

# Shoreline and Riparian Condition Assessment

## **Mountain View County**



Summer 2023

# Mountain View 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. Satellite-based mapping techniques were used to assess riparian intactness for select waterbodies and areas in the Red Deer River Watershed. 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](http://riparian.info)).

### Riparian Areas 101: Why They Matter

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



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

### Project Partners

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





# 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 areas that are in need of conserving and areas in need of restoring
- 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



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

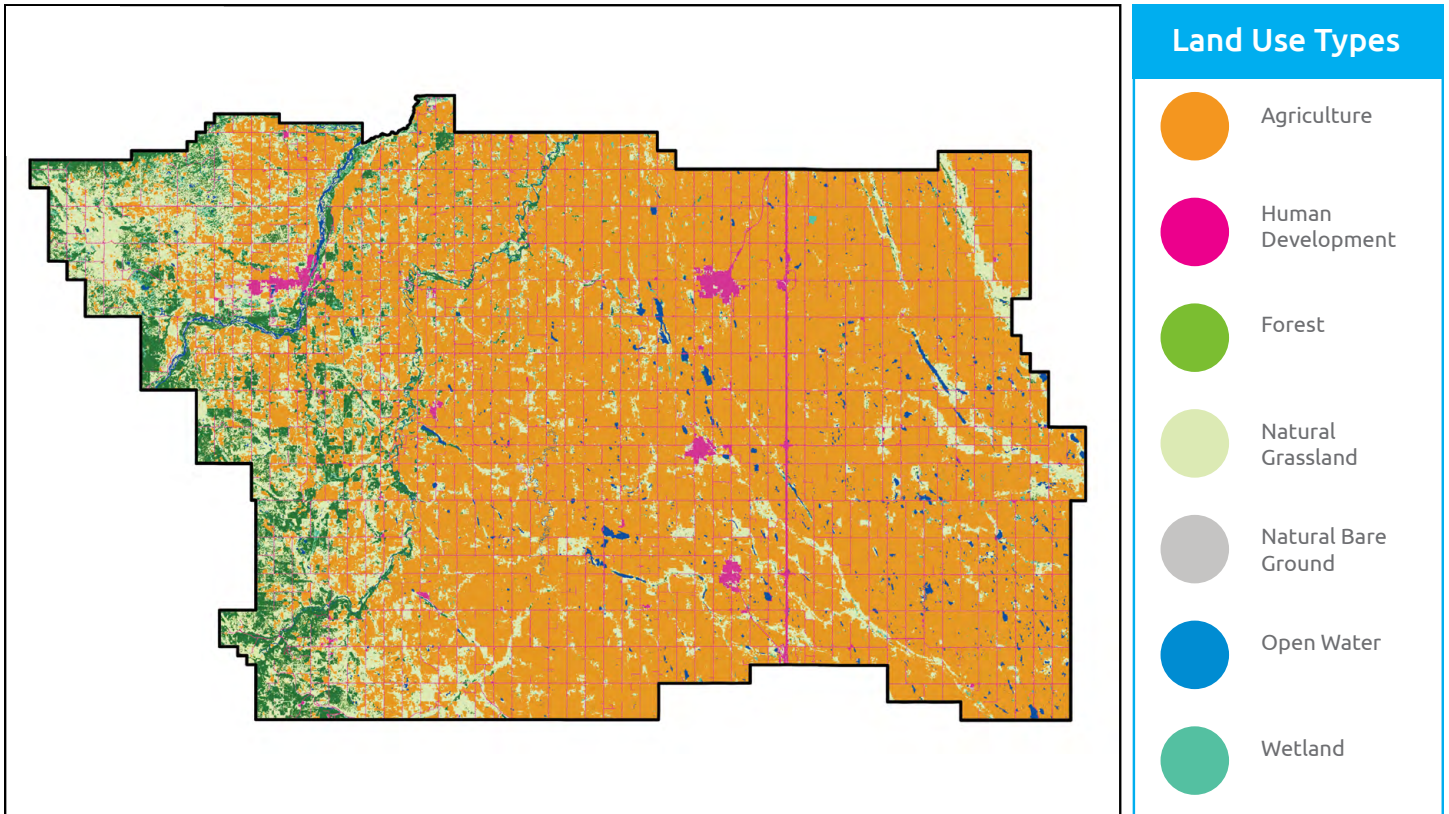


Educate the public about recreational use impacts and why some activities are restricted to specific places or seasons

# About Land Use

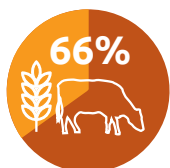
- o Land use can impact and create variation in water quality throughout a watershed
- o Areas of high land use intensity (development, industry, recreation, agriculture) are more likely to impact water quality
- o Municipalities can improve storm water management and flood and drought resilience through conservation & restoration projects

## Land Use for Mountain View County



*Map 1: Land Use in the municipality. This is based on the AAFC's Land Class data (2021). The resolution for these datasets is coarse, so it provides a general representation of land use in the area.*

