Shoreline and Riparian Condition Assessment

City of Wetaskiwin

RIPARIAN
WEB PORTAL

December 2021

City of Wetaskiwin Summary:
Your Shoreline and Riparian Condition Assessment

Purpose of this Report

This report presents information about the condition of riparian areas in your municipality. Satellite-based mapping techniques were used to assess riparian intactness, catchment pressure, and prioritization for select waterbodies and areas; some areas were excluded from the assessment. Results can be used to inform planning, conservation, and restoration efforts.

Details about the study scope and results can be found in the Appendix and through the Riparian Web Portal (*riparian.info*).

Riparian Areas 101: Why They Matter

Riparian areas 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:
riparian.info

Project Partners

This work has been carried out by the Watershed Planning and Advisory Council (WPAC) in your area:

BATTLE RIVER
WATERSHED ALLIANCE

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 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 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 if natural habitat has been altered or impaired by human activity.
- Measures the quantity of natural and woody vegetation, as well as human footprint, using satellite data.

Intactness Results for the City of Wetaskiwin

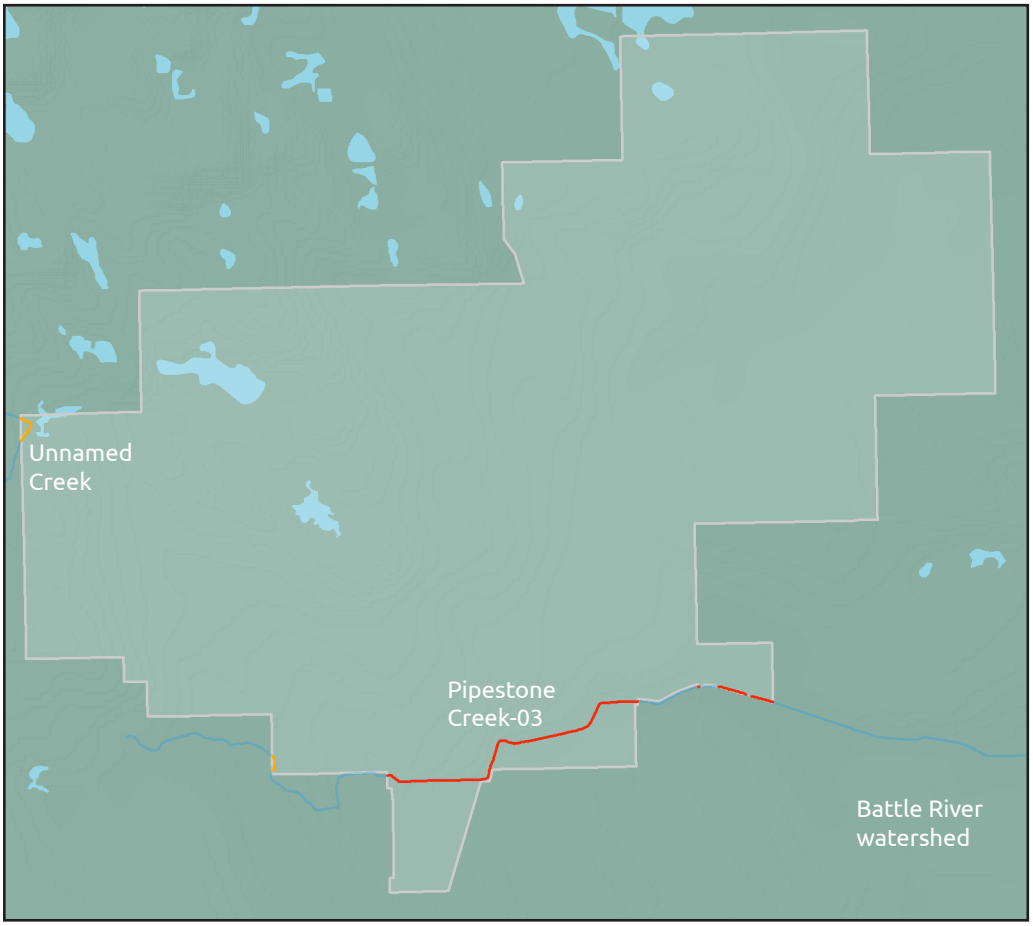
5.7 KM of shorelines assessed in the City of Wetaskiwin

