Riparian Web Portal Training 101

Dive into the Data: Our Intactness Project

For Planners and Project Managers in Government, Agriculture, and ENGOs

May 5th, 2022

BATTLE RIVER WATERSHED ALLIANCE

NSWA NORTH SASKATCHEWAN WATERSHED ALLIANCE

Agenda

- Welcome and Introductions
- Intro to the Riparian Intactness Project
- About the Riparian Data
- Tools and Resources for Using the Data
- Q&A

Land Acknowledgement

Intro to the Riparian Intactness Project

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Why are riparian areas important?

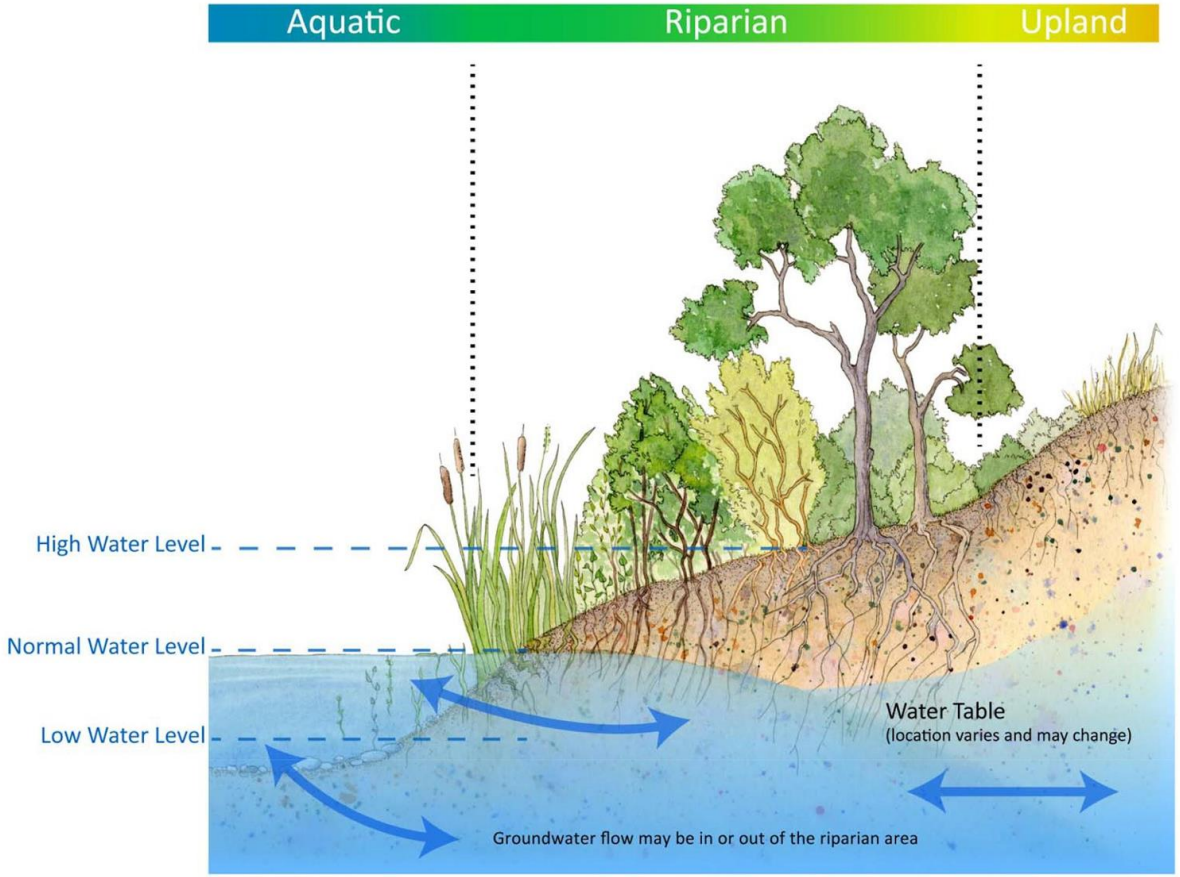


Image courtesy of Cows and Fish

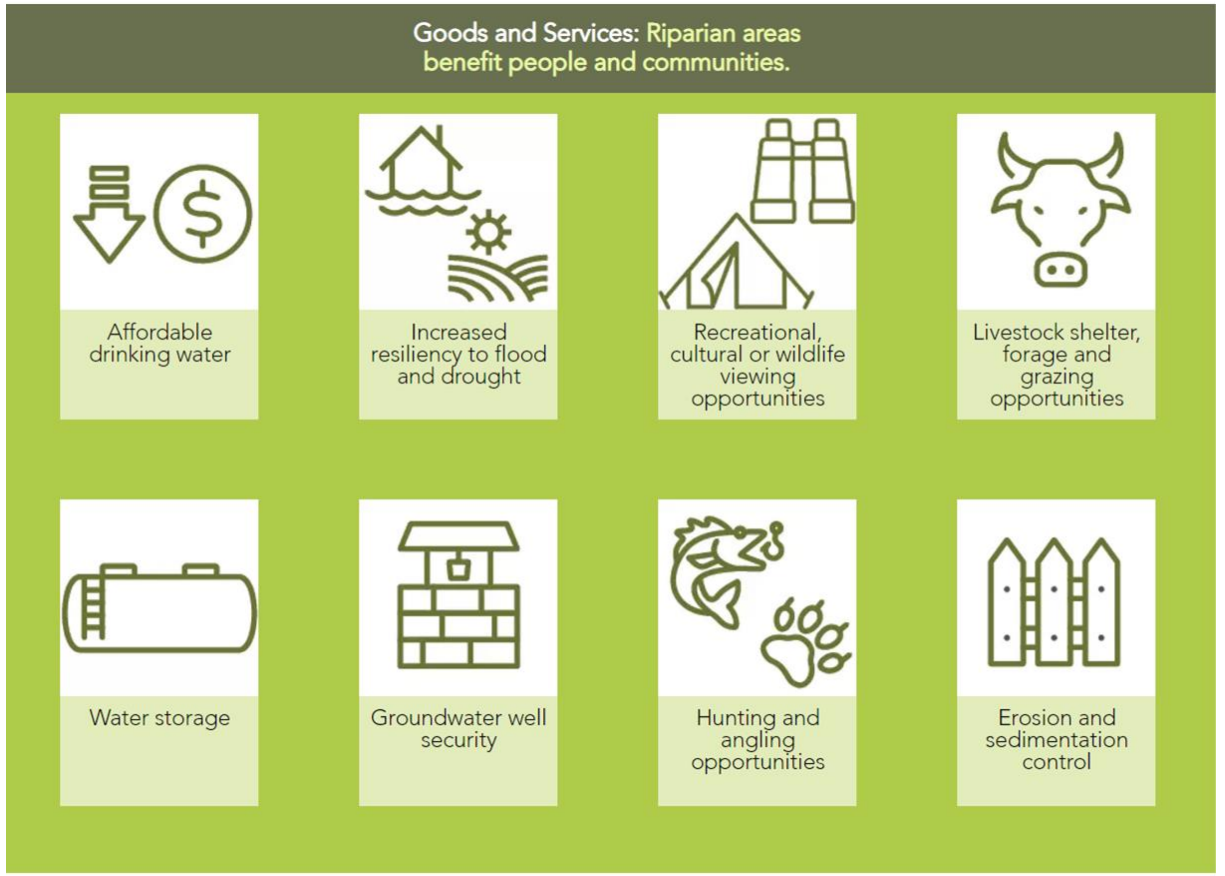


Image courtesy of Riparian Web Portal

Measuring Riparian Condition

Assessment area increases
Cost per kilometer decreases

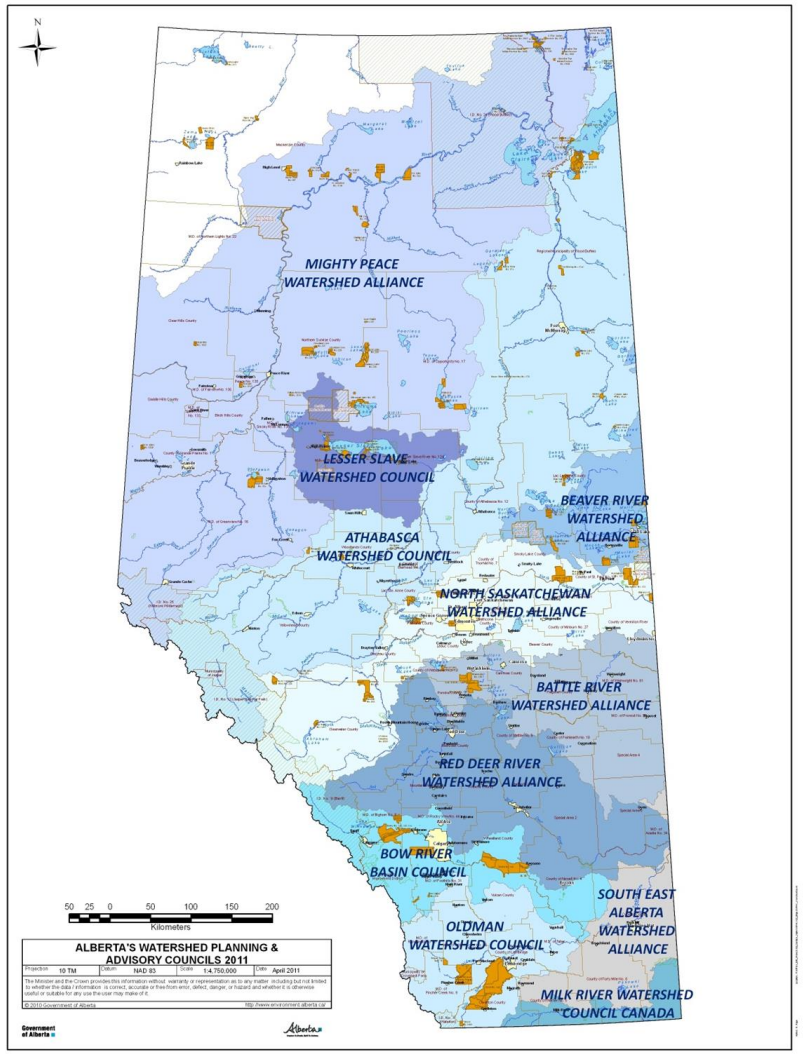
Field-based Method
~1 kilometer per assessment

Aerial Videography Method
~100 kilometers per assessment

Satellite Data Method
~1000 kilometers per assessment

Ability to observe detail (resolution) increases
Ability to engage landowners increases

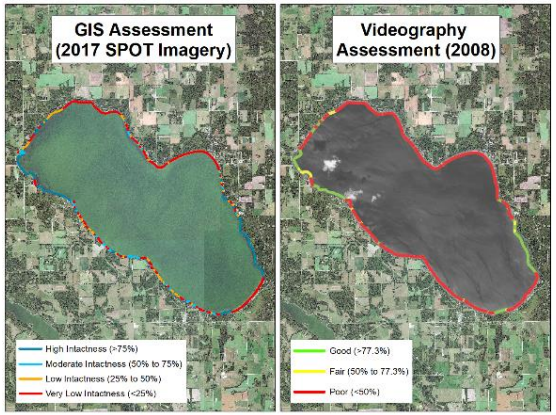
Watershed Context in Alberta



Watershed Planning and Advisory Councils:

- Multi-stakeholder, non-profit organizations
- Report on the state of the watershed
