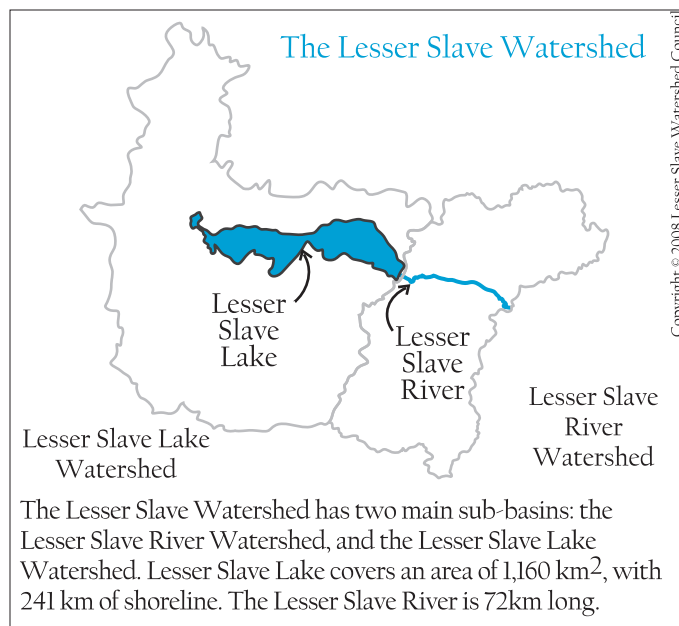




LSWC Fact Sheet: Riparian Lands, Shorelands, and Wetlands

💧 What Are Riparian Lands?

Riparian lands are the lands found between a lake, river or other water body and the surrounding dry upland. Riparian areas are lush and green, covered with thick, water-loving vegetation. The soils are moist, often waterlogged or flooded. Shorelands, wetlands, floodplains, marshes, bogs, and muskeg are all examples of riparian zones. While each has unique features, they are all transition zones between a water source and the higher, dryer land beyond. Water is the major influence that determines what kinds of plants will grow there. Riparian areas are rich in plant and animal life and are highly productive and important areas in any ecosystem. This LSWC fact sheet examines the role of riparian lands in the Lesser Slave Watershed and gives ideas on how we can help preserve and promote these vital areas.



💧 Why Are Riparian Lands So Important?

Riparian lands line the edges of lakes, rivers, streams, sloughs and any other water source. The actual area of riparian land might be small but it plays a huge role in healthy ecosystems and forms a critical link that connects different areas and different wildlife species. A healthy riparian zone provides both ecological and socio-economic benefits.

Key Riparian Functions

- 💧 Trap sediment: roots and plants can collect sediment in the water and hold it. Over time it builds up a stable shoreline.
- 💧 Prevent erosion—the wearing away—of shorelines and river banks: roots hold soils together and slow water down. Vegetation protects shores from ice or wind erosion.
- 💧 Buffer and reduce the impact of flooding and droughts by absorbing and retaining water.
- 💧 Provide fish and wildlife habitat: plants provide places to hide and suitable areas to raise young.
- 💧 Produce forage for animals.
- 💧 Filter pollutants: plants absorb excess nutrients and can break down other compounds.
- 💧 Improve water quality by reducing sedimentation and trapping pollutants.
- 💧 Increase levels of biodiversity: biodiversity means variety of life. An area with high biodiversity is very flexible and resilient, and is better able to deal with stresses like drought, pollution, or disturbance.

What Does a Healthy Riparian Zone Look Like?

A healthy riparian zone is rich with natural vegetation. The water's edge is full of rushes and other water loving plants. The shore has a good mix of both taller, mature trees and young saplings. There is a full understory of mid-sized and ground covering plants. There is very little exposed soil or

rock; it is mostly protected by thick plant cover. There is little disturbance by traffic—human or animal. Foreign or invasive weeds are rare (Figure 1).

