Shoreline and Riparian Condition Assessment

MD of Bonnyville

RIPARIAN
WEB PORTAL

MD of Bonnyville Summary:

Your Shoreline and Riparian Condition Assessment

Purpose of this Report

This report presents information about the condition of riparian areas in your municipality. Results can be used to inform planning, conservation, and restoration efforts by municipalities and partners. More detailed results can be found in the attached appendix, as well as through the Riparian Web-Portal (riparian.info).

Riparian Areas 101: Why they matter

Riparian areas are are transitional areas between a waterbody and the adjacent upland area.

Photo credit: *Images Alberta Camera Club.*

Improve water quality by trapping sediments, filtering nutrients and pollutants, reducing aquatic plant and algal growth

Mitigate floods and droughts by storing and slowing the release of water and reducing erosion

Improve biodiversity by providing fish and wildlife habitat and cooling water temperatures

Provide aesthetically pleasing areas for recreation or cultural activities

Add economic value by increasing property values or providing areas for nature viewing

To learn more about the importance of riparian areas, please go to:
www.riparian.info

Project Partners

This work has been carried out by Watershed Planning and Advisory Councils (WPACs) in your area. These include:

NSWA NORTH SASKATCHEWAN WATERSHED ALLIANCE

LICA ENVIRONMENTAL STEWARDS

What is riparian intactness?

Illustration by: Terra Simieritsch

Riparian intactness is a measure of how "natural" a shoreline is. Riparian intactness measures riparian condition at a broad scale, using satellite data. This is a new method, which has been scientifically validated, to assess riparian conditions across a large area in Central Alberta.

How to use this information

- To compare the condition of water bodies or watersheds across a region
- To prioritize restoration and conservation efforts
- To complement with field-based assessment methods by showcasing broad-scale results
- To guide voluntary stewardship efforts by municipalities, community groups, and landowners

Beneficial Management Practices for municipal leaders

Ensure that your municipality has policies for sufficient development setbacks and buffers of native plants to safeguard water bodies

Utilize and enforce policy tools such as Environmental Reserves, Conservation Reserves and Conservation Easements to ensure that hazard and sensitive lands are not developed

Minimize erosion, maintain slopes and prevent disturbance in or close to riparian areas

Encourage and support landowners and community initiatives to maintain and improve riparian areas through water and land stewardship groups

Eliminate or control invasive species in municipal riparian areas and promote natural and native species along shorelines

Educate the public about recreational use impacts and why some activities are restricted to specific places or seasons

What is Intactness?

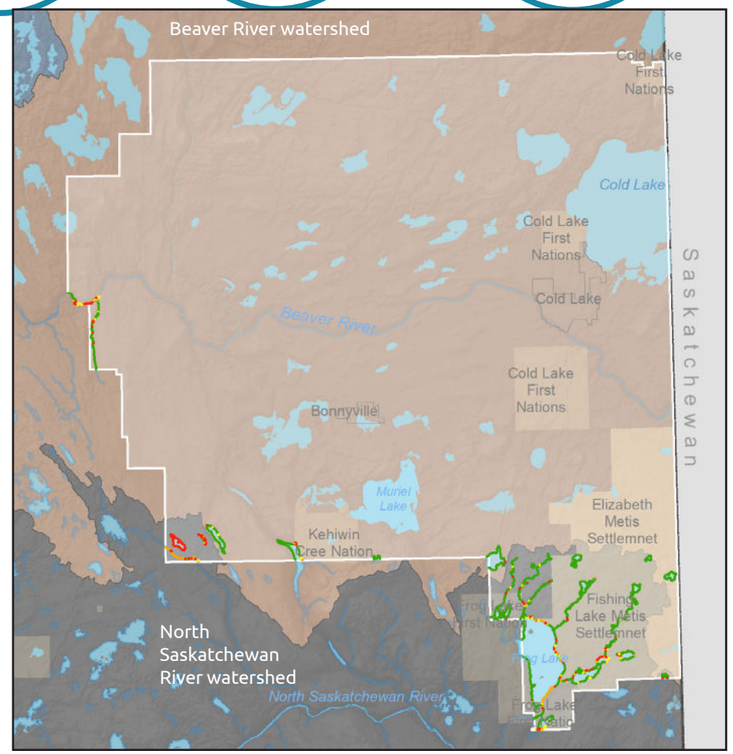
- Intactness is a measure of riparian condition at a broad scale (watershed or region)
- Measures how natural habitat has been altered or impaired by human activity
- Measures the quantity of natural, woody, and human footprint using satellite data

Intactness Results for the MD of Bonnyville

378 KM of shorelines assessed in Camrose County

17/19 lakes had 65%+ High Intactness

7/10 creeks had 65%+ High Intactness



Intactness Ratings

- Vegetation mostly cleared. Human footprint dominant.
- Vegetation limited. Human footprint prevalent.
- Vegetation present. Some human footprint.
- Vegetation present. Little or no human footprint.