- Lead watershed planning
- Encourage use of beneficial management practices
- Foster stewardship activities
- Offer education opportunities

BRWA: Riparian Work



Goals:

- Implement riparian recommendations from watershed management plan
- Coordinate riparian health assessments
- Set priorities and develop strategies to maintain or improve riparian health
- Undertake riparian conservation and restoration projects in priority areas

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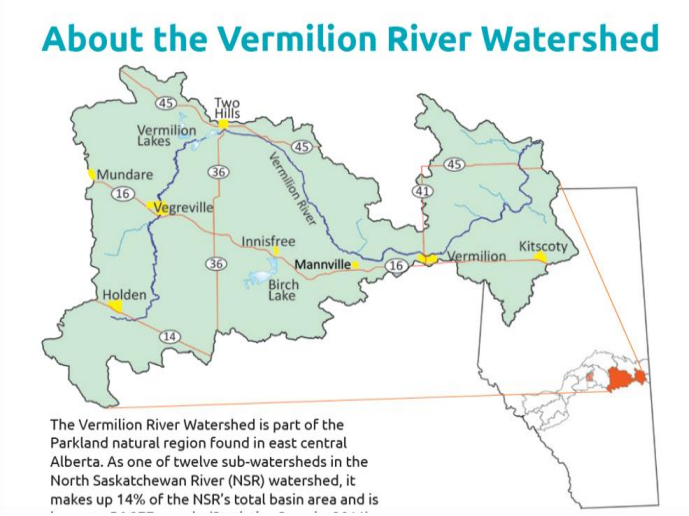
NSWA: Riparian Work



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NSWA: Riparian Health Action Plan

The Data

The Web Portal

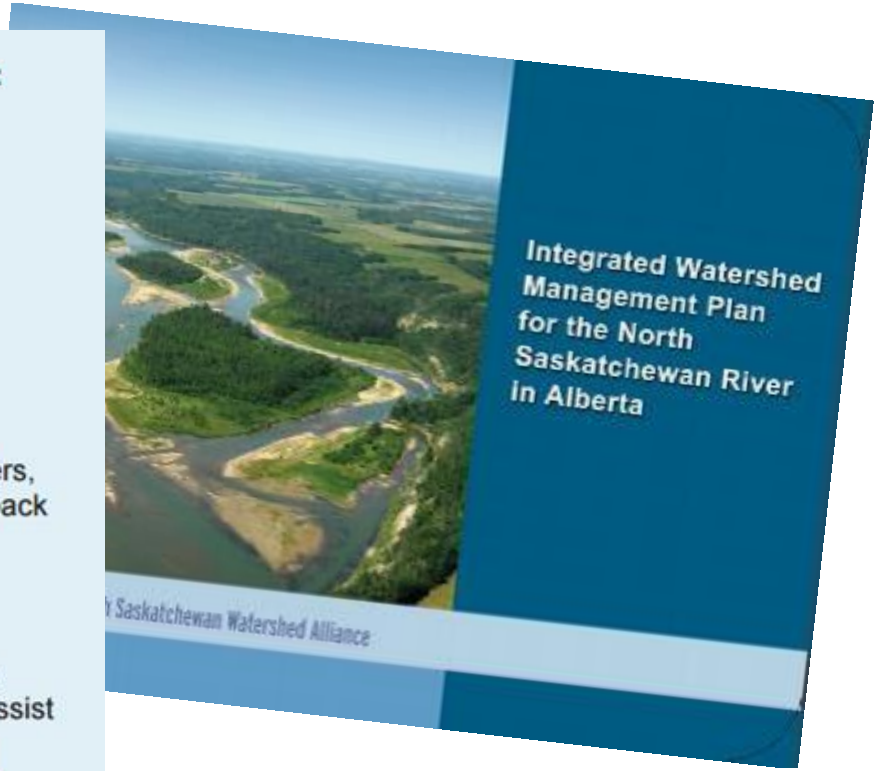
Watershed Management Direction 3.3: Maintain and restore riparian areas

Actions:

3.3.1
Complete an inventory and assess the condition of riparian areas in the NSR watershed.

3.3.2
Municipalities, in consultation with landowners groups and other stakeholders, are encouraged to develop riparian set-back guidelines which exceed provincial regulations.

3.3.3
Develop incentive and support programs (financial and expertise) to enable and assist landowners to retain naturally-occurring riparian areas, restore damaged riparian areas and replant riparian vegetation on their own land.