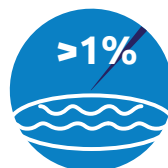
## Mountain View County Land Use



Agricultural



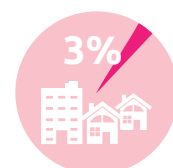
Forest, Grassland,  
Bare Ground



Open  
Water



Wetland



Human  
Development



# What is Intactness?

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

## Intactness Results for Mountain View County

**1,377 KM**

of shorelines assessed  
in Mountain View  
County

**0/5**

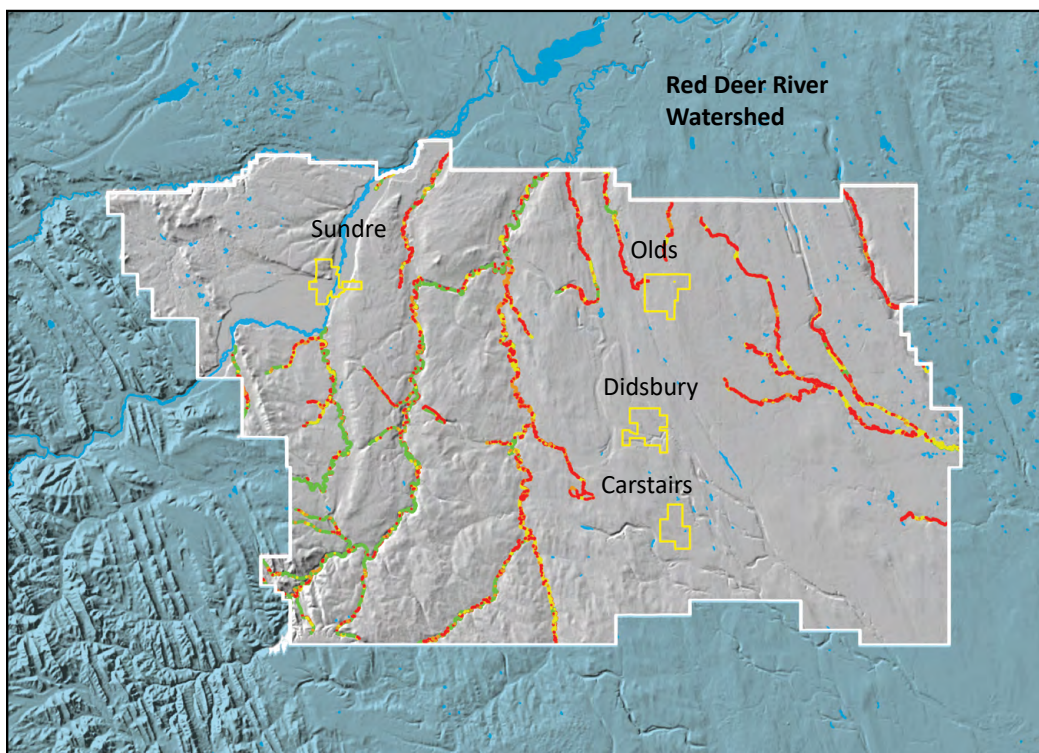
\* lakes had 65%+  
**High Intactness**

**12/40**

\* creeks had 65%+  
**High Intactness**

**20/45**

waterbodies had  
65%+ **Moderate 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 2: Riparian Intactness in the municipality.** Note: It was not possible to assess some areas. To view more data, please see the attached [Appendix](#).

\* A general target for Intactness is to have 65% or greater **High Intactness**.