~0.4 KM of Unnamed Creek has **Moderate Intactness**

~5 KM of Pipestone Creek-03 has **Very Low 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 **Appendix**.*

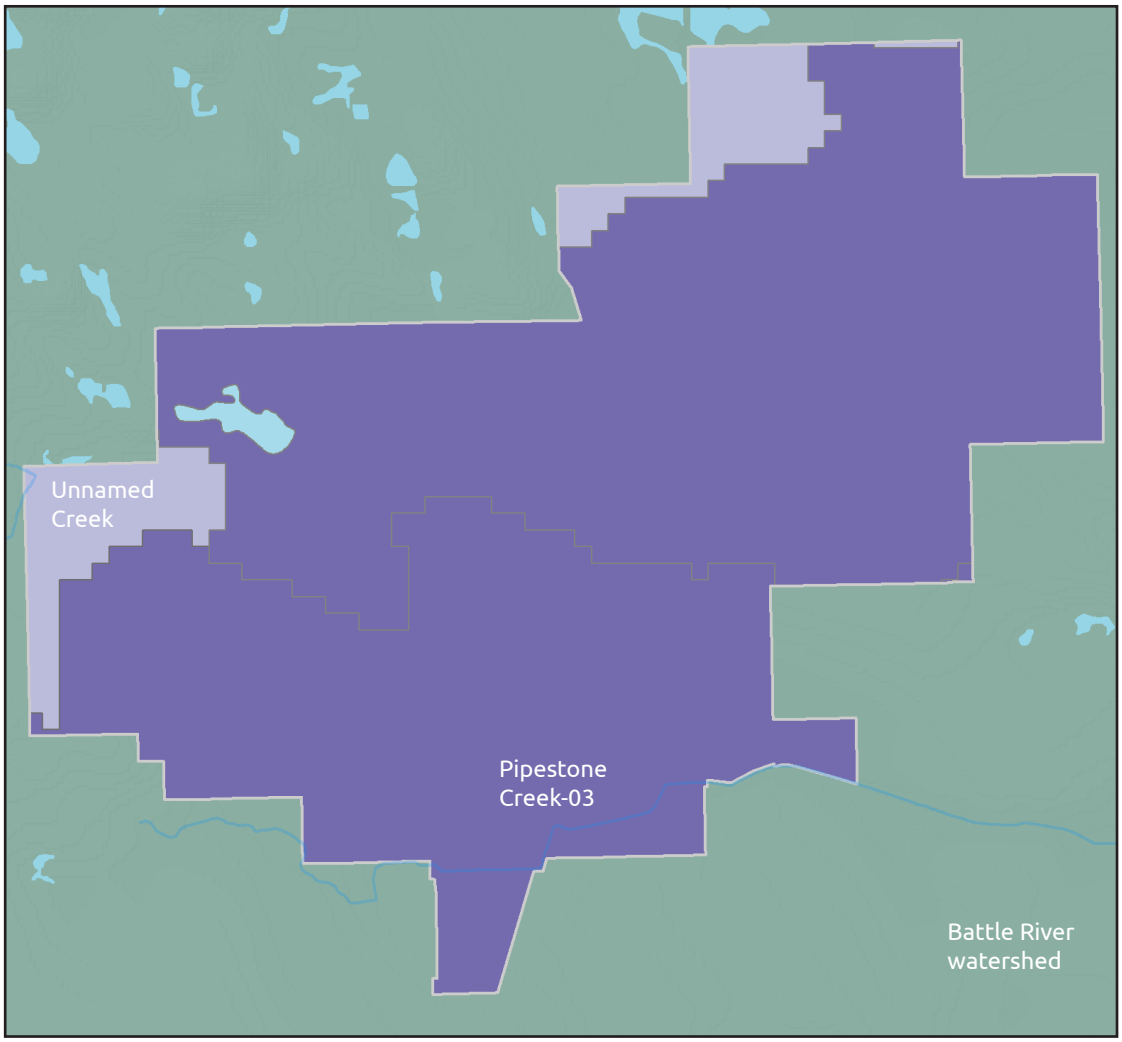
City of Wetaskiwin Overall Intactness

88%	2%	10%	0%
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 potential stress for riparian areas. Data was collected to inform prioritization dataset.