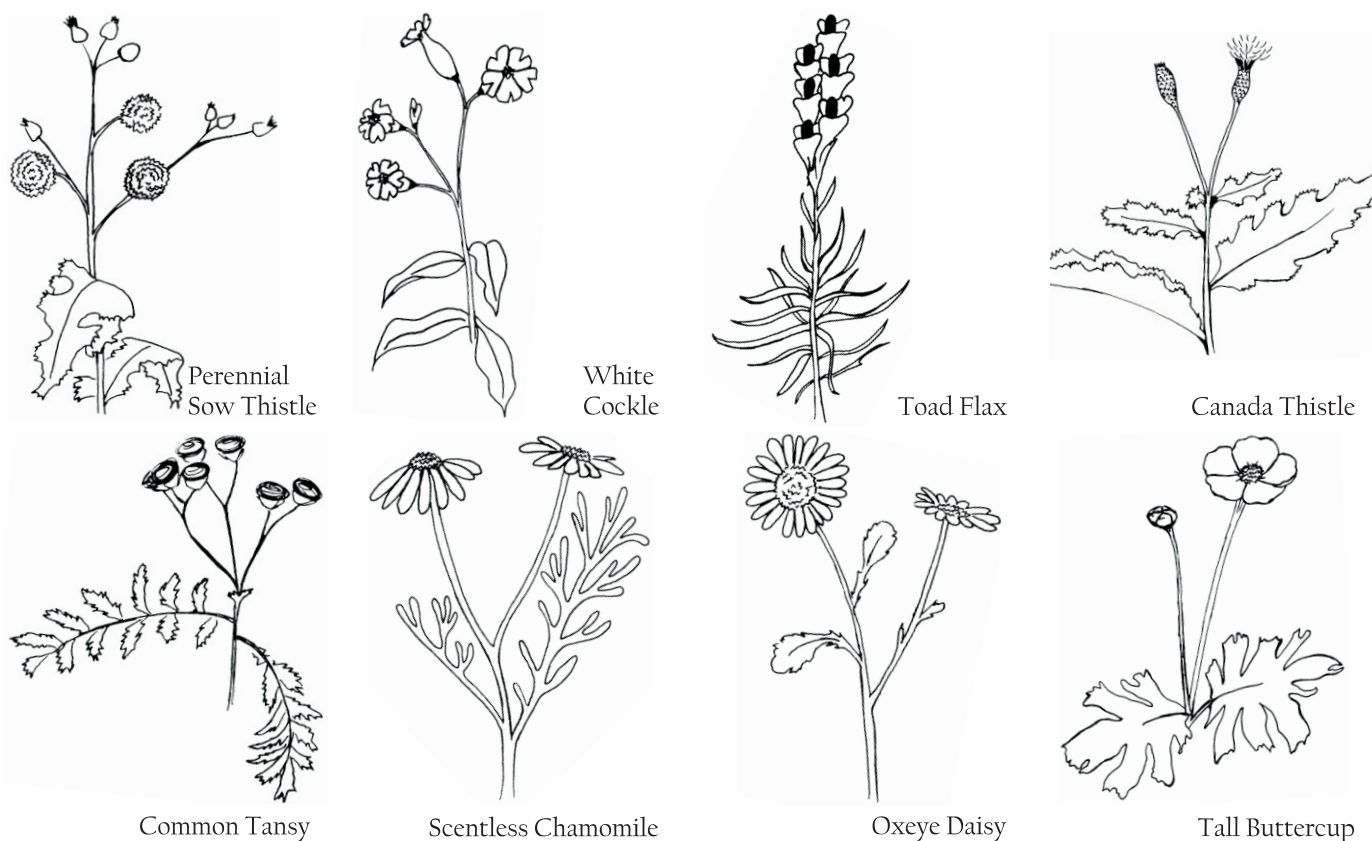
An unhealthy riparian zone doesn't have much vegetation. If there is vegetation, it is weeds that are not native to the area with shallow root systems that don't hold the soil together. The exposed soil

Figure 1. Weeds: Invasive and Disturbing

Weeds are plants that don't belong. When talking about riparian zones, weeds are plants with shallow root systems that can't fulfill their basic function of holding the soil together. Invasive weeds are dangerous because they spread quickly and can force out the natural vegetation. Disturbance weeds only become a real problem when the shoreline is already disturbed by things

like erosion, too much animal or human traffic, or construction activities. Disturbance weeds take advantage of the opportunity to establish themselves on the disturbed soil and prevent natural vegetation from coming back. But whether the shore is covered by invasive or disturbance weeds, these non-native plants leave shorelines weak and vulnerable to erosion.

Common Invasive Weeds Found in the Lesser Slave Area



Common Disturbance Weeds Found in the Lesser Slave Area

- | | | | | |
|---------------|-----------------|-------------------------|----------------------|--------------------|
| Δ chickweed | Δ dog mustard | Δ perennial sow thistle | Δ spreading dog bane | Δ wild mustard |
| Δ corn spurry | Δ flixweed | Δ quack grass | Δ stinkweed | Δ wild oats |
| Δ cow cockle | Δ green foxtail | Δ redroot pigweed | Δ tartary buckwheat | Δ wormseed mustard |
| Δ dandelion | Δ hemp nettle | Δ rough cinquefoil | Δ wild buckwheat | |

and rock can easily be carried away by wind or water. There are very few plants in the water to provide habitat for fish. It is usually human activity that has changed the natural shoreline by doing things like putting in non-native plants, cutting down trees or grass, hauling in sand for a beach or building houses too close to the water's edge.