## Mountain View County Overall Intactness

**31%**

Very Low

**14%**

Low

**22%**

Moderate

**33%**

High

# Key Priorities Based on Highest & Lowest Intactness

## Lowest Intactness Areas

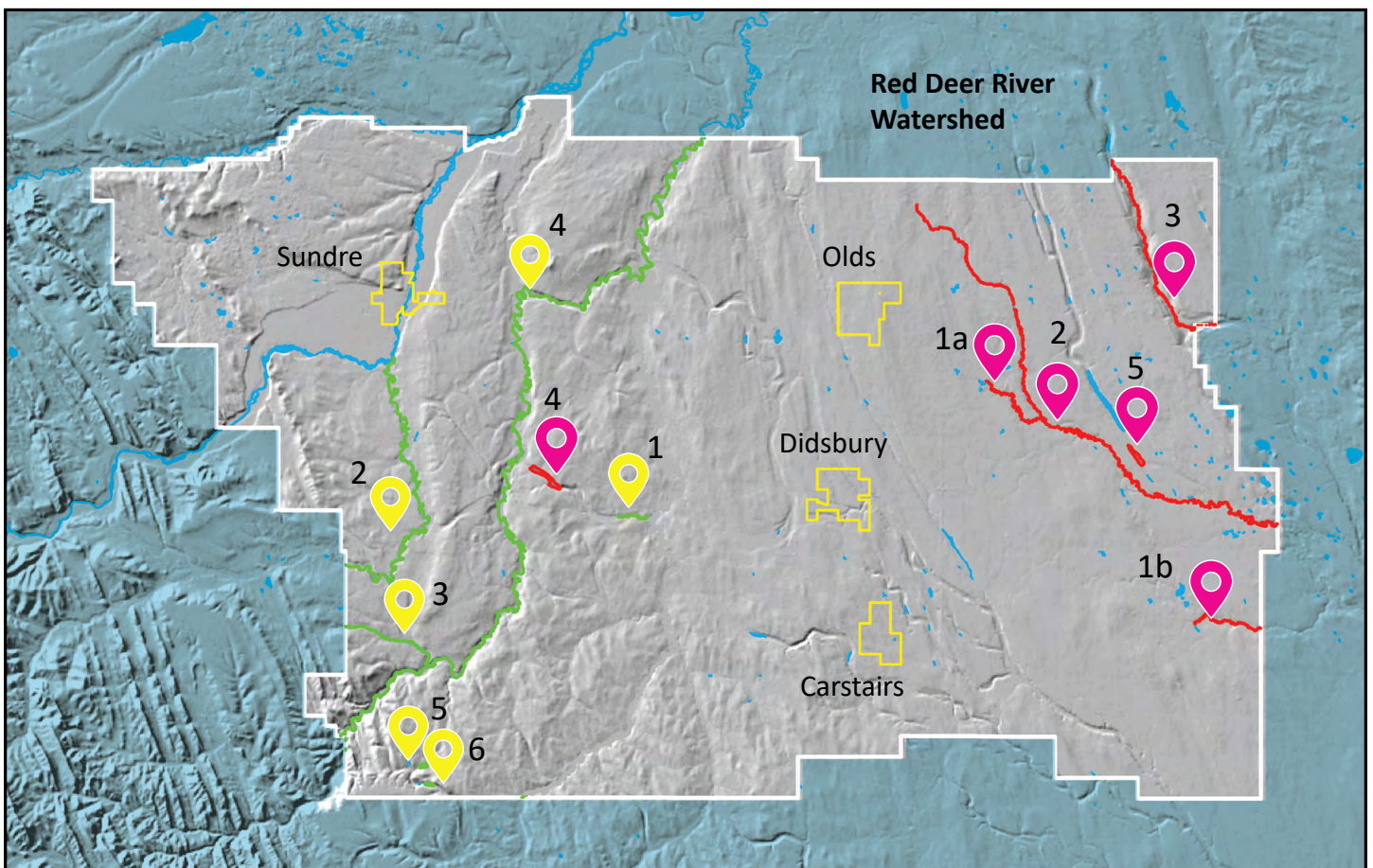
Areas with the lowest intactness need restoration

- 1 Lonepine Creek 01 and 03 (unnamed watercourses)
- 2 Lonepine Creek
- 3 Spruce Creek
- 4 Hamatten Reservoir
- 5 Burns Lake

## Highest Intactness Areas

Areas with the highest intactness need conservation

- 1 Dogpound Creek-01 (unnamed watercourse)
- 2 Fallentimber Creek
- 3 Big Prairie Creek
- 4 Little Red Deer River
- 5 UR-080102-01
- 6 Winchell Lake



*Map 3: Key Areas for Conserving or Restoring Riparian Areas Based on Intactness.*



# Next steps to conserve or restore priority riparian habitats

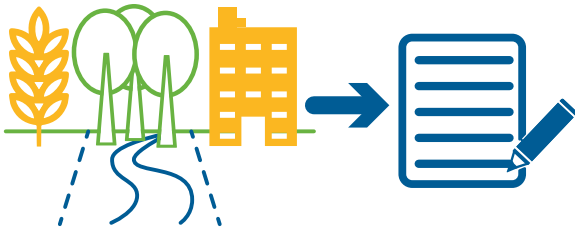
- 1 Use priority maps to direct conservation and restoration efforts.



- 3 Provide incentives for private landowners to restore degraded riparian habitats.



- 2 Develop policies at the municipal level for land management.



- 4 Restore and conserve riparian habitats through municipal reserves, land trusts and/or conservation groups.



To find out more about riparian condition data and resources, go to: [riparian.info](http://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 Watershed Resiliency and Restoration Program and the governments of Canada and Alberta, through the Canadian Agricultural Partnership.

Intactness data was created by Fiera Biological Consulting Ltd. Base Map Data and Land Use Data was provided by the Government of Alberta.







The following appendix is a summary of waterbodies assessed in your municipality, and includes results of the intactness assessments.

Please note that the assessment methods were applied to specific waterbodies; some areas were not included. As such, results described in this report apply only to those areas assessed. See the supporting documents for more details. Please note that waterbodies that flow through multiple municipalities have been 'clipped' to demonstrate the portion which applies only to your municipality.

The data has been extracted from the *Riparian Area Assessment for the Buffalo, Kneehills, Little Red Deer, and Threehills Subwatersheds*. (Fiera Biological Consulting Ltd, 2022). These reports can be found at:  
<https://open.alberta.ca/opendata/gda-f0931661-3c35-4149-ae0b-94058938ad6f>

## 9.4. Mountain View County

Mountain View County overlaps both the Little Red Deer and Kneehills subwatersheds, with 71% of the county being covered by these two subwatersheds (Map 4). The majority of the land cover in this county is agriculture (66%), with natural cover accounting for 31% of the cover (Figure 35). Forest and natural grassland make up 19% and 9% of the land cover, respectively, with this cover tending to be associated with the western portions of the county. Agriculture is the predominate land cover in the central and eastern portions of the county.