NSWA
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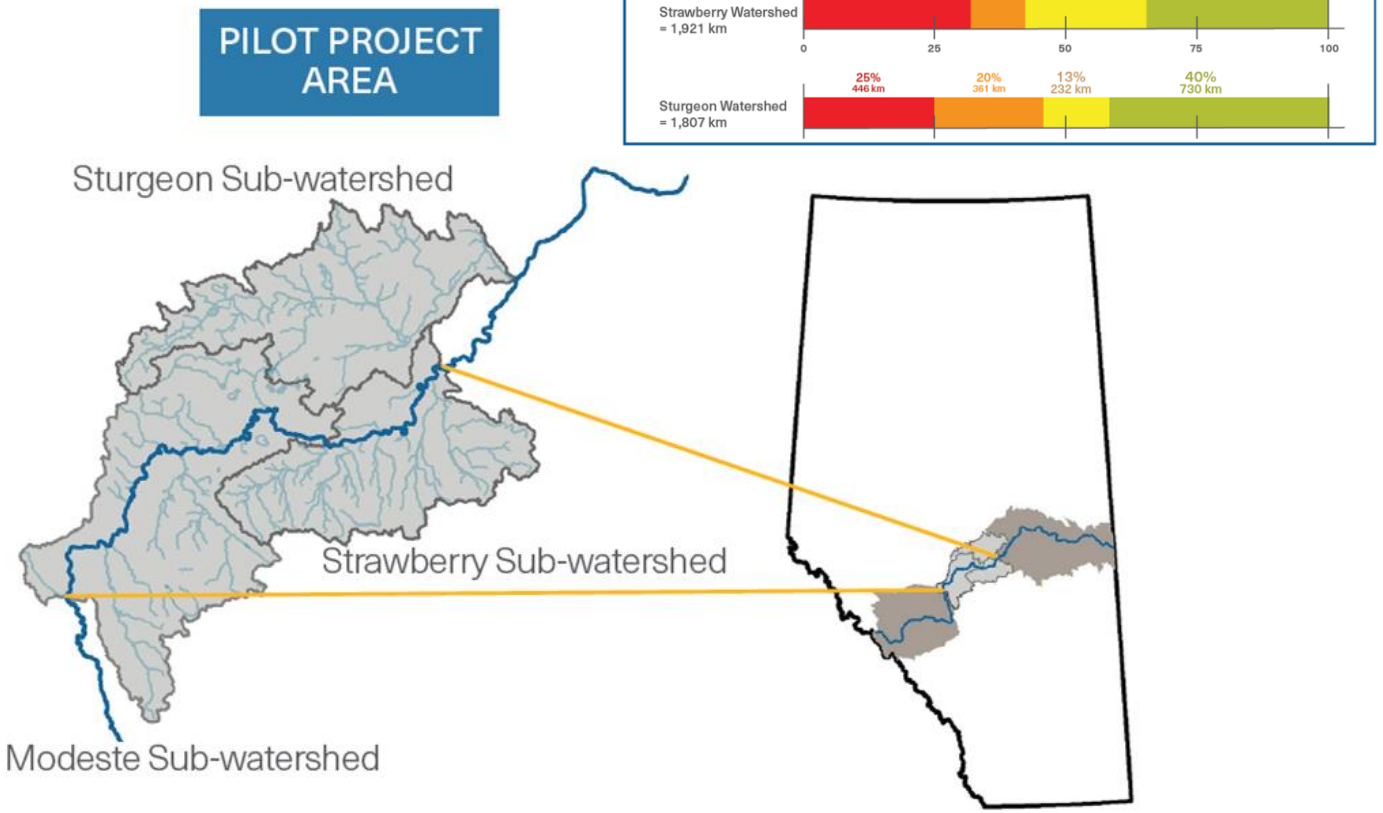
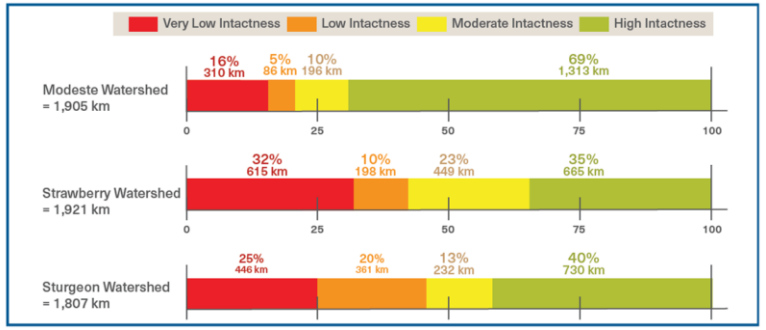
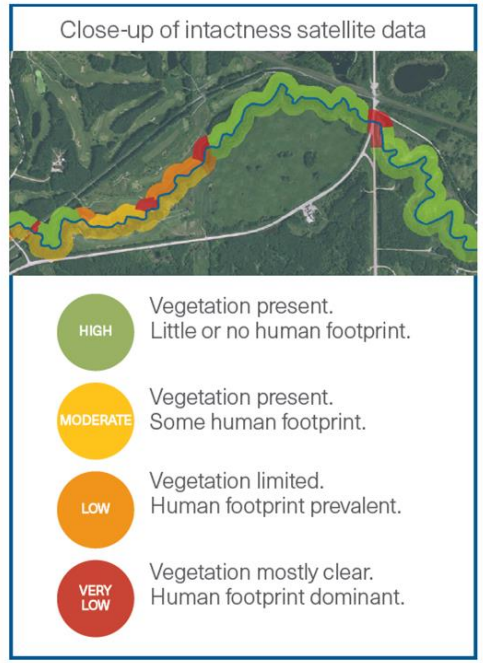
NSWA: Intactness Pilot Project







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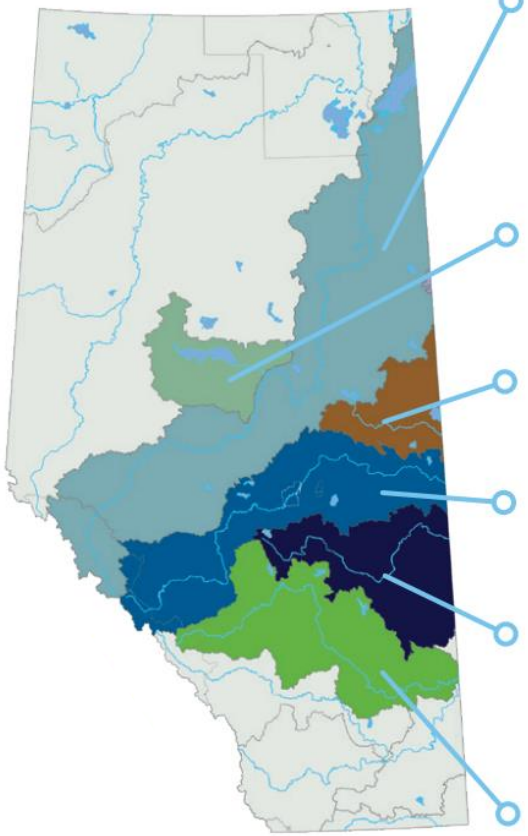
Partnerships to Expand Project