Catchment Pressure Results for the City of Wetaskiwin



Pressure Ratings

- High Pressure
- Moderate Pressure
- Low Pressure

20 KM²
of land assessed

*Map 2: **Catchment Pressure in the municipality.** Note that the Overall Pressure numbers below refer to the proportion (%) of shoreline associated with each pressure category. To view more data, please see the **Appendix**.*

City of Wetaskiwin Overall Pressure

46%	54%	0%
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 is prioritized where riparian intactness is high and landscape pressure is low.
- Restoration rating is prioritized where riparian intactness is low and landscape pressure is high.

Prioritization Results for the City of Wetaskiwin

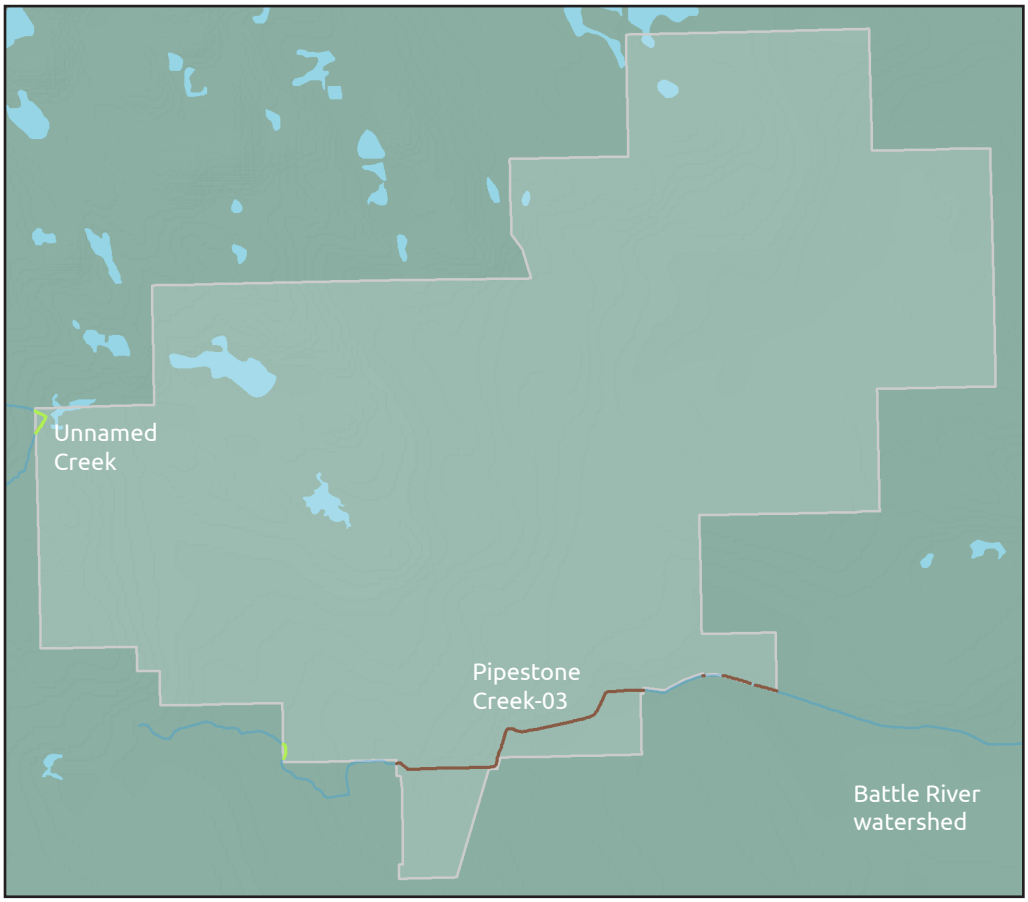
5.7 KM of shorelines assessed in the City of Wetaskiwin