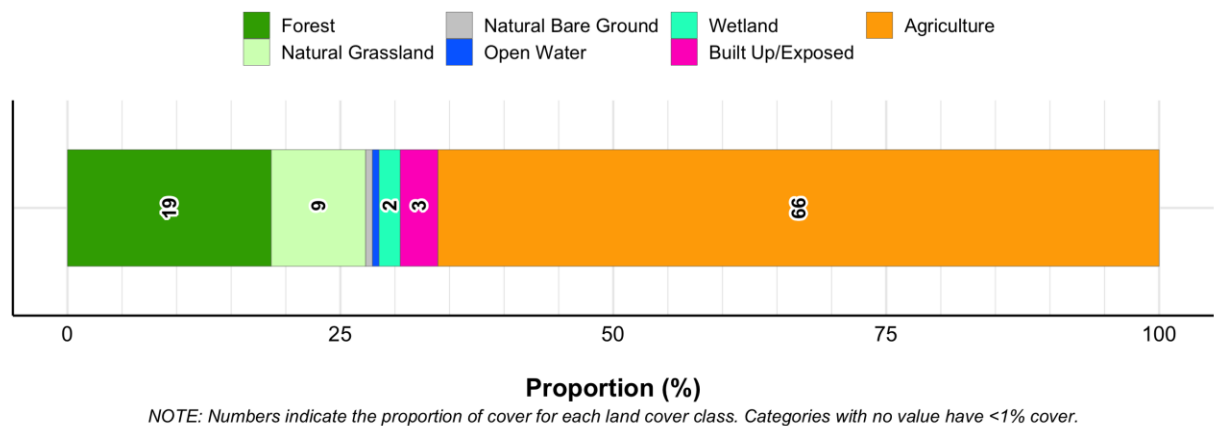


Figure 46. The proportion of Mountain View County assigned to each land cover class. Land cover data is based on the 2020 Agriculture and Agri-Food Canada land cover.

A total of 1,377 km of shoreline was assessed within Mountain View County with 33% (457 km) categorized as High Intactness and an additional 22% (307 km) assessed as Moderate Intactness (Figure 47). The remaining 45% of shoreline was categorized as Low Intactness (14%, 192 km) or Very Low Intactness (31%, 421 km). These results included both the left and right shorelines of watercourses.

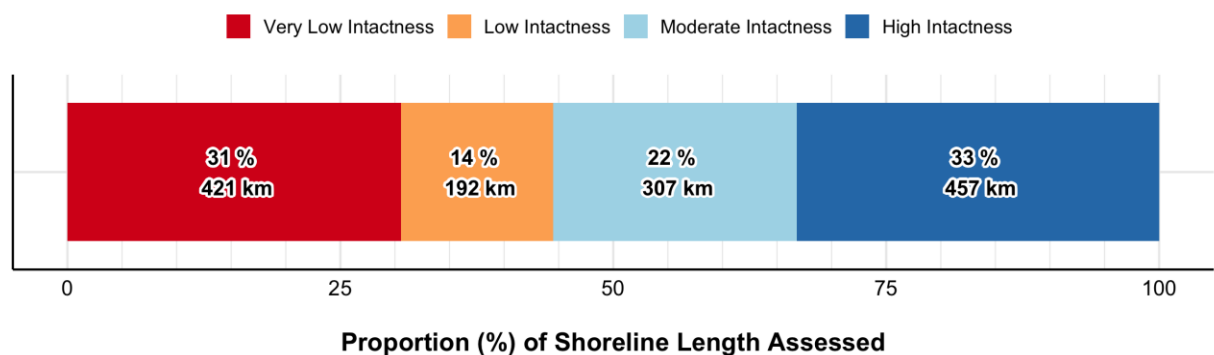
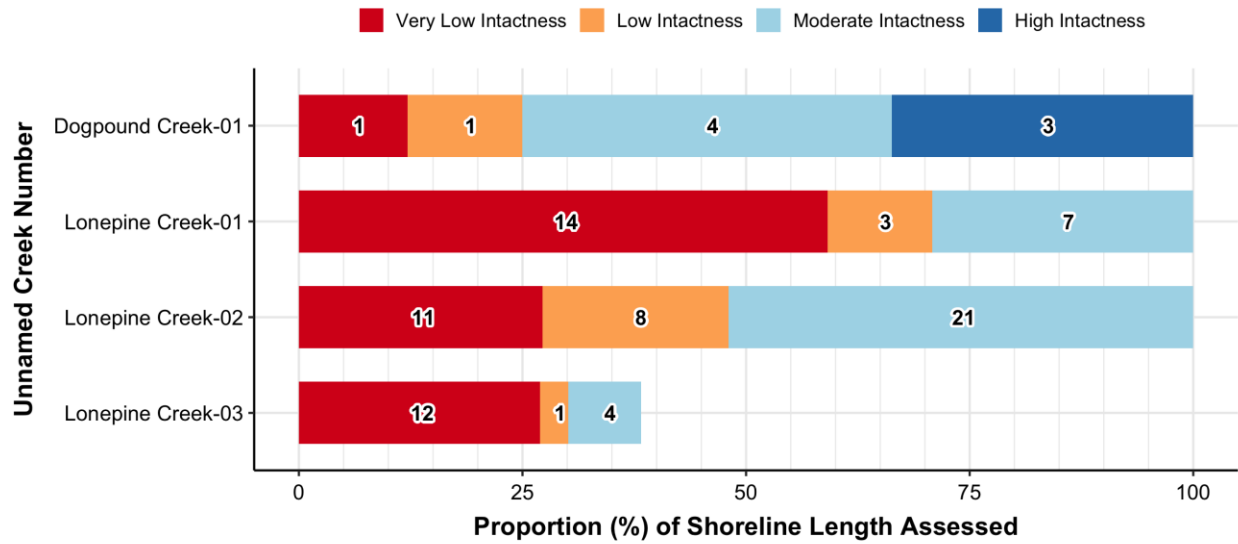


Figure 47. Overall intactness for waterbodies assessed within Mountain View County.