Athabasca Watershed Council

Lesser Slave Watershed Council

LICA Environmental Stewards

NSWA North Saskatchewan Watershed Alliance

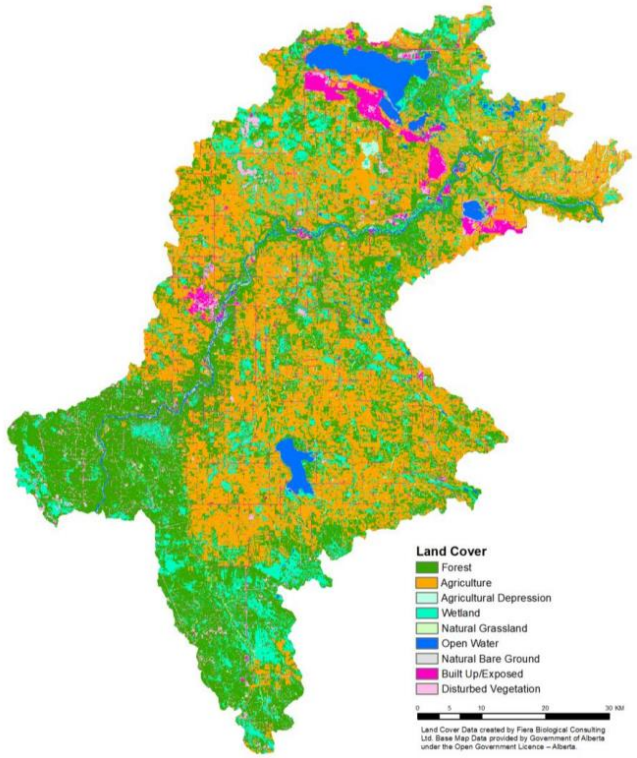
Battle River Watershed Alliance

Red Deer River Watershed Alliance

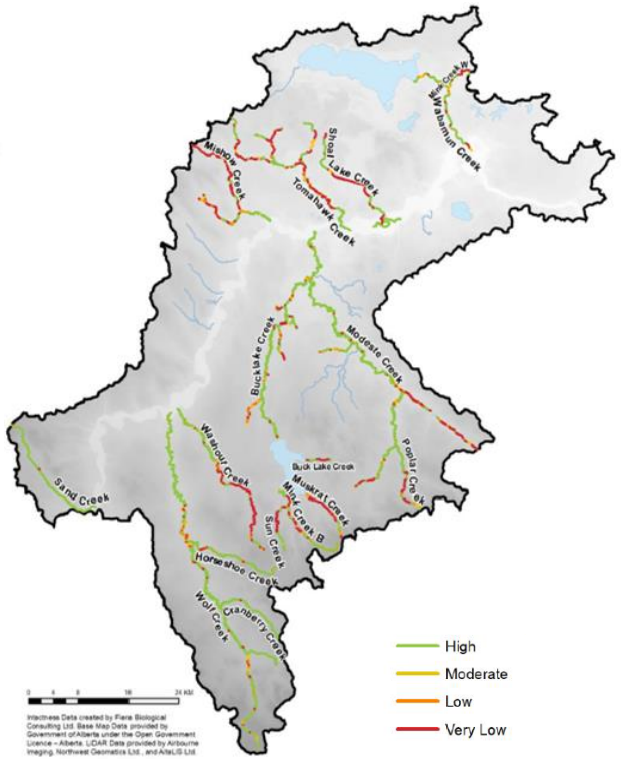
6 WPAC Partners

4 Datasets

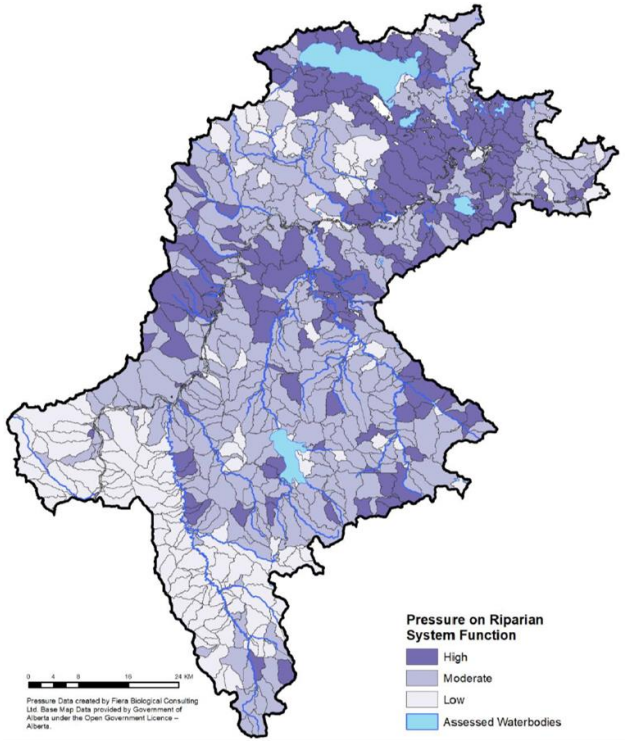
LAND COVER



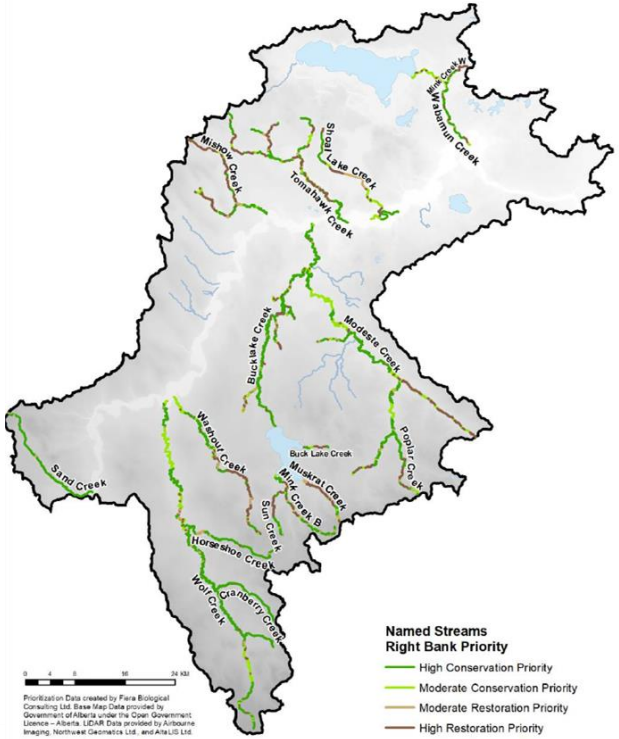
INTACTNESS



PRESSURE

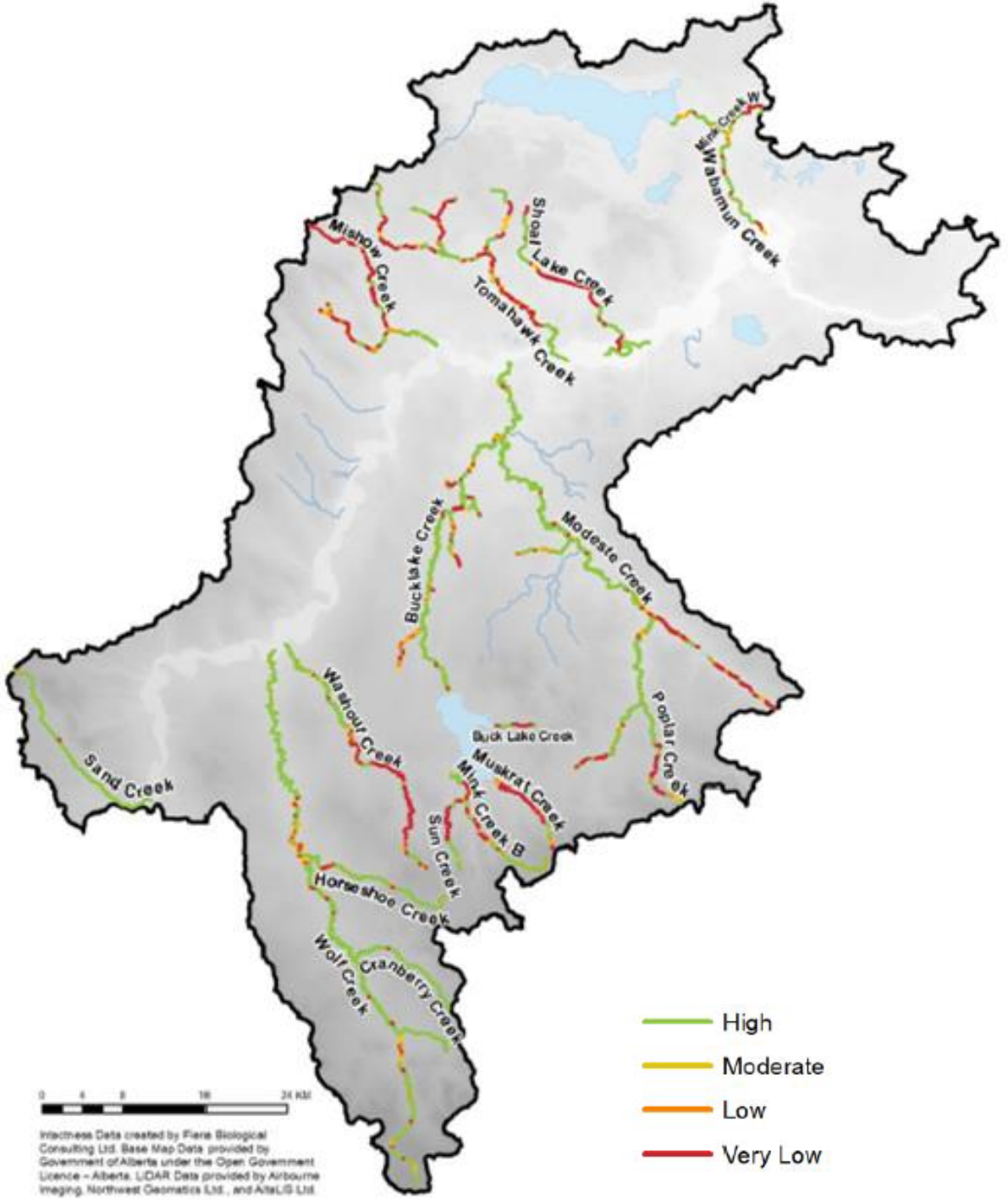


PRIORITIZATION



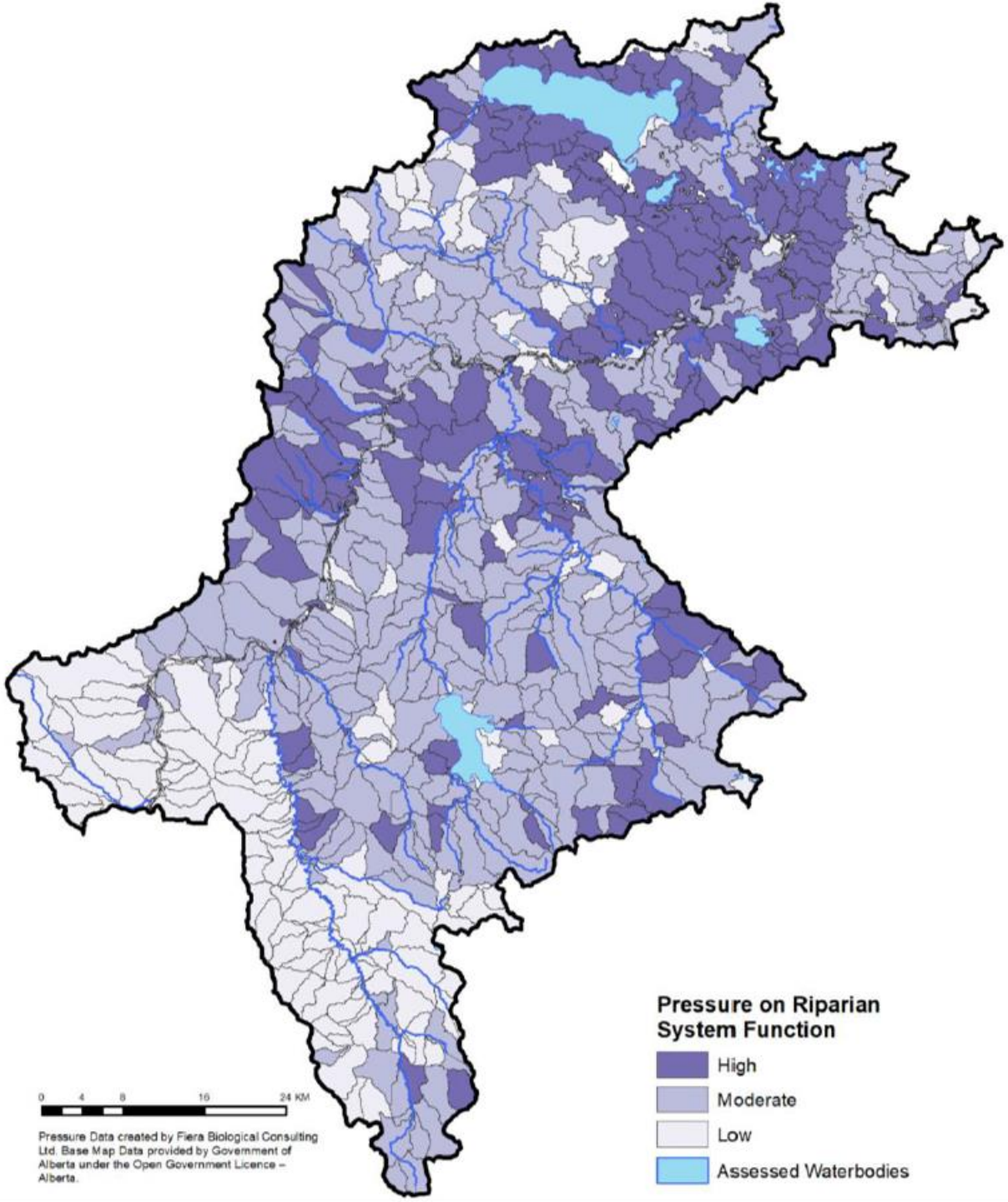
Intactness

- Uses satellite data to look at riparian condition at a watershed scale
- Measures quantity of:
  - Natural vegetation
  - Woody vegetation
  - Human footprint
- Measures how natural habitat has been altered or impaired by human activity



