COMMUNITY

Why riparian areas and what are they?

By the Cows and Fish Program and the Vincent Lake Working Group*

In an earlier article, our Group discussed with you the importance of a healthy and properly functioning Vincent Lake watershed, and the importance of riparian areas, those green zones found around lakes and along side creeks. This week, we learn about the power of water and the importance that riparian areas have in controlling that power for "good work".

Riparian areas are formed as the result of water, soil and vegetation interacting with one another. Their character is different from the upland. Because of the wetter soils and soil types, riparian areas tend to stay greener longer and produce more vegetation and forage than the uplands. The type and abundance of vegetation is a tip-off to identifying riparian areas. Look for the willows, tall grasses, grass-likes(sedges), cattails and bulrush! Riparian areas attracts livestock, wildlife, and humans.

Riparian areas are part of a healthy, functioning landscape and form part of an extensive drainage basin, like the riparian areas in the Vincent Lake watershed. Riparian areas sustain us, sustain our lifestyles and our business.

Horsepower !

Understanding the physics of moving water in a creek and standing water in a lake is an important step in learning why healthy riparian vegetation is needed to protect the banks of a creek and the shoreline of a lake, and other riparian areas. Here is how the Cows and Fish Program explain it.

Creek Horsepower:

- the water in a creek channel has mass (or weight);
- the mass of water is dragged downhill under the influence of gravity;
- and the water flows at some speed(or velocity)

The creek's engine is the mass of the water moving downhill. How much horsepower the creek's engine has depends on slope, amount of flow and resistance along the bank and channel. Horsepower, whether measured in a car, a tractor or a creek is a calculation of the amount of work that can be done.

The work of a creek is to erode material from its banks or bed and then to transport that material downstream. Creeks meander in order to balance the work they do with the energy they have.

- If the engine idles, not much horsepower is generated; the creek is not doing much work.
- If the engine races, its horsepower is unleashed, allowing the creek to work harder at eroding and transporting materials downstream.
- Creeks erode material from the outside of meander bends. Eroded material is transported downstream either suspended in water or by rolling on the creek bottom. The material is deposited on the inside of meander bends.
- Did you know that a doubling of the speed of a creek's flow allows it to erode four times as much and to carry 64 times the amount of material. That's power !

What do you think can happen to a creek bank if a large amount of the vegetation and their roots are removed? How about if larger sections of the creek bank become bare? Can you visualize the erosive forces water can have on a creek bank? How about the combined effect of all this material being transported downstream?

NOTE: Presently, much of our information deals with moving water riparian areas like creeks and rivers. However, you can apply or adapt many of these principles to standing water riparian areas too, like the lake shoreline of Vincent Lake.

Riparian Tip

Vincent lake's riparian area goes all around the lake. Riparian areas are found all along the creeks that run into and out of the lake, and into the North Saskatchewan River. For example, Mallaig Beach Creek and Atimoswe Creek, and all the associated small lakes, sloughs, and depressional areas of the Vincent Lake watershed.

Question and Answer

Q: What is your group's purpose education or enforcement?

A: Our group is about awareness, education, and tool building, not enforcement. However, we can provide information about the "laws of the land".

Q: Who is responsible for the health of our lakes?

A: We all are. Let's work together and contribute to the health of our lakes.

Q: You may get a call asking for your viewpoints and values concerning the use and healthy of Vincent Lake, and other lakes. What is this about ?

A: The Vincent Lake Working Group is conducting a survey and interview process to better understand your values and viewpoints of lake health and use. This information will help our Group bridge any gaps between recreation use and the needs of a lake like Vincent Lake to be healthy and properly functioning.

Next week, we will discuss topics like riparian stability, good mud/bad mud, and deep binding root mass!

* Vincent Lake Working Group is a partnership of interested individuals and groups whose purpose is to foster an increased understanding of the importance of healthy and properly functioning riparian areas in the watershed. Healthy riparian areas can continue to provide many benefits such as cottage, recreation, and agriculture. Members include: County of St. Paul, Summer Village of Horseshoe Bay, Alberta Environment, Alberta Agriculture, Food and Rural Development, Alberta Environmentally Sustainable Agriculture Program, Riparian Wetlands and Research Program, Alberta Conservation Association, and the Cows and Fish Program. For further information call Gerry Ehlert at 645-6336.