

# Shoreline and Riparian Condition Assessment

## **Smoky Lake County**





# Smoky Lake County 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](http://riparian.info)).

### Riparian Areas 101: Why they matter

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



**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](http://www.riparian.info)

### Project Partners

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



### 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



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



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



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



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



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



# What is Intactness?

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

## Intactness Results for Smoky Lake County

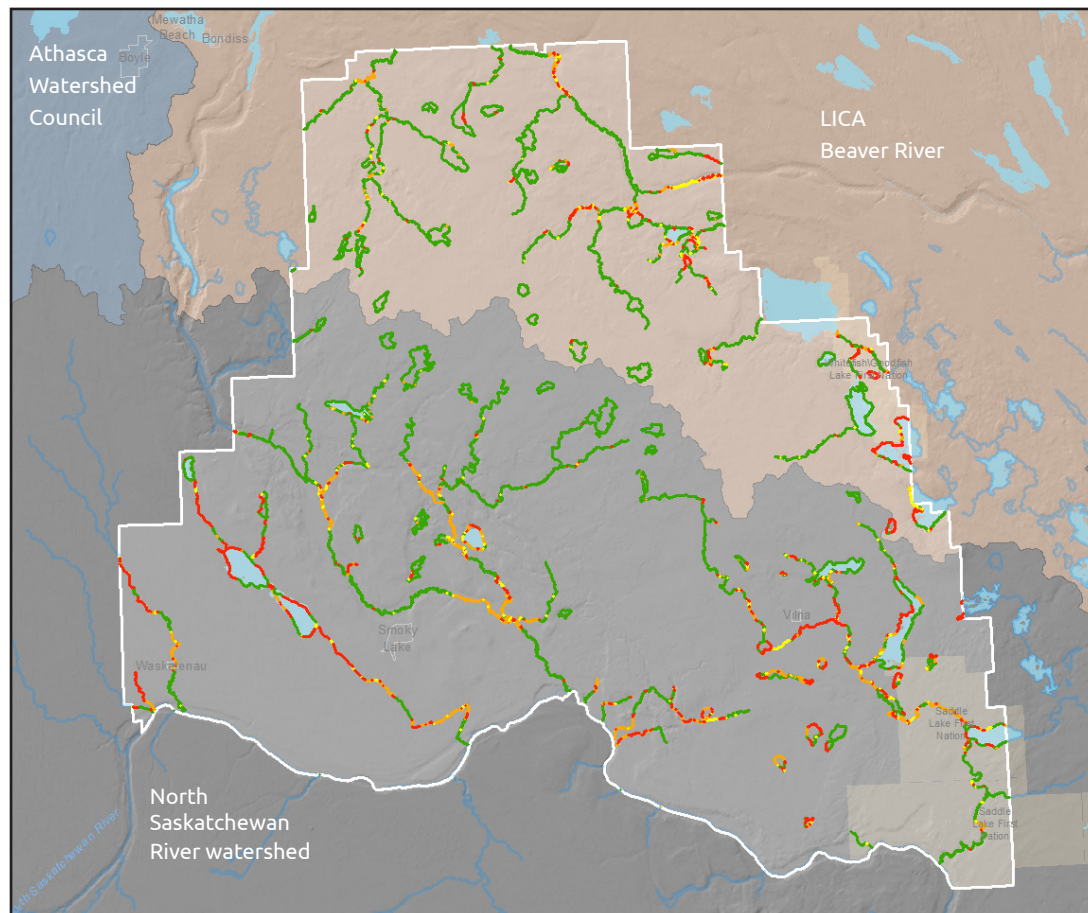
**1,903 KM**  
of shorelines  
assessed in Smoky  
Lake County