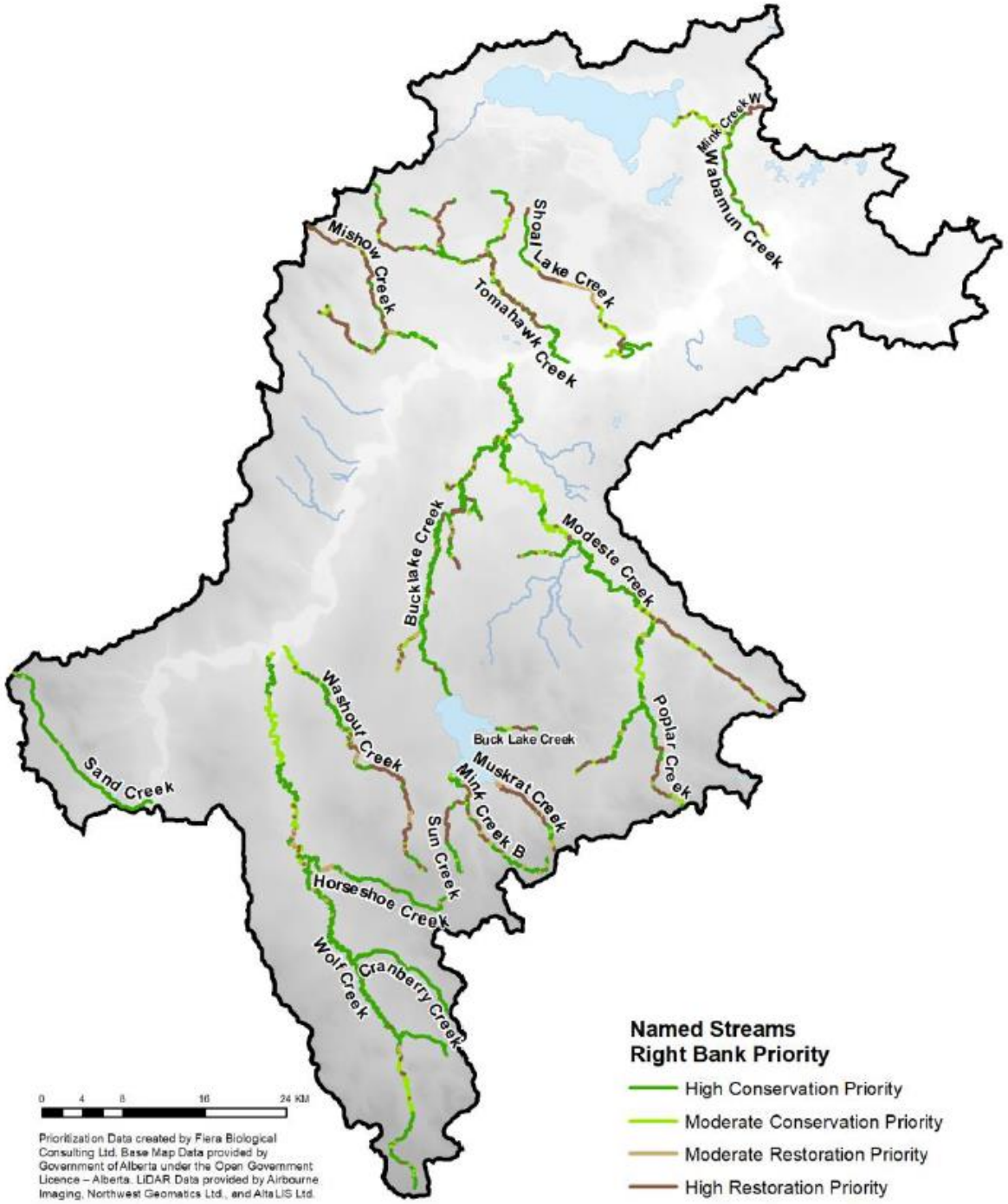
Pressure

- Coarse indicator of what pressures exist on the landscape that impact riparian health
- Includes natural and human stressors
- High pressure indicates potential stress for riparian areas



Prioritization

- Combines intactness and pressure scores
- Highlights which riparian areas would most benefit from conservation or restoration action efforts
- 4 categories of priority action



About the Riparian Data

Presentation by Shari Clare
Fiera Biological Consulting

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Tools and Resources for Using the Data

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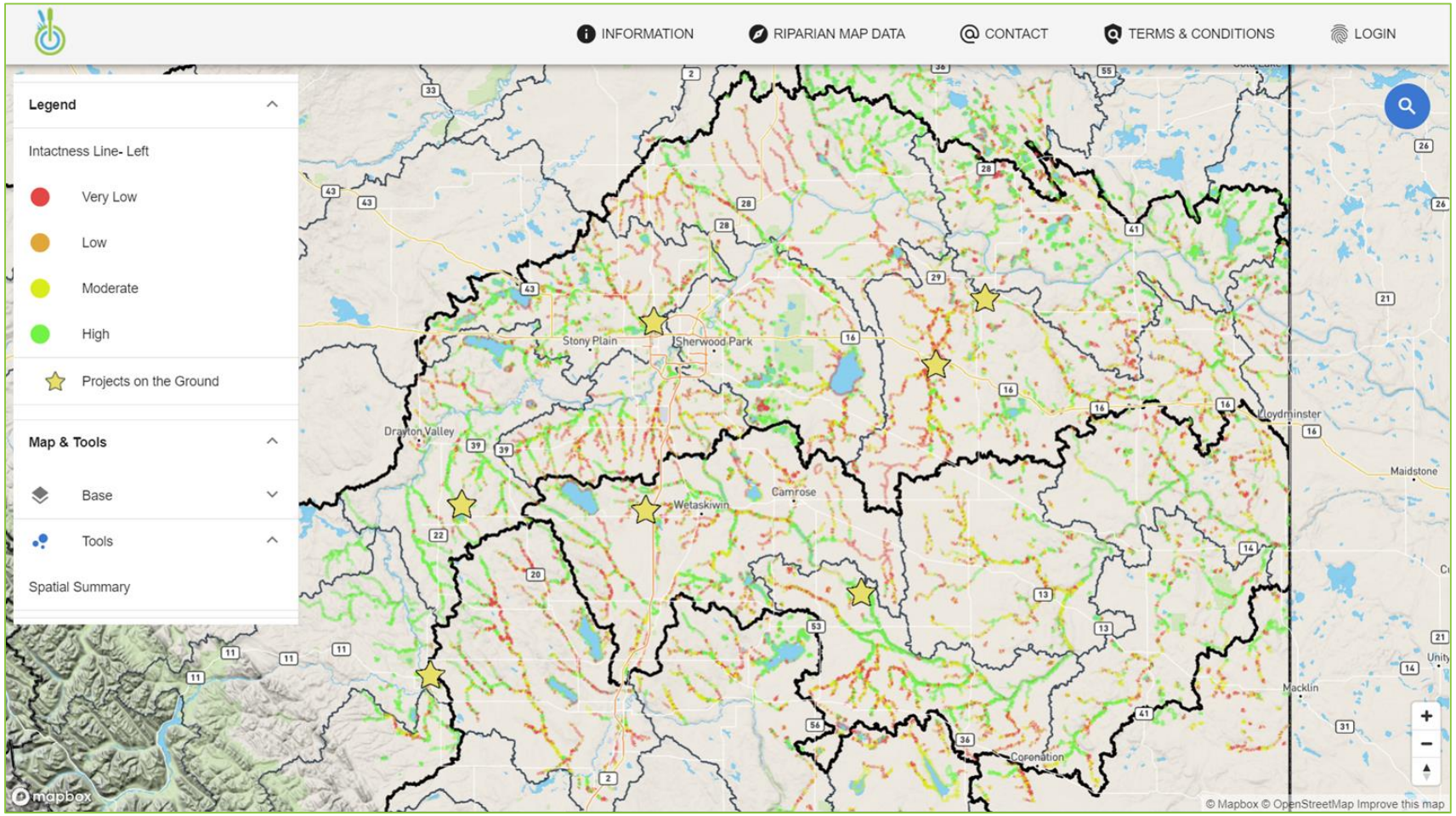
Riparian Web Portal - Map Data