~96% of Pipestone Creek-03 is a **High Restoration Priority**

~80% of Unnamed Creek is a **Moderate 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 **Appendix**.*

City of Wetaskiwin Overall Prioritization

88%	1%	11%	0%
High Restoration	Moderate Restoration	Moderate Conservation	High Conservation

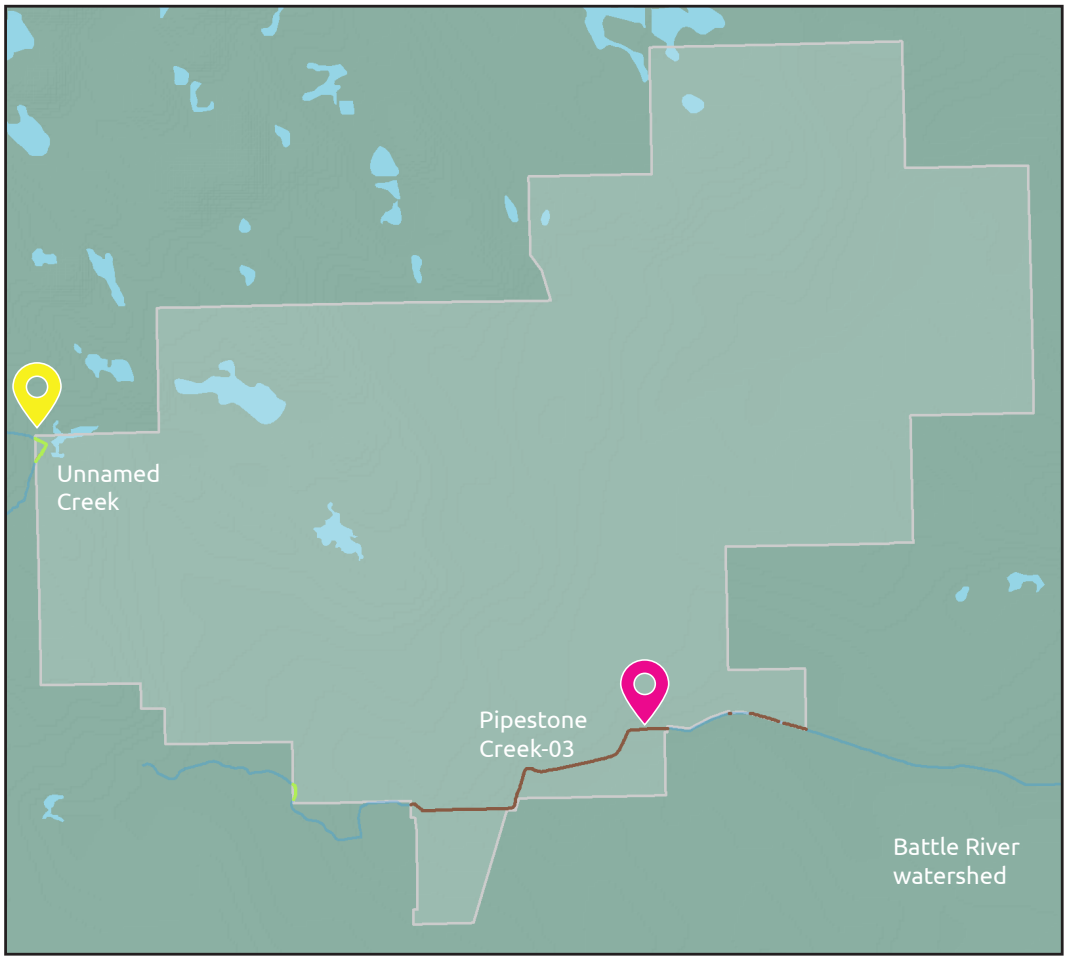
Top Conservation & Restoration Priorities

Restoration

Middle and eastern portions of Pipestone Creek-03

Conservation

Portion of Unnamed Creek



*Map 4: The top Conservation and Restoration Priorities recommended for the municipality. Recommendations are based on the top results from the Prioritization assessment shown in Map 3. To view more data, please see the **Appendix**.*

Next steps to conserve or restore priority 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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Cover Photo: Pipestone Creek near Coal Lake