Thinking of stabilizing your shoreline? Think of the fish!

Fish habitat

Fish habitat is the entire section of a watercourse or water body below the **boundary of the littoral zone**, that is, the level reached by the waters of flood (usually in spring) over a two-year period. Any bank below this line is thus part of the fish habitat and plays an important role in the **survival** and **productivity** of several species, including species of interest for sport and commercial fishing.

This habitat is the most deteriorated wildlife habitat. For this reason, any intervention must be done with the aim of protecting it.

Before doing any work that could alter fish habitat, make sure you have all the necessary make sure you have **all the necessary authorizations.**

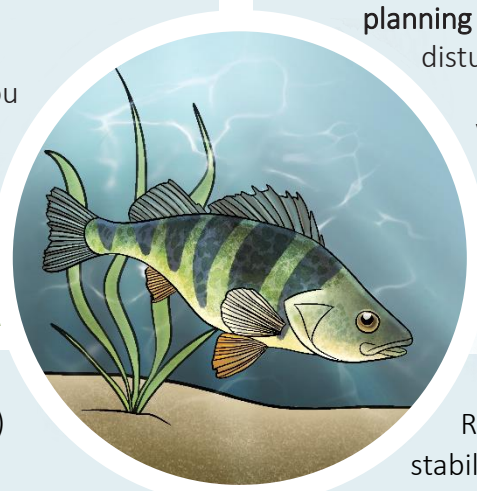
Risk of disturbance

When stabilizing, it is important to consider **certain disturbance risks**, such as:

- Loss of riparian vegetation;
- Encroachment and disturbance of the streambed and banks;
- Alteration of flow conditions;
- Sedimentation and contamination of the watercourse.

To protect the aquatic environment and the wildlife that lives there, **good planning** and **proper work methods** are essential to reduce the risk of disturbing fish habitat.

Vigilance is therefore required **before, during and after** stabilization work.



The Authorization & the LCMVF

Section 128.6 of the **Loi sur la conservation et la mise en valeur de la faune** (Wildlife Conservation and Development Act, LCMVF) states that :

"No person shall, in a wildlife habitat, do any activity that is likely to alter any biological, physical or chemical component specific to the habitat of the animal or fish in that habitat."

The Authorization is a written document that allows work that contravenes section 128.6 to be done. It sets out the **conditions to be met** and considers, among other things, the **characteristics of the environment**, the **nature of the proposed activity**, the **economic and social consequences** arising from the activity, the **impact of the activity** on the **conservation of wildlife and its habitat**, and the possibility of developing a replacement habitat when necessary.

