTEE



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# CONSTRUCTION OR UPGRADING OF TRAILS

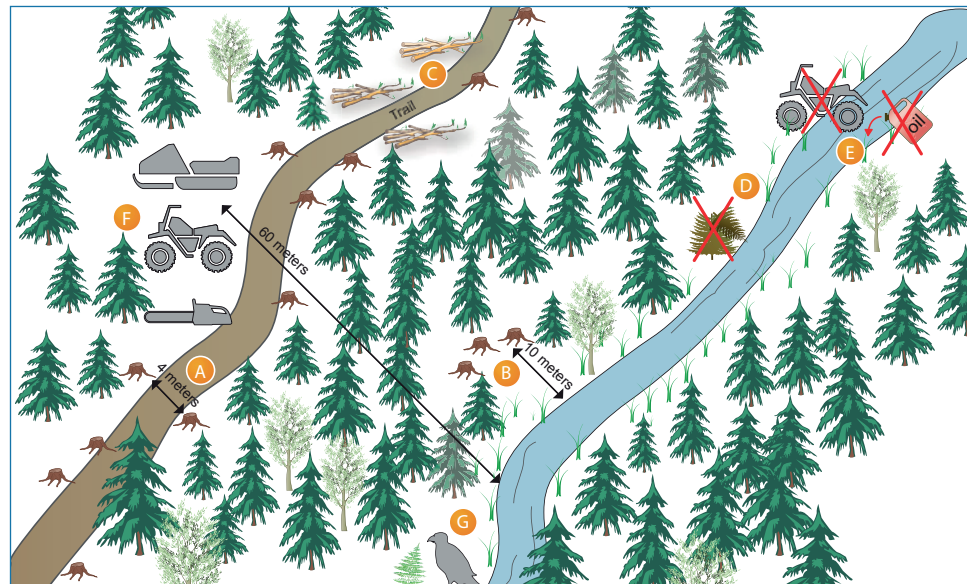


In order to keep works and activities from affecting the environment, several practices must be respected or avoided. These practices do not deal with the use of heavy machinery, if heavy machinery is needed to complete your project, please contact your Local Niskamoon Coordinator or your Forestry Programs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

## CHOOSING THE SITE FOR TREE FELLING / BRUSH CUTTING

### What to do

- In order to be more environmentally-friendly, restore an existing trail rather than build a new one;
- Limit brush cutting / clear cutting to a width of 4 meters (13 feet); **A**
- Select a site with stable soil (without signs of landslip);
- Select a well drained site;
- Use the smallest motorized equipment available to clear trees (i.e. chainsaws and ATV's);
- When constructing a new trail, it has to be at least 30 meters (100 feet) away from an intermittent stream and at least 60 meters (200 feet) away from a permanent stream; **A**
- Use cut trees as firewood;
- Leave small wood debris and branches on the side of the road and pile them in small stacks of a height of 60 centimetres maximum (2 feet), they will be used as shelter by small animals;
- Bring oil and gas containers back to the village for proper storage;
- Whenever possible, undertake activities and work during the dry seasons (summer and winter) to limit erosion.



### What to avoid

- Avoid clearing wood within 10 meters (33 feet) of any permanent stream, lake or wetland; **B**
- Avoid piling wood debris within 20 meters (66 feet) of any river, stream, lake or wetland; **C**
- Keep wood debris from falling into a stream or lake; **D**
- Avoid burning wood debris; they will be used as shelter by small animals;
- At all time, between the trail and 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; **E** **F**
- Avoid removing rare plants or destroying habitats of rare wildlife species; **G**
- Whenever possible, avoid clearing large standing hollow trees and mature trees as they often inhabited by birds and animals;
- Avoid selecting a site that has poor drainage; when passing through small humid areas or poorly drained areas, install wood logs to prevent erosion. If there is a risk that these logs could be washed away during the ice meltdown, remove them during the winter;
- Avoid clearing wood in a marsh or passing through any wetland;
- Avoid smoking while brush cutting and tree clearing to reduce the risk of forest fire.

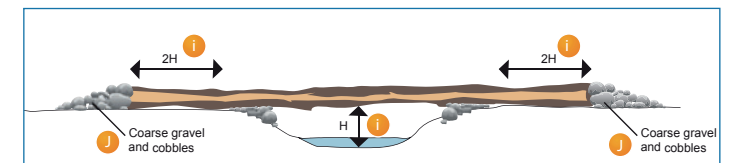
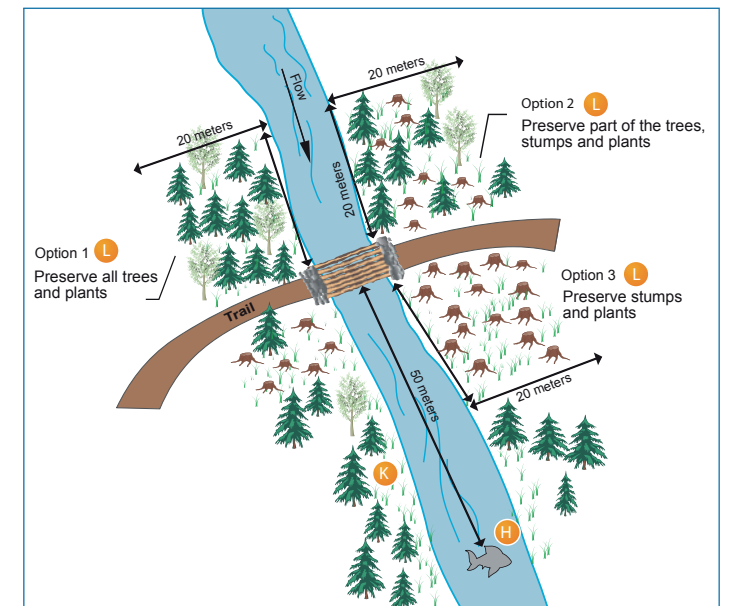
## STREAM CROSSING WITH LOGS

When crossing a permanent stream is necessary:

### What to do

- In order to plan the crossing at a sufficient height, survey the site during the wet seasons (fall or spring) prior to construction and evaluate the high water mark of any stream that your trail will cross. Undertake construction of the crossing during the dry seasons (summer or winter);
- Always use wood logs to construct a small bridge when crossing streams;
- Choose to install the logs outside the spawning season of fish known to be present in the stream (table below);
- Always cross the stream at right angle;
- Choose to install the logs during the lowest waterlevel period;
- Always select a crossing site far from the stream mouth or a joining stream;
- If there is a known spawning site in the stream, install the logs downstream. If this is not possible, install the logs upstream at a distance of at least 50 meters (165 feet) from the spawning site; **H**
- Choose the crossing site according to the slope. A low angle slope is always more environmentally-friendly than a steep slope because erosion is limited;
- The logs should be firmly fixed to the ground on both sides of the stream at a distance that represents twice the height between the stream bed and the logs; **I**
- Access ramp to the logs must be built with coarse gravel and cobbles; **J**
- Always keep stream banks (shorelines) in their natural state; **K**
- When crossing a stream, preserve the ground cover and the tree stumps within 20 meters (66 feet) of the watercourse outside the trail. In order to do this, the proponent has three options as shown in the following illustration; **L**

- Routinely check the logs and remove all or any debris that may impair water and fish circulation;
- If a beaver dam is found close to the crossing, relocate it by harvesting the beaver or by destroying the dam;
- Always use rot-free logs.



### 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