The understory is the area of the forest that grows under the shade of the upper canopy or top of the trees. A healthy understory is full of young saplings, shorter trees, bushes and ground covering herbs.

💧 The Benefits of Healthy Riparian Lands

Ecological Healthy natural riparian lands are an important part of a healthy watershed and healthy ecosystems. They are key to healthy animal, bird and fish populations. Healthy riparian lands also give natural systems more ability to cope with stresses like drought, floods or human inflicted changes.

Aesthetic Natural riparian systems are beautiful, lush, green, and attract animal and bird life.

Economic Riparian lands help keep water clean which reduces the cost of water treatment. By buffering floods and droughts, they reduce both

the damage to property and the cost of finding alternate water sources. They reduce land lost by erosion. They provide economic benefit to the entire region though increased tourism.

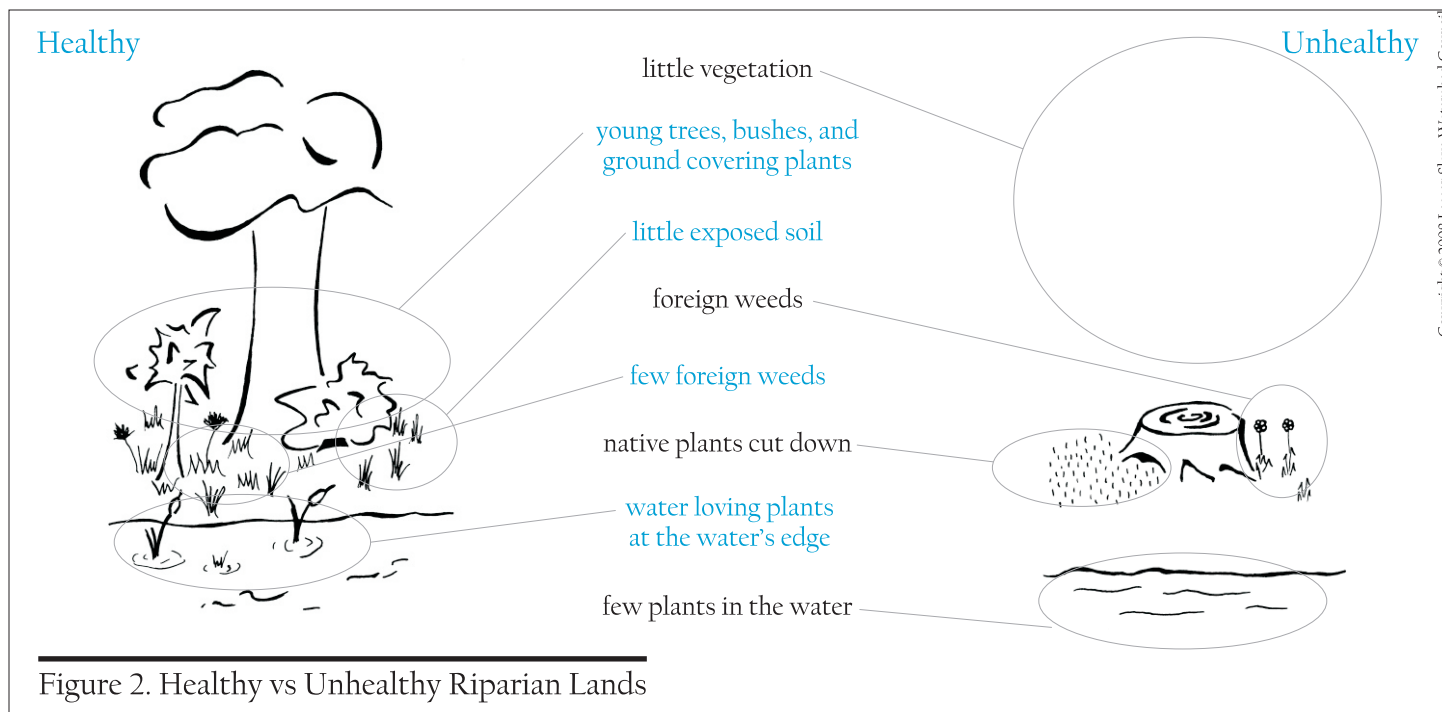


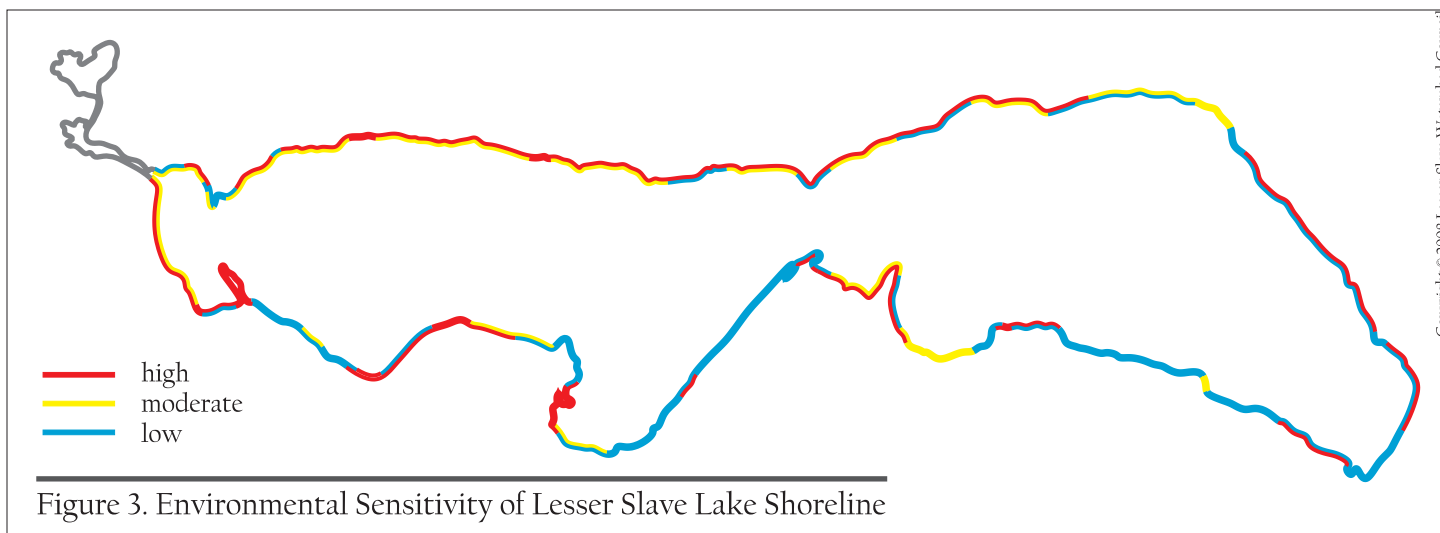
A healthy riparian zone, near Jossard.

💧 Protecting Our Riparian Lands

Development of our shorelines does not have to be completely stopped in order to protect our riparian lands. Careful planning and management can allow us to use our lakes and rivers responsibly. One way to accomplish this is to carefully consider where development happens.

In 1997, an ecological assessment was done on the





shores of Lesser Slave Lake. The goal was to see how sensitive the shores were. The study examined the shoreline and the land back from the water's edge (Figure 3). To determine which areas were more vulnerable they focused on key values that would need to be protected like fish (of commercial and recreational importance), water quality, soils, mature forest, large mammals and birds of prey, water birds, and significant features or landforms.

Some areas are more resistant to damage, and others have less valuable resources to protect. Areas that are key spawning habitats for fish, provide important nesting areas for eagles, or have mature forest that provides habitat for large mammals should be avoided. The study found that the north shore of the lake is especially rich with wildlife and has many important areas to protect.

How we use the shorelines is also important. Cottage owners can do a lot to protect the shores on their property by doing things like keeping buildings back from the shore, encouraging natural vegetation and being careful in how they use the shores. Keeping projects like marinas or campgrounds small and doing things to reduce our impact can also do a lot to protect riparian lands.

The Cows and Fish Project (www.cowsandfish.org) is a non-profit group that helps increase awareness about riparian lands and has a lot of ideas on how landowners can help improve riparian health.

Our Riparian Lands

Protecting riparian lands isn't just the responsibility of the people who own property along the shorelines; everyone who lives in the watershed can do their part to help. By learning more about riparian lands, organizing community groups where people work together to improve the health of riparian lands in their area, and supporting responsible development, we can all do something to protect our riparian lands so everyone can enjoy the rich benefits they give us, now and in the future.

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