**48/70**  
lakes had 65%+  
**High Intactness**

**26/38**  
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](#).*

## Smoky Lake County Overall Intactness



# What is Catchment Pressure?

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

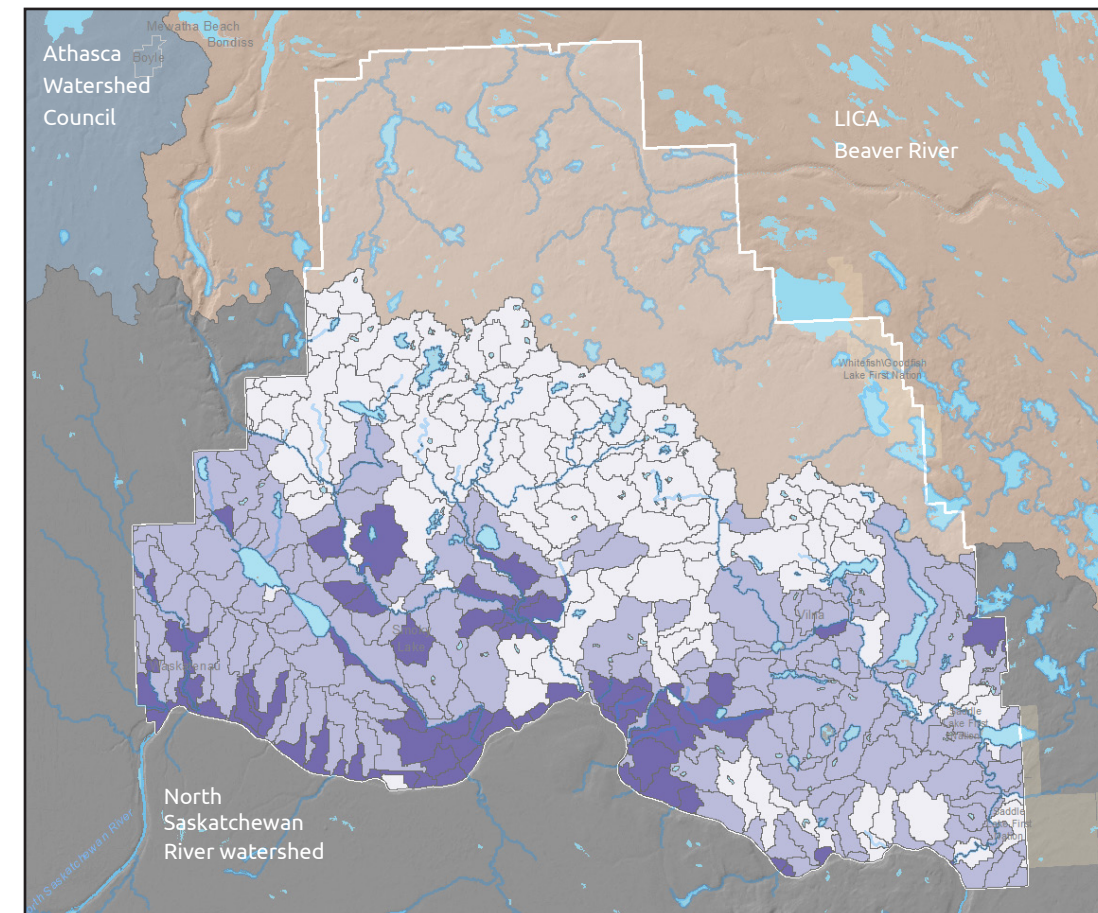
## Catchment Pressure Results for Smoky Lake County

**2,539 KM<sup>2</sup>**  
area of land  
assessed

**33**  
# of catchment  
areas assessed  
in the  
municipality

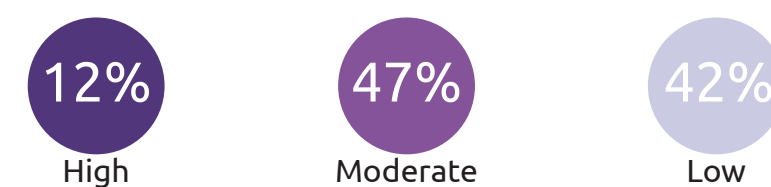
### Pressure Ratings

- High Pressure
- Moderate Pressure
- Low Pressure



*Map 2: Catchment Pressure in the municipality. To view more data, please see the attached [Appendix](#).*