Riparian Web Portal - Summary Tool

RIPARIAN ASSESSMENT

Riparian areas are the biologically rich and productive shoreline areas at the edges of lakes, streams, wetlands, and rivers.

A GIS-based method and dataset was created to assess riparian intactness (or condition) at the watershed scale, including lakeshores and streams. The riparian area was assessed 50 metres back from the water line and given an intactness rating based on what is visible from satellite imagery.

INTACTNESS RATING

HIGH	Vegetation present. Little or no human footprint.	LOW	Vegetation present. Human footprint prevalent.
MODERATE	Vegetation present. Some human footprint.	VERY LOW	Vegetation mostly clear. Human footprint dominant.

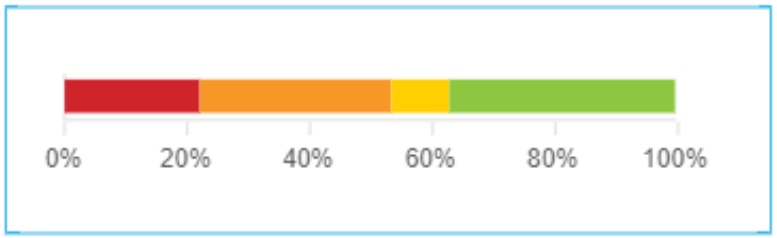
Summary of Results

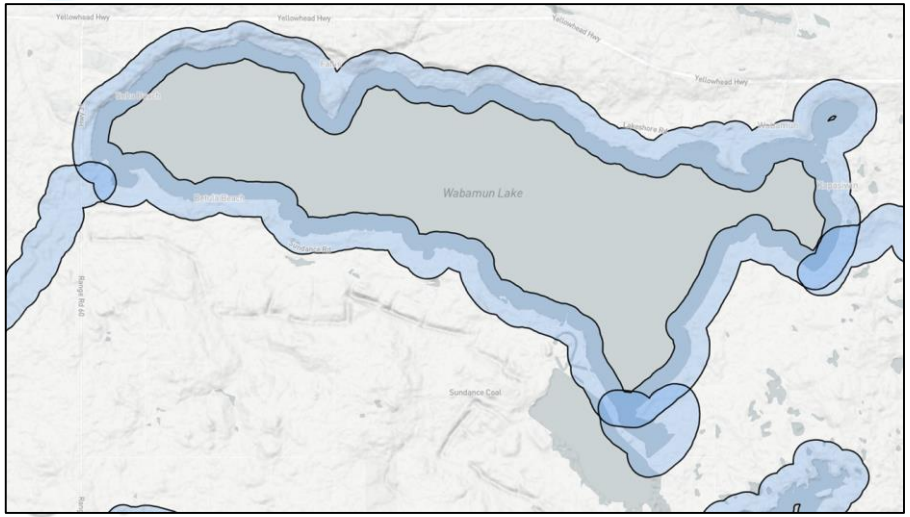
Out of the 90 km of shoreline assessed, 37% was considered to have high intactness, 9.5% was moderate, 31.4% was low, and 22.1% was very low.

Wabamun Lake

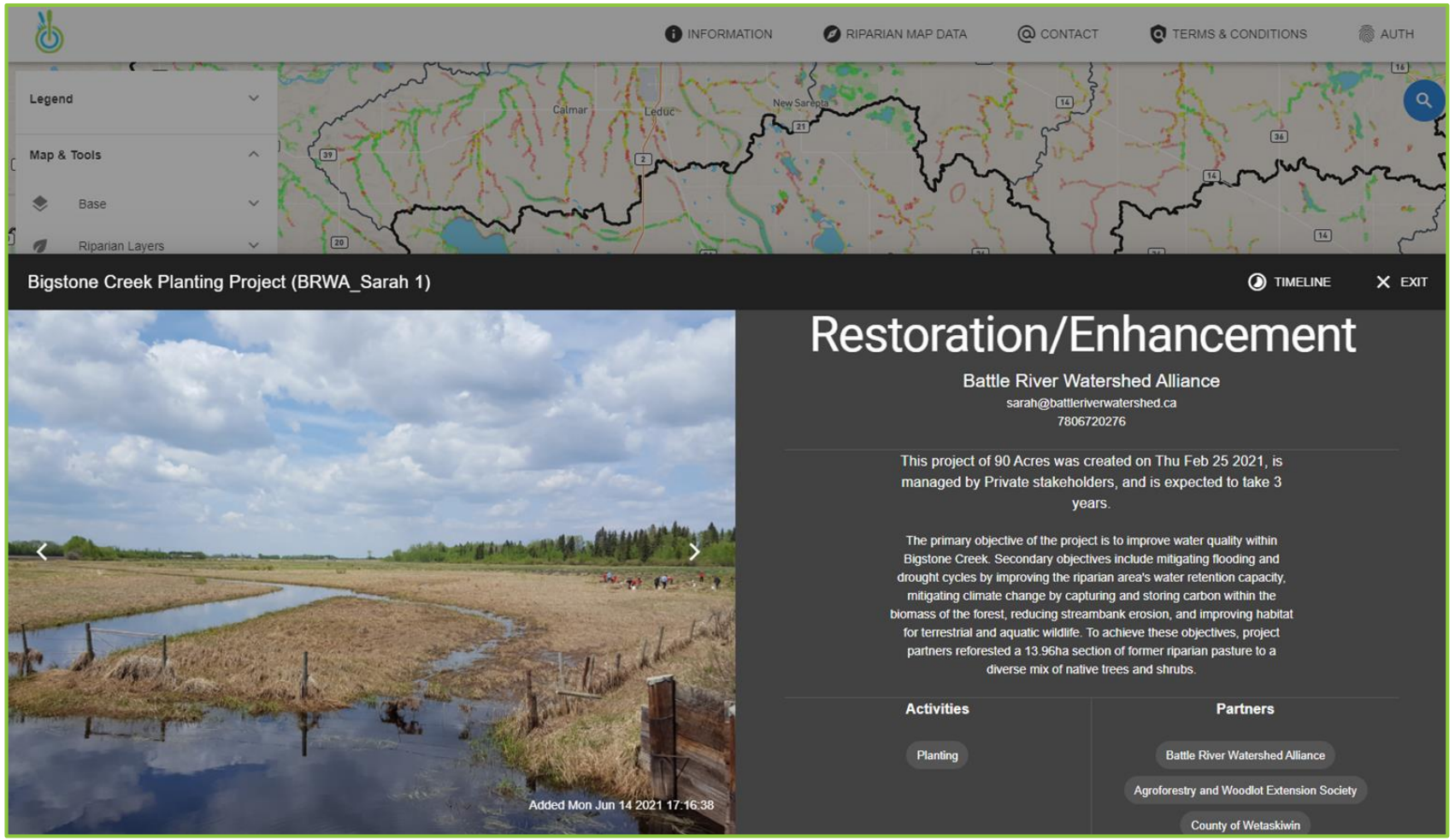
90.2 Kilometres Assessed

37% High Intactness





Riparian Web Portal - Projects



Riparian Web Portal - Resources

RIPARIAN WEB PORTAL

Resources Home | Riparian 101 | Importance | Measuring health | Taking Action | Jurisdiction | More...