Map 1: Riparian Intactness in the municipality. To view more data, please see the attached Appendix.

MD of Bonnyville Overall Intactness

6.5%	3%	6.5%	84%
Very Low	Low	Moderate	High

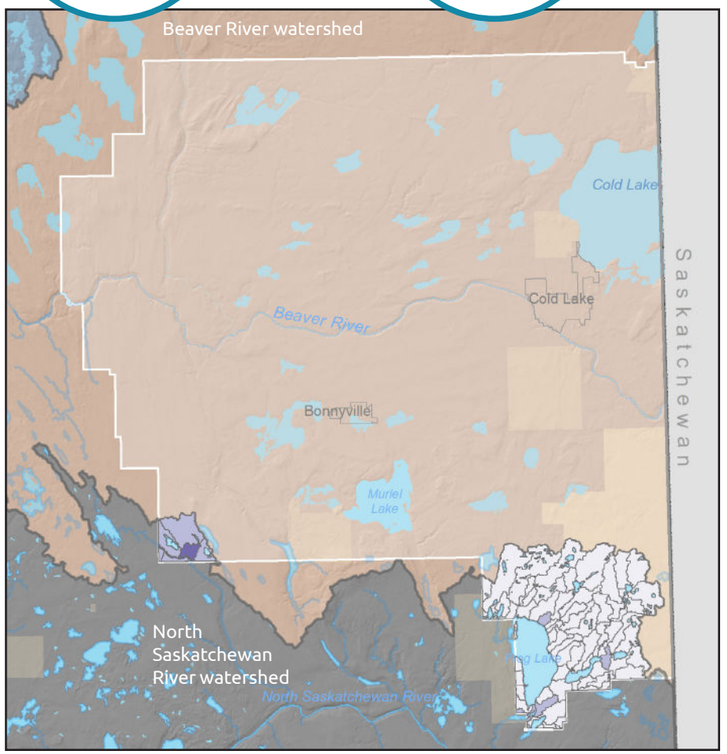
What is Catchment Pressure?

- Indicates pressures on the landscape that might impact riparian health
- Includes natural stressors (e.g., slope, forests) and human stressors (e.g., land-use intensity)
- High pressure=high stress for riparian areas. Data was collected to inform prioritization dataset

Catchment Pressure Results for the MD of Bonnyville

368 KM² area of land assessed

29 # of catchment areas assessed in the municipality



Pressure Ratings

- High Pressure
- Moderate Pressure
- Low Pressure

Map 2: Catchment Pressure in the municipality. To view more data, please see the attached Appendix.

MD of Bonnyville Overall Pressure

2%	22%	77%
High	Moderate	Low

What is Prioritization?

- Combines intactness scores and pressure scores to highlight which riparian areas are most affected by landscape pressures
- Conservation rating are prioritized where riparian intactness is high and landscape pressures are low
- Restoration rating are prioritized where riparian intactness is low and landscape pressures are high

Prioritization Results for the MD of Bonnyville

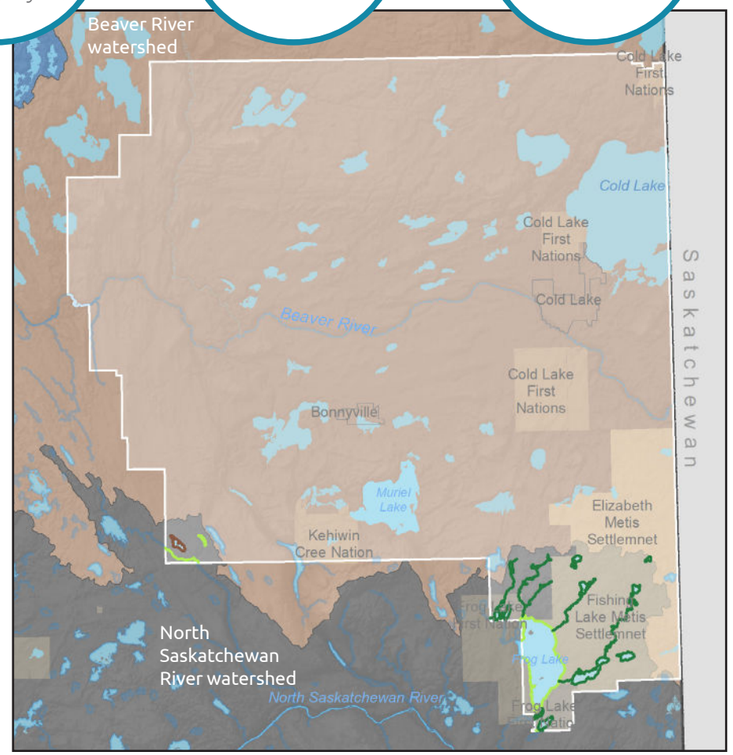
368 KM of shorelines assessed in MD of Bonnyville

13 KM high restoration priority

255 KM high conservation priority

Priority Ratings

- High Restoration Priority
- Moderate Restoration Priority
- Moderate Conservation Priority
- High Conservation Priority



Map 3: Restoration and Conservation Priorities in the municipality. To view more data, please see the attached Appendix.

