SASKATCHEWAN

Water Security Agency

Channel Clearing, Channelization and Ditch Maintenance

Removing Vegetation and Material from Natural Watercourses and Constructed Ditches

Vegetation commonly found in and along watercourses and water bodies in Saskatchewan plays an important role in the aquatic health of ecosystems.

Aquatic plants, found in most watercourses (e.g., rivers and streams) and waterbodies (e.g., lakes and ponds) of Saskatchewan, are a natural and integral component of a healthy and diverse aquatic ecosystem. Aquatic plants provide many ecological benefits, including:

- stabilizing the shoreline and bed, and controlling erosion;
- nutrient cycling (i.e., the use, movement, and recycling of nutrients in the environment);
- filtering out pollutants;
- providing cover and shade by blocking direct solar radiation (shade reduces stream temperatures and the lower temperatures benefit wildlife species);
- slowing down flow and the erosive powers of water during a flood event; and,
- providing habitat and food for fish and wildlife.

The riparian area located on the banks of rivers, streams and wetlands is also essential for the health of our water courses and water bodies. By acting as buffers between upland areas and open water, they help filter nutrients and sediment, reduce erosion, and protect source water and aquatic habitat. Maintaining a healthy riparian area is a widely recommended beneficial land management practice.

Over time, natural watercourses and constructed ditches can become obstructed by trees, brush, deadfall, silt (deposited/accumulated sediment), blow dirt, and other blockages that can cause flooding and damage to infrastructure.

Landowners or municipalities may need to remove vegetation or materials from and along watercourses. The removal of vegetation from water bodies will usually be permitted, as long as proper approvals and best practices are used. There are three ways of removing vegetation from watercourses, including channel clearing, channelization and ditch maintenance. Some activities may require both a drainage approval and an Aquatic Habitat Protection Permit (AHPP), while others may require only an AHPP.

Well-vegetated watercourses provide many benefits.

1) Channel Clearing

Channel clearing involves removing beaver dams, debris, trees and shrubs, and the removal of silt and blow dirt from and along natural channels. As defined, channel clearing does not divert water to a place where it would not normally flow, or increase the amount of water being sent downstream. This is not a drainage activity and does not require a drainage approval; however, all channel clearing activities require an Aquatic Habitat Protection Permit.

An AHPP for channel clearing on a natural channel (watercourse) will only approve vegetation removal to address point obstructions to flow (e.g., downed trees and accumulated debris within the channel) or excavate a path down the center of the channel to a maximum depth of 15cm. An AHPP will not permit vegetation removal that alters the configuration of the banks or clears the entire channel.

For further information on the Aquatic Habitat Protection Program, including the application form for an AHPP, please visit **www.wsask.ca**. If you are removing material between fill and spill wetlands, you are not channel clearing, you are doing ditch maintenance or ditch construction. Please refer to that section below for details on permitting.

Beaver Dams: Please refer to the **Beaver Dam Removal Fact Sheet**[1] for the conditions that individuals are legally subject to when removing beaver dams.

Silt Removal

Silt removal is periodically needed in watercourses because sedimentation, the natural process of sand and silt washing downstream, can gradually fill in channels and watercourses.

Channel clearing involving silt removal will be allowed as either:

- **Point obstruction:** The removal of silt that requires greater than 15 centimetres of excavation, up to one metre total depth of silt bed material, on less than 50 linear metres per kilometre over a five-year period. The excavation must not penetrate the natural bed of the watercourse and can be no more than one metre in total depth.
- **Channel maintenance:** The removal of less than 15 centimetres of silt bed material for more than 50 linear metres of a channel or watercourse over a five-year period.

If the removal of silt is deeper or for a longer distance than what is outlined above then the activity is considered to be channelization and will require both an AHPP and a drainage approval. See next page for the definition of Channelization.

If you have any questions, please contact your closest WSA Regional Office for clarification.

2) Channelization

Channelization includes deepening, straightening, widening, re-contouring (reshaping), or lining of a stream channel where the amount and speed of the water flowing through the channel or natural watercourse is altered. This is drainage and requires a drainage approval and an AHPP. Both these approvals can be applied for using the drainage application form, and if approved, both the drainage approval and AHPP will be issued together.