Satellite Data

Strengths of Satellite Data:

- Covers large, continuous areas
- Assesses riparian intactness at a watershed or regional level
- Assesses upland pressure on riparian areas
- Allows for comparisons between water bodies or watersheds
- Prioritizes restoration and conservation efforts when intactness is paired with upland pressure on riparian areas

To see photo examples of each of the Intactness categories, click here:

HIGH	MODERATE	LOW	VERY LOW
Vegetation present. Little or no human footprint.	Vegetation present. Some human footprint.	Vegetation limited. Human footprint prevalent.	Vegetation mostly cleared. Human footprint dominant.

RIPARIAN WEB PORTAL

Resources Home | Riparian 101 | Importance | Measuring health | Taking Action | Jurisdiction | More...

Community Initiatives

Partnering with local stewardship groups and clubs is a great way for residents and communities to help restore and protect their riparian areas.

Some Beneficial Management Practices for Community Initiatives include:

- Form or join a watershed stewardship group to support watershed education and projects
- Find out if riparian health or intactness assessments have been completed in your region
- Create a management plan based on riparian health or intactness in your region
- Partner with other groups, such as municipal initiatives, Watershed Planning and Advisory Councils, Cows and Fish, or Ducks Unlimited Canada
- Turn your ideas into action, and apply for financial support through a grant such as the Watershed Stewardship Grant

Riparian Web Portal - Access

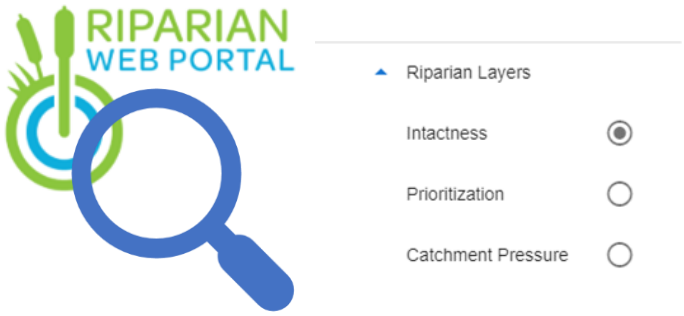
1. Public Access

Limited zoom

Summary tool

Access intactness data

View projects on the ground



2. Login Access

Unlimited zoom

Summary tool

Access intactness, pressure, and prioritization data

Upload projects on the ground

Planners and Program Managers: sign up for the 102 workshop to learn how to use these additional features!

Waterbody Summaries

RIPARIAN ASSESSMENT

Riparian areas are the biologically rich and productive shoreline areas at the edges of lakes, streams, wetlands and rivers.

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INTACTNESS RATING

- HIGH — Vegetation present. Little or no human footprint.
- LOW — Vegetation present. Human footprint prevalent.
- MODERATE — Vegetation present. Some human footprint.
- VERY LOW — Vegetation mostly clear. Human footprint dominant.

Summary of Results

Data Year: 2018

Out of the 18km of shoreline assessed, approximately 28% of the shoreline along Wizard Lake is classified as either Very Low or Low Intactness. While there are several areas along the shoreline of Wizard Lake that have been impacted by previous land development, this lake also has a large proportion (61%) and length (10.9 km) of its shoreline that has been classified as High Intactness.

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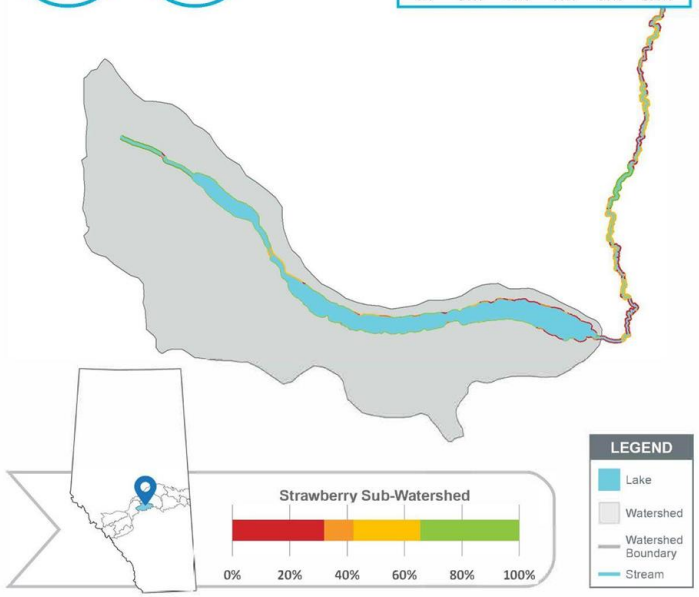
Wizard Lake

18 Kilometres Assessed

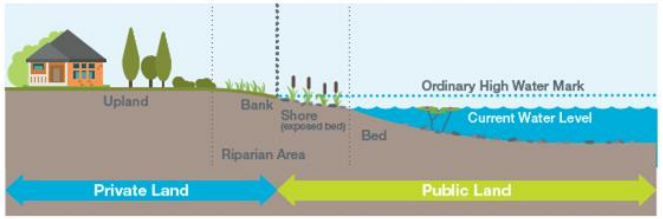
61% Overall High Intactness



Why are riparian areas important?

- **IMPROVE WATER QUALITY** by trapping sediments, filtering nutrients and pollutants, reducing enrichment that leads to increased 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; and
- **ADD LOCAL ECONOMIC VALUE** by increasing property values or providing areas for nature viewing.

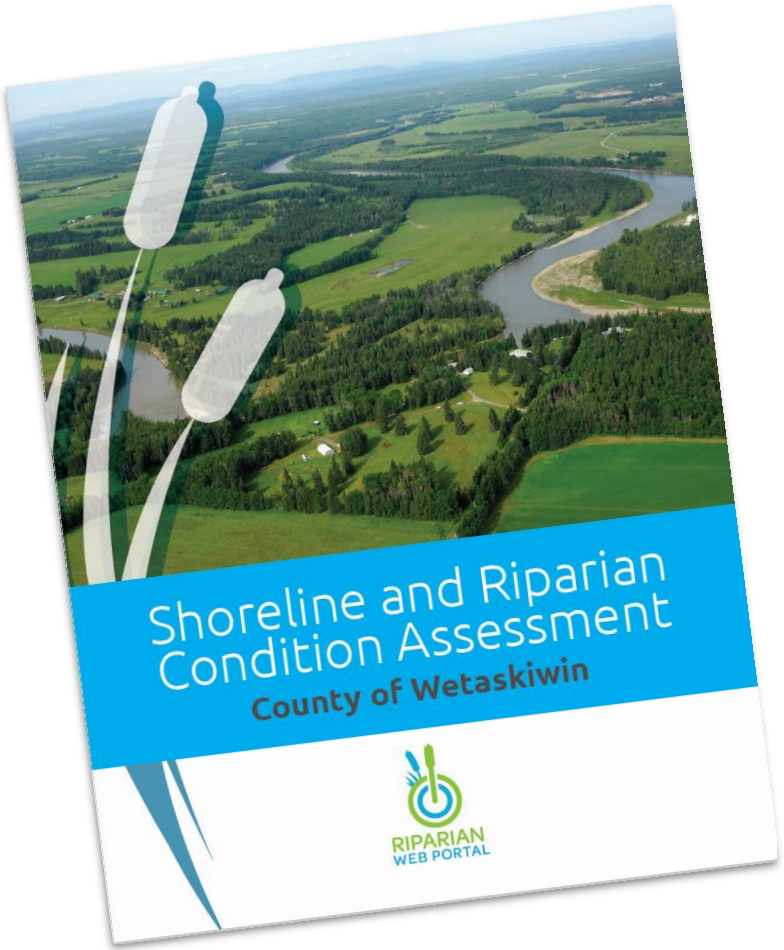
Where is a riparian area?