MD of Bonnyville Overall Prioritization

4%	4%	4%	88%
High Restoration	Moderate Restoration	Moderate Conservation	High Conservation

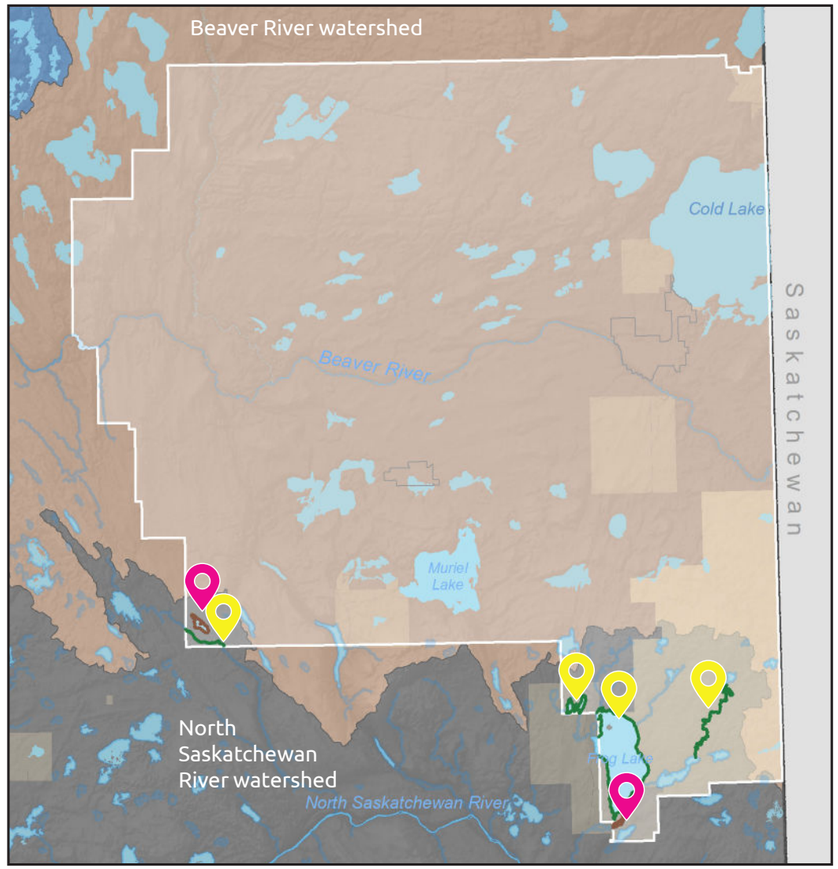
Top Conservation & Restoration Priorities

Restoration

- **Lake:** Flat Lake
- **Unnamed Lake:** N/A
- **Named Creek:** Frog Creek
- **Unnamed Creek:** N/A

Conservation

- **Lake:** Frog Lake
- **Unnamed Lake:** UL-110401-63
- **Named Creek:** Dog Rump Creek
- **Unnamed Creek:** Fishing Lake-01



Map 4: The top Conservation and Restoration Priorities recommended for the MD of Bonnyville. Recommendations are chosen based on the results from the Prioritization assessment seen in Map 3. Selection criteria includes greatest percentage and distance in the High Restoration and High Conservation categories. To view more data, please see the attached Appendix.

Next steps to conserve or restore impacted or impaired riparian habitats:

1. Use priority maps to direct conservation and restoration efforts.
2. Develop policies at the municipal level for land management.
3. Provide incentives for private landowners to restore degraded riparian habitats.
4. Restore and conserve riparian habitats through municipal reserves, land trusts and/or conservation groups.

See the Appendix for a comprehensive list of priorities. To find out more about riparian condition data and resources, go to: **riparian.info**

Acknowledgments

This work was an inter Watershed Planning and Advisory Councils (WPAC) project with funding and support from many sources. A special thanks to the WRRP and the governments of Canada and Alberta, through the Canadian Agricultural Partnership.

Intactness, Pressure, and Prioritization data was created by Fiera Biological Consulting Ltd. Base Map Data was provided by the Government of Alberta.

CANADIAN AGRICULTURAL PARTNERSHIP

Alberta

Canada

The following appendix is a summary of waterbodies in your municipality. Waterbodies often flow through multiple municipalities; portions of waterbodies outside of your municipality have been excluded from the following appendix. The appendix includes results of the intactness, pressure and prioritization assessments. The data has been extracted from “Appendix D: Rural Municipalities of ”Riparian Area Assessment of the North Saskatchewan and Battle River Watersheds” (Fiera Biological Consulting Ltd). The report can be found in the Information section of *riparian.info*