Work permitted

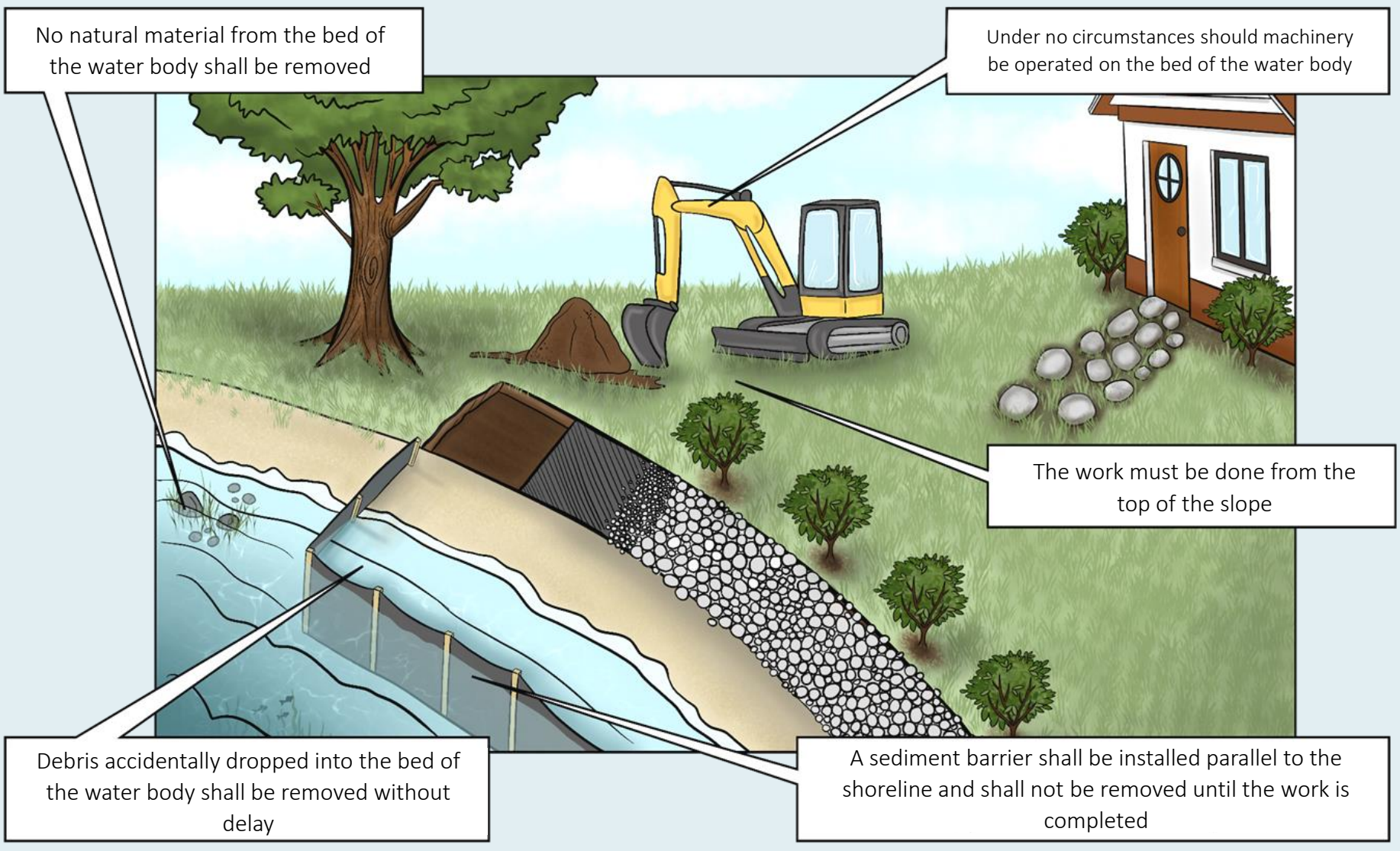
In order to minimize ecological impacts, the Outaouais Regional Wildlife Directorate must give priority to natural stabilization methods.

The authorized stabilization methods are, in order of priority:

1. Shoreline revegetation using native species;
2. Vegetated trellis;
3. A natural rock riprap with vegetation;
4. A retaining wall with cut rocks;*
5. A straight retaining wall.*

***The wall is a case of last resort. Indeed, you would have to demonstrate that it is impossible to vegetate the water's edge in the first place or to make a rock riprap with the integration of plants in the second place.**

Practices to follow during stabilization work



Outaouais.faune.autorisation@mffp.gouv.qc.ca

Direction de la gestion de la faune de l'Outaouais

January 2024

Québec

Stabilization by riprap with vegetation

Practices to follow during stabilization work (more)

Mechanical methods should always be considered as a last resort as they are often **more expensive**, give an **artificial appearance** to the riparian environment and **do not benefit wildlife**. However, if mechanical methods are necessary, a riprap can be used. Remember that it is important to select a method for its ability to restore the natural character of the fish habitat and the shoreline.

****Due to the complexity of the methods, any shoreline stabilization project on steep slopes or highly erodible sites must be justified by an engineer and be carried out in a professional manner.****

To perform a riprap, here are the steps that are allowed (summarized in the illustration below);

a) An anchor key of a **width of maximum 1 meter** must be dug at the bottom of the slope to prevent the riprap from sliding into the water body. The anchor key **shall not further encroach** into fish habitat and shall not have the effect of reclaiming or enlarging land or a beach;

b) From the anchor key, the slope must be stabilized **with a geotextile membrane** and the riprap to the boundary of the littoral zone

c) Riprap shall have a slope of less than, or equal to **1 vertical unit in 2 horizontal units** (1 in 2 slope). When necessary, to achieve this slope, the slope shall be cut inward from the property except around mature trees, to protect them;

d) The stones used for the riprap must be **clean** (without fine sediment), **round, non-friable** and **non-chalky** with a diameter of **10 to 60 centimeters**;

e) The geotextile membrane shall be placed under and behind the riprap and **shall not be visible at any point**.

Illustration of stabilization by riprap