3) Ditch Maintenance

Ditch maintenance is the removal of material or vegetation to re-establish a man-made ditch back to original design elements – the original depth, width or slope. A man-made ditch is a drainage work so a drainage approval and an AHPP is required. These approvals can be applied for in one application form, and if approved, the permits will be issued together. If the approvals are issued, they will usually approve maintenance for the same length of time as the drainage approval (up to 15–25 years), so that the maintenance of the existing drainage works can be conducted when needed, without requiring additional approvals for the duration of the drainage approval.

What conditions will typically be placed on approvals for work in watercourses?

Caution must be used when working in and around watercourses to reduce the risk of downstream flooding and increased bank erosion. Improper channel clearing can result in the release of fine sediment to downstream areas, which increases turbidity (i.e., cloudiness or haziness of water), and can impact both aquatic life and water quality. Adopting standard best practices will help reduce these impacts.

Timing of the activity: It is important to remember that fish and wildlife use watercourses as their habitat. To protect fish, work in watercourses should not occur during spawning and incubating periods when spawning fish, eggs and fry are vulnerable to disturbance and sediment. Restricted activity periods are determined on a case by case basis according to the species of fish in the water body or watercourse, whether those fish spawn in the spring or fall/winter, and whether the water body or watercourse is located in Northern, Central, or Southern Saskatchewan. Saskatchewan timing windows can be found at: **Saskatchewan Restricted Activity Timing Windows for the Protection of Fish and Fish Habitat webpage**[2]. If the watercourse is a non-fish bearing watercourse there is no restricted activity period.

Proper erosion control: Sediment and erosion must be controlled when working in watercourses. Working in dry or frozen conditions is a common way to reduce impacts. In other cases, additional erosion control such as the installation of erosion control blankets and revegetation is required.

Place spoil and fill (excavated material) away from the watercourse: Excavated material should be placed away from the watercourse and stabilized so that it doesn't erode.

Keep hazardous materials out of the watercourse: Ensure all equipment is in good working order and that fuel, oil and/or grease does not leak into the watercourse.

Frequently Asked Questions

What is a Natural Watercourse?

Natural watercourses include any river, stream, watercourse, lake, creek, spring, ravine, canyon, lagoon, swamp, marsh or other water body as outlined in both Section 2(1)(jj) of *The Environmental Management and Protection Act, 2010* and 39(1) (i) of *The Water Security Agency Act.*

When should channel clearing activities occur?

Channel clearing must not proceed within the restricted activity period for your project location. Restricted activity periods are determined on a case by case basis according to the species of fish in the water body, whether those fish spawn in the spring or fall/winter, and whether the water body is located in Northern, Central, or Southern Saskatchewan. Saskatchewan's timing windows can be found on Fisheries and Oceans Canada's **Saskatchewan Restricted Activity Timing Windows for the Protection of Fish and Fish Habitat webpage**[2]. If the watercourse is a non-fish bearing watercourse there is no restricted activity period.

How do you measure the depth of channel clearing?

The depth of channel clearing is measured from the original channel bed to the depth of the excavated channel bed.

Can channel clearing occur every year?

Yes, as long as you do not exceed the following guidelines:

- **Point obstruction:** The removal of silt bed material that requires greater than 15 centimetres of excavation on less than 50 linear metres per kilometre over a five-year period. The excavation must not penetrate the natural bed of the watercourse and it can be no more than one metre in total depth.
- **Channel maintenance:** Over a five-year period you can remove less than 15 centimetres of silt along the entire watercourse for more than 50 linear metres.

If you have any questions about these definitions, please contact your closest WSA Regional Office for clarification.

What approvals do I need to remove a beaver dam?

If you are conducting point obstruction removal of beaver dams:

a. You *do not* need an AHPP if:

i. You are removing beaver dams by use of hand tools or dynamite; OR

ii. you are removing beaver dams by mechanical means, but only if:

- the removal does not result in the alteration of the bed, bank, or boundary; and
- the material removed is placed in a way that prevents it from being washed back into the watercourse; OR

iii. you are able to comply with the 17 conditions outlined in Water Security Agency's **Beaver Dam Removal Fact Sheet**[1].

b. However, you will need an AHPP if you are unable to comply with the conditions listed in the **Beaver Dam Removal Fact Sheet**[1].

c. You do not need a drainage approval to remove a beaver dam.

1 https://www.wsask.ca/Global/Water%20Programs/Aquatic%20Habitat%20Protection%20Permit/Beaver%20Dam%20Removal.pdf

2 http://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/sk-eng.html