NOTE: Numbers indicate the total length (km) of shoreline associated with each intactness category.

Figure 48. The proportion of shoreline length assigned to each riparian intactness category for unnamed watercourses within Mountain View County.

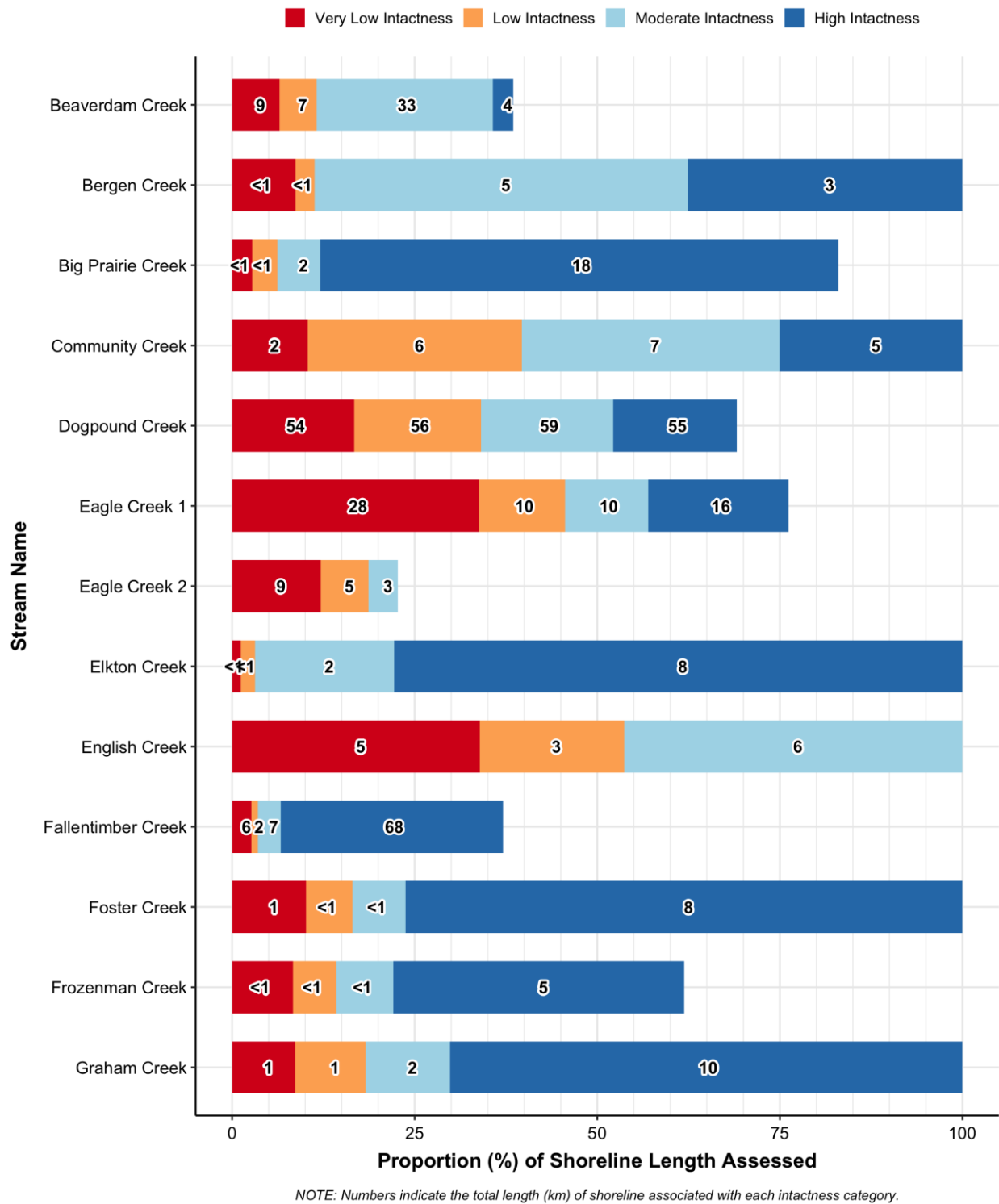
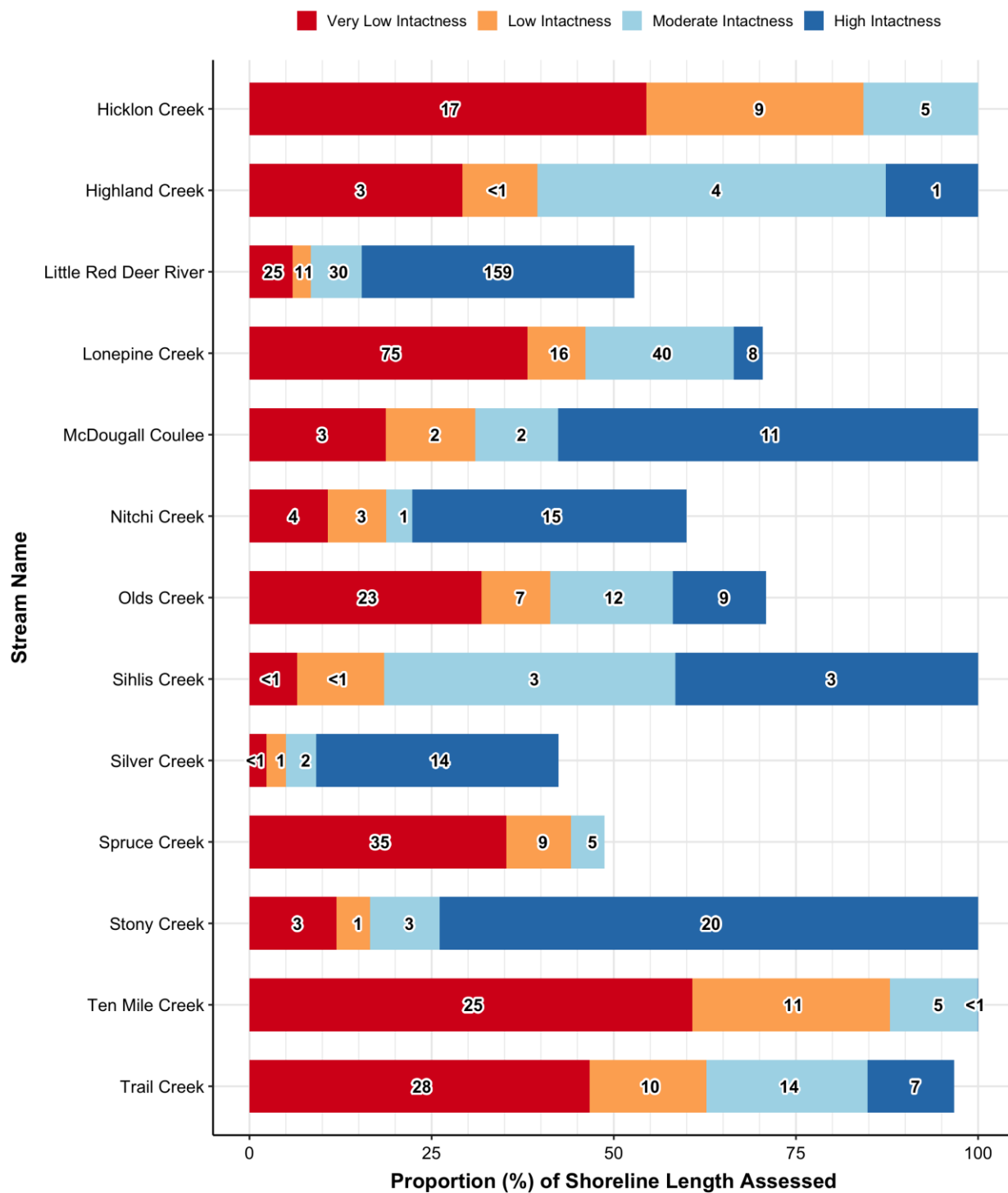


