

THE NATURE OF STREAMS, CREEKS AND RIVERS COWS AND FISH

Riparian areas are the lush green zones that border creeks, streams, rivers, sloughs and lakes, and are part of a healthy landscape. These sensitive areas are desirable to humans for many reasons, and we depend on them for many of our activities and needs.

STREAM PHYSICS: 101

The nature of a stream, creek or river is to erode its banks and transport the eroded material, or sediment, downstream. Streams and rivers rarely flow in a straight line, but instead wind and meander to regulate water speed, valley slope and the amount of transported sediment.

As the presence of roots and plant growth in a streambank increases, water speed slows and erosion decreases. Streambanks that are resistant to the speed and power of water are the foundation of a stable riparian area. When waterways are straightened or widened, diverted into culverts or cleared of vegetation, they have little resistance against the speed and power of water. This may lead to downstream flooding and excessive erosion of shoreline and banks.

...RUNNING LIKE CLOCKWORK

An understanding of how riparian areas function is the first step in realizing how they may help us and how important they really are. Riparian areas are formed by the interaction of water, soil and plants, and similar to a clock with its many interconnected parts all working together to keep perfect time, a riparian area is healthiest when all of its ecological functions are working.

There are many basic jobs that these green zones perform. Riparian areas

- **trap and store sediment** which builds soil and improves water quality,
- **build and maintain streambanks** which reduces erosion,
- **trap and store water** in underground aquifers,
- **recharge aquifers** by slowly releasing stored water,
- **filter water** to improve its quality,
- **reduce water speed** which slows erosion of banks and shores,
- **maintain and shelter** a diversity of plant, animal and insect species, and
- **produce and support** abundant forage.

COMMON SENSE + GOOD PRACTICE = EXCELLENT PRODUCTION

Everyone – cottage owners, recreationalists and agricultural producers – enjoy the benefits of healthy riparian areas with their mix of shrubs and trees, diverse species of fish and wildlife, and abundant forage, water and shelter.

Recognizing stresses and reducing pressures like continuous grazing or in-stream livestock watering, protecting native vegetation by not clearing shorelines and riverbanks,

and monitoring the condition of riparian areas will influence the future use and condition of these highly productive, highly sensitive green zones.

HELPING COMMUNITIES HELP THEMSELVES

Cows and Fish is an Alberta-born organization that strives to foster a better understanding of how healthy riparian areas benefit everyone. Their approach of working with community groups toward a common goal continues to be rewarding for all involved, plus it keeps group members in the driver's seat of their own program.

Many helpful resources are available from *Cows and Fish* including 'Caring for the Green Zone' booklets, colourful pamphlets on a range of subjects, and workbooks that help landowners determine the health of their riparian areas. *Cows and Fish* also has an informative, user-friendly website, www.cowsandfish.org.

For further information on *Cows and Fish* programs or how they may help your community help its riparian areas, contact the Program Manager at 403-381-5538.