

Beach Creation and Beach Maintenance Fact Sheet

Why Shorelines are Important

Natural shorelines are an essential part of a healthy aquatic ecosystem and include the areas above and below the water's edge. Aquatic vegetation, rocks, woody debris and soft/silty sediment areas provide important habitat for fish and other aquatic species. The near shore area is where many fish species lay their eggs, feed, and seek shelter from predators.

When shorelines are disturbed or altered (by development or natural causes) valuable, productive aquatic and wildlife habitat can be lost. The impact of shoreline alterations is not confined to any one parcel of land. A water body benefits – or suffers - from the cumulative works and actions of all the users of that water body. Changes and disruptions to the shoreline area, both above and below the waterline, can add up resulting in significant habitat loss, reduction in numbers of fish and aquatic organisms, and cause negative changes to water quality.

Adding Sand to the Aquatic Environment

Not all of the land along a water body has a naturally occurring sandy shoreline; many areas are naturally rocky, treed, or have other vegetation protecting the shoreline. Some shorelines are characterized by productive fine/silty sediment, dominated by emergent aquatic vegetation such as cattails and reeds. Each type of habitat plays an important role in supporting aquatic ecosystems and the organisms that rely on them. Adding sand to the nearshore area of your waterfront property changes the natural function of the lakebed and shore, and can harmfully alter or destroy these naturally occurring aquatic habitats.

If sand does not naturally occur on a shoreline, sand is not likely to remain there if placed on the water's edge. Wind causes ice and wave action, and will eventually take the sand and redeposit it somewhere in the water body. Deposited sand can migrate from the original beach site, potentially covering more productive rocky, weedy, or soft sediment habitats, including spawning areas. When sand covers spawning areas it can:

- smother and kill fish eggs;
- kill aquatic insects and plants that are food sources for fish and other wildlife;
- get into the spaces between rocks which shelter the eggs and fry of some fish;
- cover aquatic plants on which some fish spawn.

All of these actions reduce the capacity of the water body to support fish and other aquatic species. Sand may even deposit in shallow areas creating sandbars, causing problems with navigation.

To reduce cumulative impacts to Saskatchewan shorelines, community beaches should be used where available; cumulative effects of small, private beaches along a shoreline can have significant negative impacts on the water body, and fish and wildlife populations.

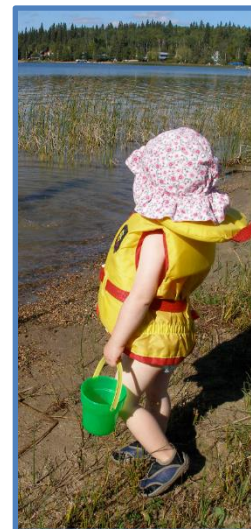
Deposition of sand for beach creation requires provincial and/or federal government permission.

Be Aware of the Environmental Management and Protection Act and Other Legislation

Most shorelines, which include the bed, bank and boundary of the water body in Saskatchewan, are Crown lands and are protected under *The Environmental Management and Protection Act*, 2010 (EMPA). (See the Water Security Agency Information Sheet titled "Shoreline Development" for more information.)

Under EMPA any person planning work near a water body or watercourse must contact the Saskatchewan Water Security Agency to:

- alter the bed, bank or boundary of a water body or watercourse,



- remove or add material to the bed, bank or boundary of a water body or watercourse,
- remove vegetation from the bed, bank or boundary of a water body or watercourse.

The Water Security Agency (WSA) should be contacted for more information or permit applications. In addition to permitting requirements under EMPA, work within municipal lands requires consent from the appropriate authority such as the Rural Municipality, Village, or District when work is occurring on land designated as Municipal Reserve, Public Reserve, Environmental Reserve. Note: In recreational lakes, beaches serving the needs of individual lot owners may not be allowed if public beaches are available.

Fisheries and Oceans Canada (DFO) should be contacted if your work might cause serious harm to fish, fish habitat or a fishery. Information can be obtained at (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html> / Beaches). A DFO review may not be required for your beach project if your project involves the installation and replenishment of private and public beaches and if all sand is isolated and contained above the High Water Mark (e.g., behind the top of bank) such that sand cannot wash into the water.

Environmentally Friendly Practices to consider BEFORE applying for your Beach Creation Permit:

Note: If an Aquatic Habitat Protection Permit (AHPP) is issued it will identify additional conditions that must be followed.

Public Beaches

- If possible, locate the public beach in an area that is naturally sandy and where wind and wave erosion is minimal. This will minimize the need to add sand, or remove aquatic vegetation, reducing maintenance effort and cost.
- Locate a public beach in an area that will accommodate parking and beach access. This will assist in maintaining shoreline vegetation, and back shore vegetation, because it will confine the disturbance to one area and ensure erosion and vegetation disturbance is not increased by the creation of many separate paths to the beach.