Figure 49. The proportion of shoreline length assigned to each riparian intactness category for named watercourses within Mountain View County.





NOTE: Numbers indicate the total length (km) of shoreline associated with each intactness category.

Figure 49 *continued*. The proportion of shoreline length assigned to each riparian intactness category for named watercourses within Mountain View County.

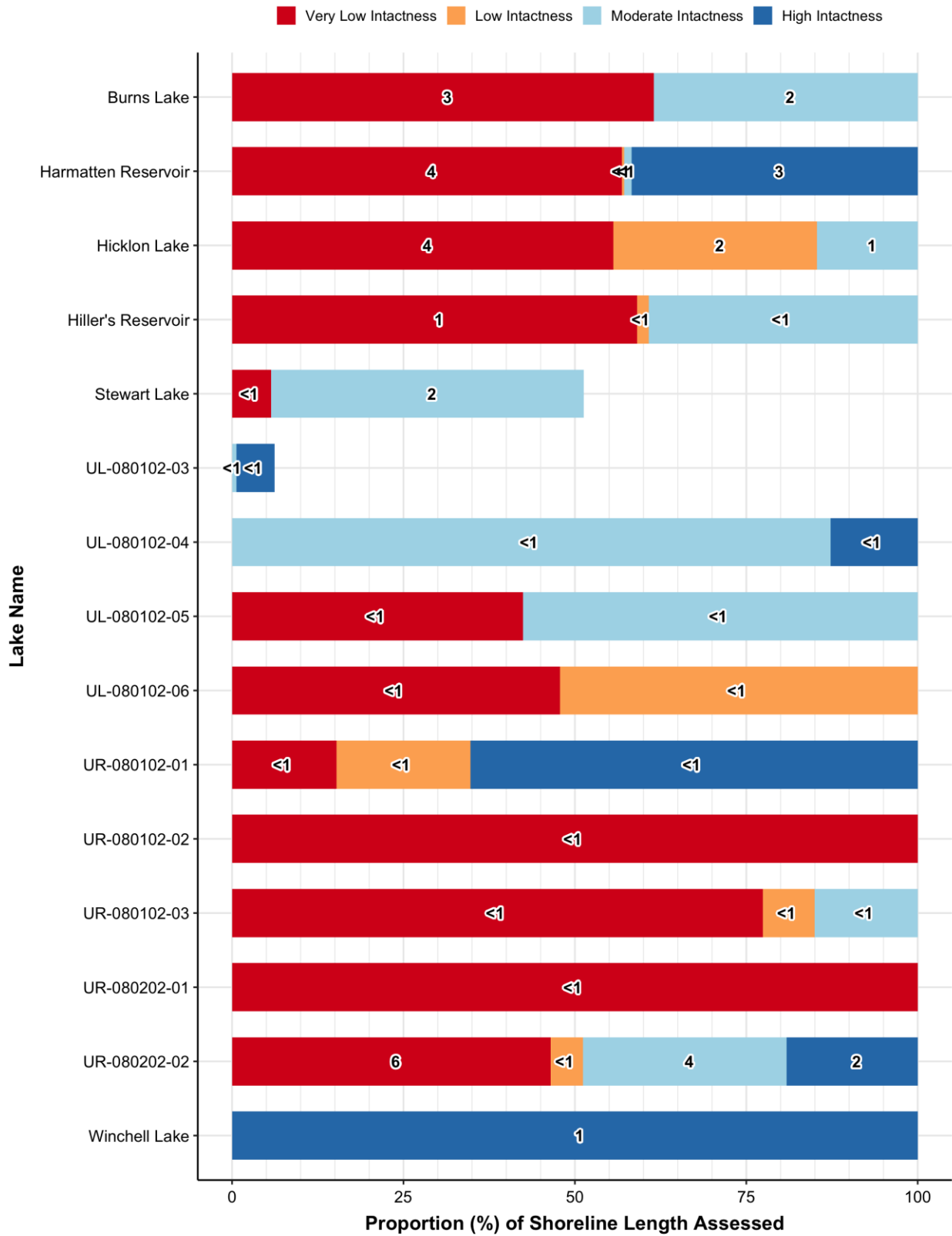