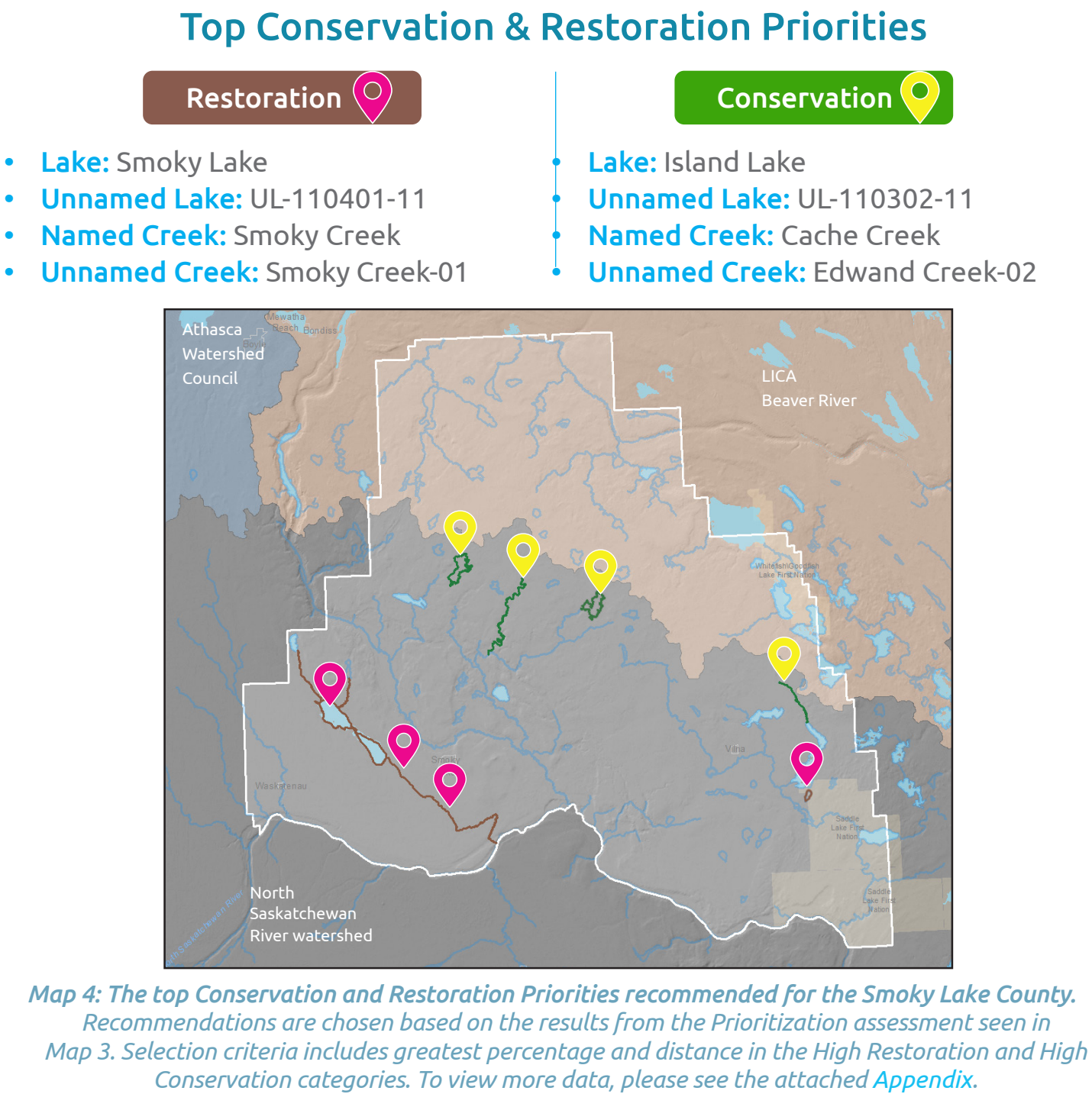
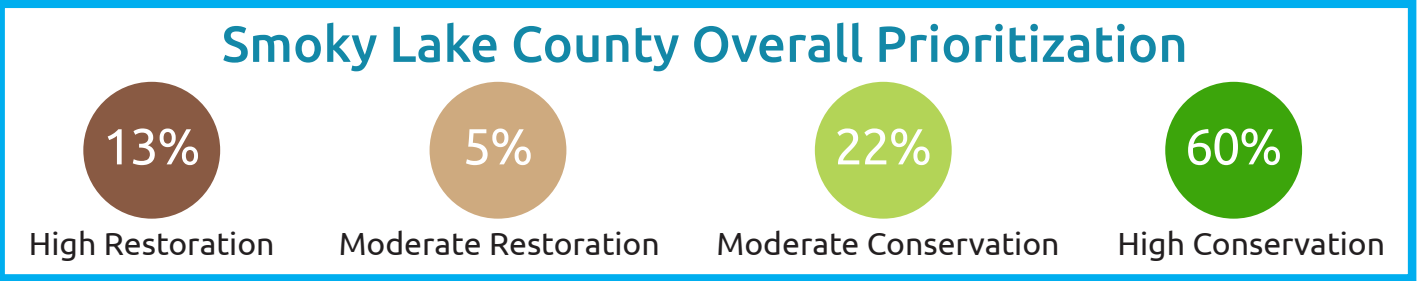
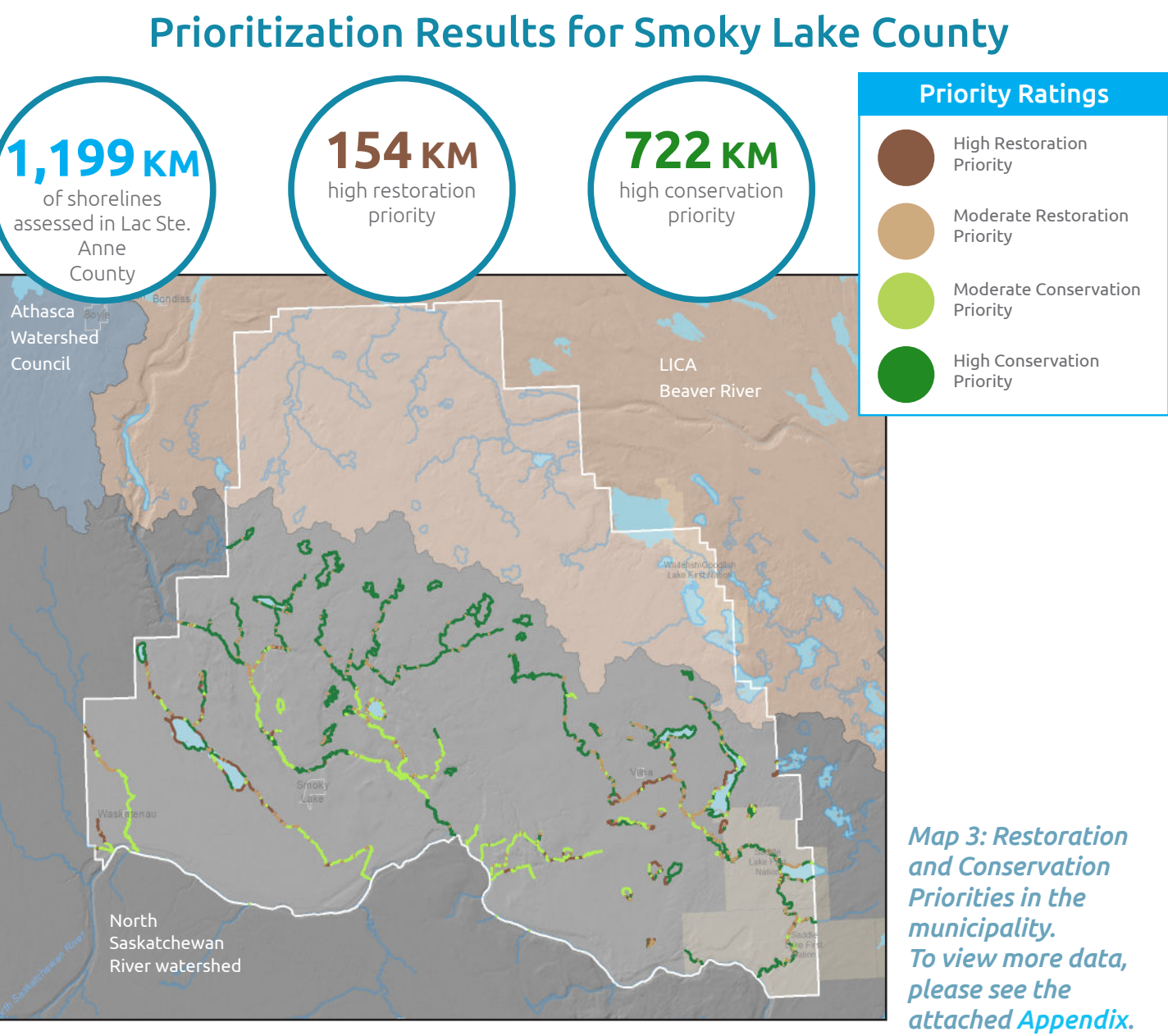
## Smoky Lake County Overall Pressure





# What is Prioritization?

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



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

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



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](#)