- Maintain or preserve shoreline vegetation because it stabilizes the bank of the water body, protects the bank from erosion, and provides habitat for aquatic and terrestrial organisms. It will also minimize the amount of additional work needed to stabilize the site after work is completed.
- Time your work to avoid sensitive periods. In water activities should not occur during local fish spawning and nursery periods since it could disturb spawning behavior, smother eggs, and kill young fish.
- Avoid areas with both emergent and submergent aquatic plants. Aquatic plants play an important role in maintaining the health of our lakes; they stabilize the bed and shore, reduce soil movement and erosion and are important habitat areas for fish, waterfowl and other

wildlife. (Note: if approved, aquatic vegetation removal will not typically be allowed beyond 2.0 meters in depth.)

- Avoid spawning and nursery areas. If you suspect your property is adjacent to a fish spawning or nursery area, you should not add sand, remove aquatic or shoreline vegetation, or otherwise disturb the aquatic environment.
- Protect water quality. Install a sediment fence/ turbidity curtain around the entire work area prior to starting working in water. Inspect the sediment fence/ turbidity curtain continually, and maintain it as required to ensure it is working effectively to prevent suspended sediment from entering the adjacent water.
- Work in the water on calm days. This will help minimize the suspension of fine sediment particles into the water by wave action and will ensure the effectiveness of the sediment fence/ turbidity curtain is not reduced by wave action.
- If your work area will have exposed soil for any length of time, install effective sediment and erosion control measures prior to starting work. Measures must prevent the entry of all sediment into the lake or river. Inspect these measures regularly during the course of construction and make all necessary repairs to keep them functioning properly.
- Post appropriate signage to ensure designated access points are used. Use existing trails whenever possible to access the shoreline.

Deposition of Sand on Private Lots

- The creation of beaches on private lots may only proceed if the sand is contained well back from the top of bank behind a berm, retaining wall, vegetated buffer, or enough land so it cannot be washed into the water body. Retaining walls or other hard structures must be located within the property boundary of your lot.
- Do not deposit sand on slopes where it has the potential to erode into the water body.
- Vegetation cannot be removed if it functions to stabilize and protect the shoreline and banks of the property from erosion.

Beach Maintenance

- The addition of sand to an existing private beach must be contained above the bank of the lake or stream, behind a retaining wall or berm, so it cannot migrate into the water body.
- Herbicide is not to be used to remove aquatic or terrestrial vegetation.
- Aquatic vegetation removal equipment should be able to mow or cut plant stems from their roots, so as not to disturb the lakebed. (Tilling, harrowing, or cultivating methods are not to be used because they disturb the lakebed by stirring up sediment and nutrients.)
- Terrestrial vegetation trimming or removal should be limited to removing the above ground portion of the vegetation only; leaving the root system undisturbed in order to maintain bank stability. The amount of terrestrial vegetation removed from the riparian area in front of each lot will be limited to the amount necessary for access that is specified in the AHPP. (Note: for private lots this is typically less than 4m wide, or 50% of the property width, whichever is less. Approval will not be given to remove all of the vegetation along a shoreline).

Information You Will Need To Submit

Information you will need to submit to the Water Security Agency for your Public Beach project or the Deposit of Sand on a Private Lot to obtain an Aquatic Habitat Protection Permit (AHPP):

- ☐ Contact information (applicant/ contractor/ funding organization – whichever is applicable)
- ☐ Name of Water body (water bodies) that may be affected
- ☐ Project Location (Lat/Long; UTM; Land Legal; Legal lot description for cottage developments)
- ☐ Registered Landowner contact
- ☐ Description of work, a reason for the work, time frame, and other details, including:
- ☐ A plan view (bird's eye view) sketch/drawing of the work site indicating the location of existing buildings, shoreline structures, and property lines, the dimensions of proposed beach area (length and width) and distance of all the above to the water's edge (if available, reference the high/low/summer water levels);
- ☐ A profile view (cross-sectional) sketch/drawing of the original bank slope and proposed slope including the distance from the current water's edge (if available, reference the high/low/summer levels); and
- ☐ Typically a minimum of four pictures of the surrounding shoreline and proposed work site.

Contact Information:

Water Security Agency, Aquatic Habitat Protection
420-2365 Albert Street,
Regina , SK S4P 4K1
306.787.0726

<https://www.wsask.ca/Water-Programs/Aquatic-Habitat-Protection/>

Also Contact: Municipal authority that may have development restrictions for the shoreline area on or adjacent to your lot.

Definitions:

Bed: That portion of the water body typically covered by water.

Bank: The rising ground bordering a water body that serves to confine the water to a channel or bed.

Boundary: The line or elevation contour surrounding a water body or watercourse where the aquatic vegetation and terrestrial plant species known to tolerate water saturated soils, change entirely to terrestrial vegetation tolerating little or no soil saturation. The Boundary includes a minimum surrounding area of five metres measured outward from the top of the bank (i.e., 5 m back from the top of bank, away from the lake or river).

Emergent Plant: Rooted to the bed of the water body or watercourse, but their leaves and stems extend out of the water.

Submergent Plant: Rooted or attached to the bed of the water body or watercourse, their leaves and stems are located below the water surface.