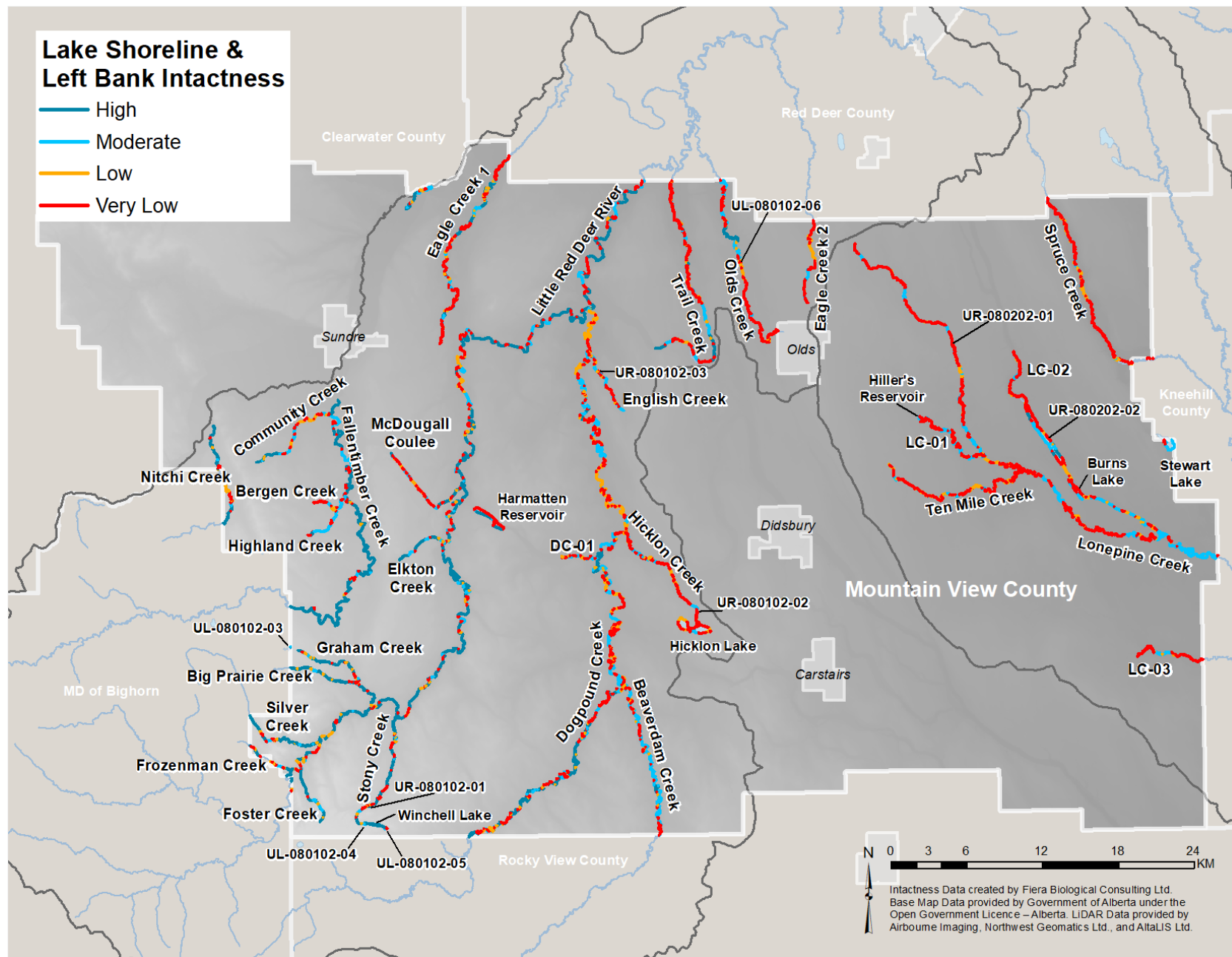
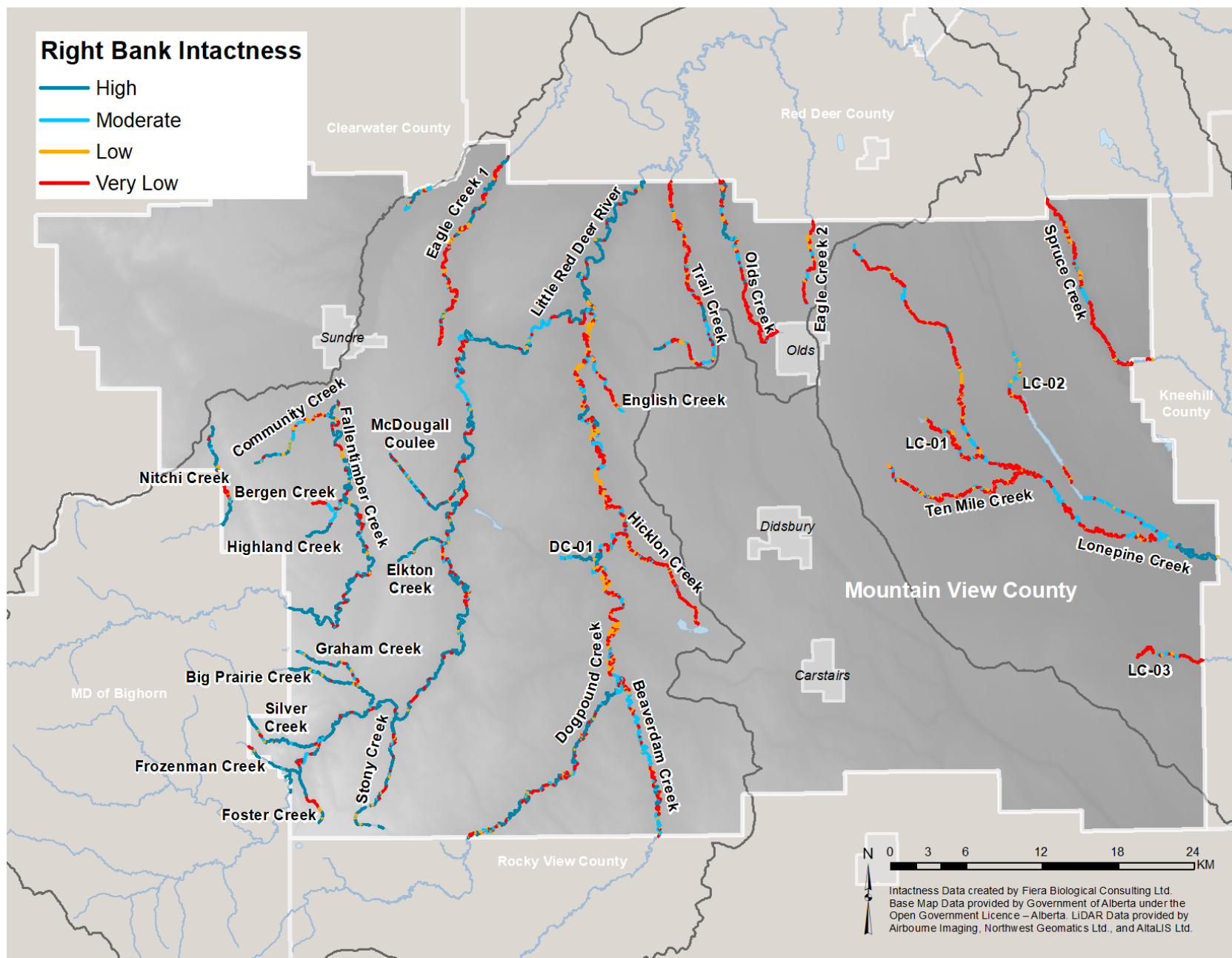


Figure 50. The proportion of shoreline length assigned to each riparian intactness category for named and unnamed lakes and reservoirs within Mountain View County.





Map 25. Intactness for the left banks of watercourses and lake shorelines that were assessed in Mountain View County.



Map 26. Intactness for the right banks of watercourses that were assessed in Mountain View County.