Program Partners

- Agriculture and Agri-Food Canada
- Ducks Unlimited Canada
- Environment Canada
- Fisheries and Oceans Canada
- Manitoba Agriculture, Food and Rural Initiatives
- Manitoba Cattle Producers Association
- Manitoba Conservation
- Manitoba Habitat Heritage Corporation
- Manitoba Water Stewardship

Funding for this fact sheet was provided by: Greencover Canada Technical Assistance Component, Agricultural Policy Framework, Agriculture and Agri-Food Canada, Stewardship-in-Action Program, Fisheries and Oceans Canada and Environment Canada.

For more information please contact:
Riparian Program Coordinator, Manitoba Habitat Heritage Corporation
200-1555 St. James Street,
Winnipeg, MB. R3H 1B5
Phone: (204) 784-4358
Fax: (204) 784-4359
Email: mhhc@mhhc.mb.ca

This and other related material, including a stocking rate calculator, an aerial photo library and other pasture management tools, can be found at www.riparianhealth.ca

MANAGING THE WATER'S EDGE
A Land & Water Partnership

Riparian Grazing Strategies

Improving Water Quality

(One of a series)

Success Indicators

There are signs to watch for that indicate water quality will improve.

- Vegetation cover is increasing, including trees and shrubs and native plants such as sedges, cattails and grasses.
- The amount of bare ground is decreasing, including that caused by livestock activities.
- Structural damage to the bank and impacts to the soils in the area caused by livestock and human activity are decreasing.
- Water in smaller water bodies is becoming clearer.

Printed 11/2006

Water quality is reduced when nutrients and pathogens are introduced to the waterway, and sedimentation is increased as a result of erosion. Riparian vegetation reduces the amount of nutrients and pathogens reaching the water body, traps sediment and slows erosion. Grazing strategies to improve water quality should focus on managing livestock access to the riparian area and the water body, and maintaining riparian vegetation.

Nutrients and Pathogens

Nitrogen and phosphorus are essential nutrients for life on this planet. But, excessive amounts of either nitrogen or phosphorous in water can over-stimulate aquatic plant growth, deplete oxygen levels and accelerate eutrophication of lakes. Algae can strongly influence water palatability and some algae may be toxic to livestock and other animals. Livestock contribute to the cycling of nitrogen and phosphorous in the environment by expelling nutrients in feces and urine.

Pathogens are micro-organisms that cause illness and disease. Pathogens present in cattle manure include bacteria such as E. coli, Salmonella, and Campylobacter, and protozoa like Giardia and Cryptosporidium. The contamination of drinking water by these organisms poses hazards to both livestock and human health.

Erosion and sediment transport

The loss of vegetation and an increase in bare ground along a water body increases the amount of sediment reaching the water through runoff. Sediment increases the turbidity (murkiness) of the water reducing its suitability for agricultural, recreational, industrial and domestic uses. Increased sediment can also have negative impacts on fish and other aquatic species. Sediment may clog channels and impair flow, increasing the risk of flooding.

MANAGING THE WATER'S EDGE
A Land & Water Partnership