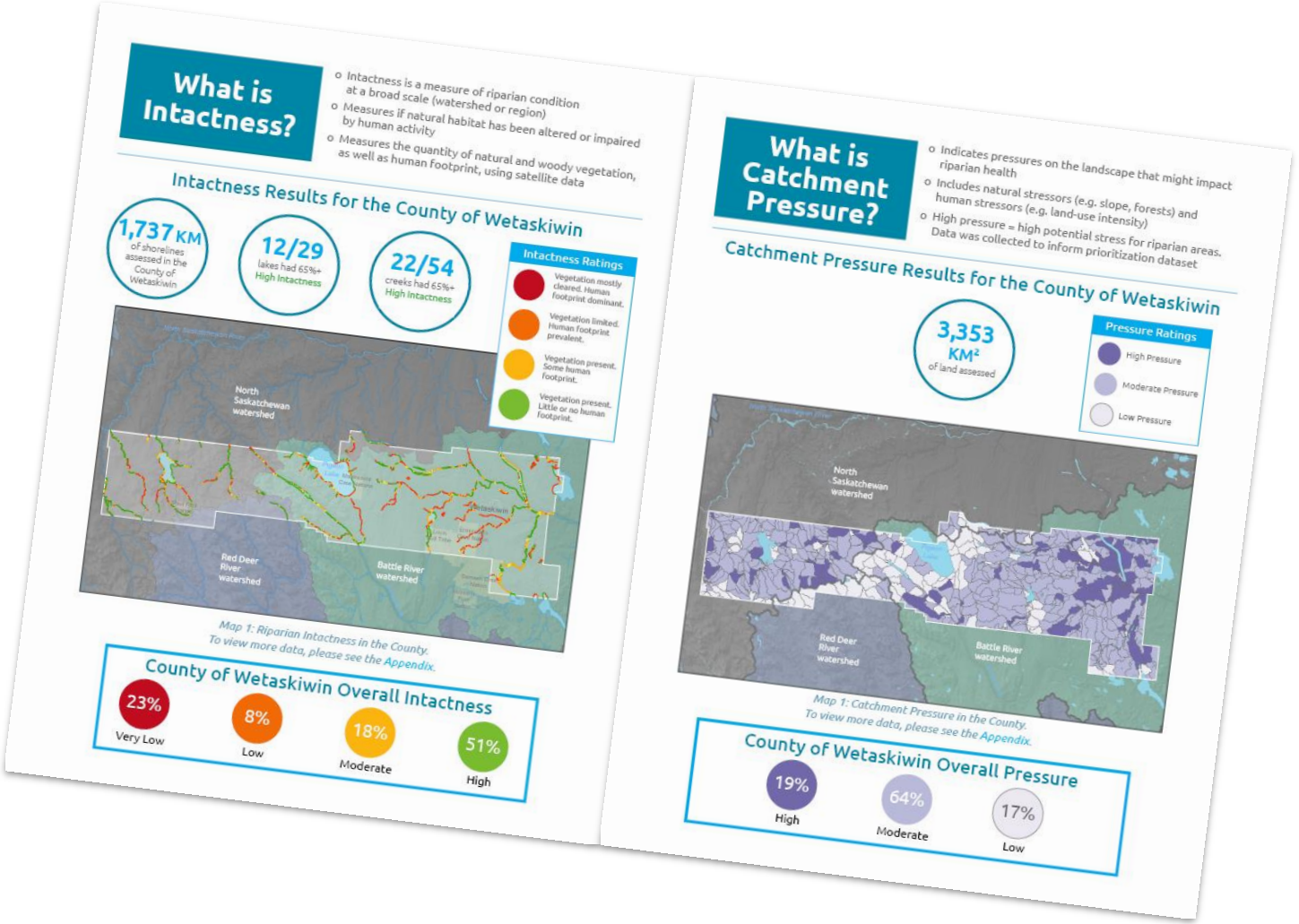


How can you improve the health of your riparian area?

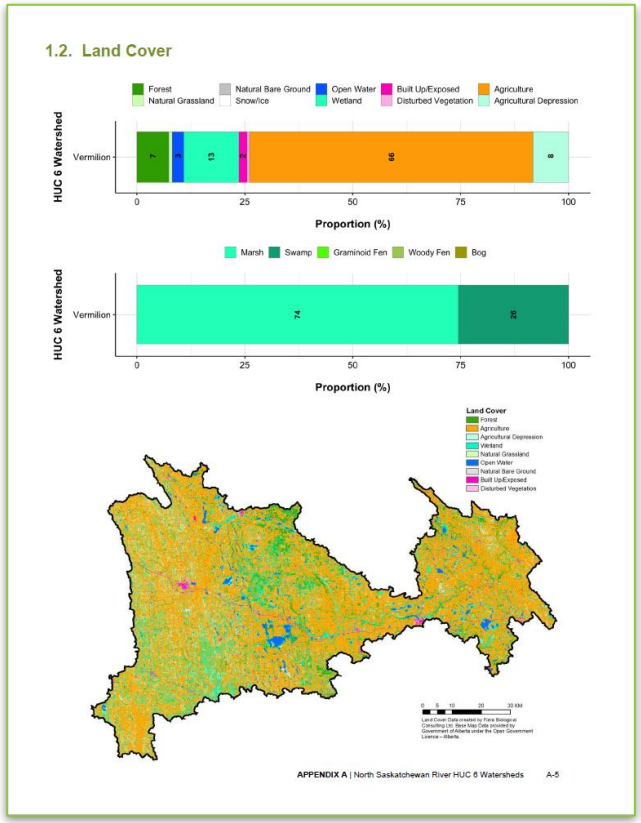
- Leave your shoreline natural—don't remove any plants, grasses or aquatic vegetation as they all play an important role in keeping your lake healthy.
- If your shoreline has been cleared of vegetation, replant with native plants as much as possible and watch for invasive species. Report as appropriate.
- Learn more about the health of your riparian area
- For larger areas, create a management plan to improve the intactness of the riparian area over time
- More resources are available at alberta.ca search "riparian"

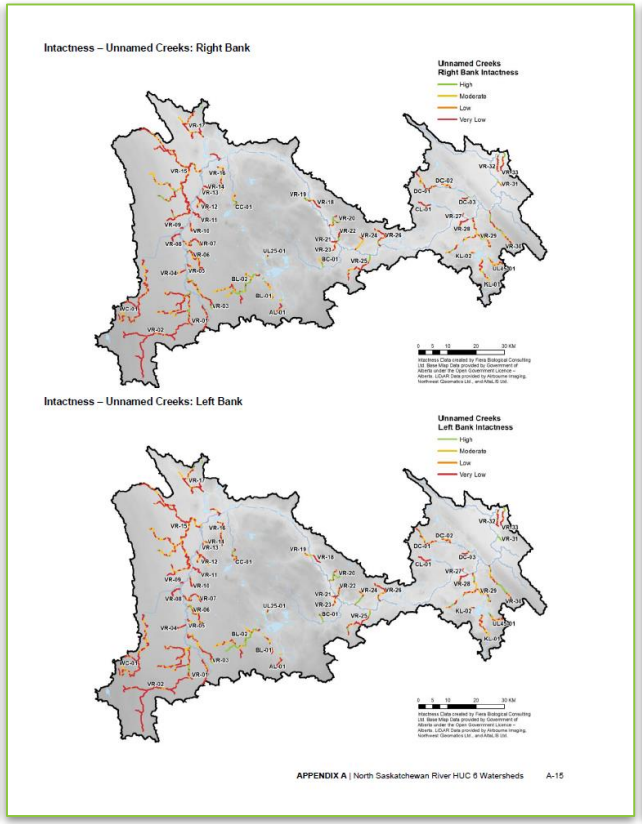
Local Government Summaries

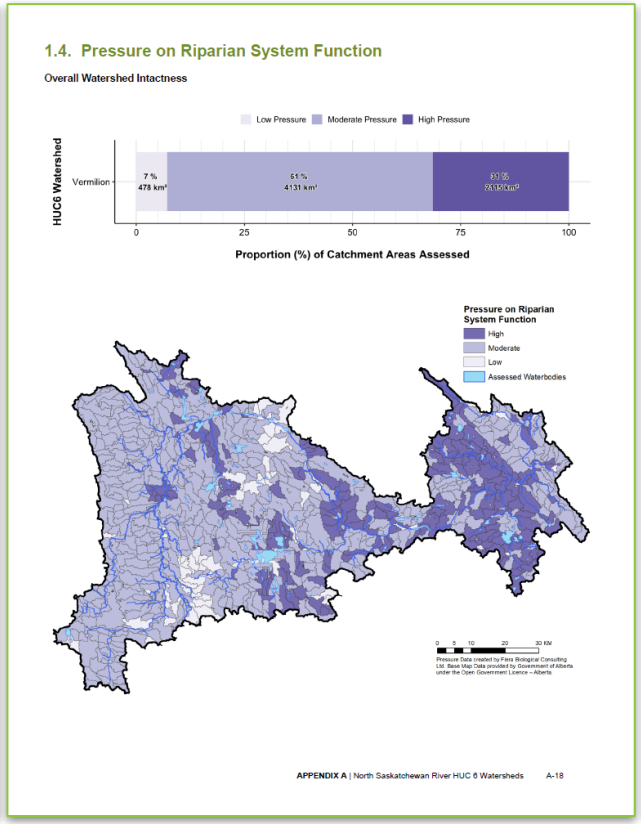


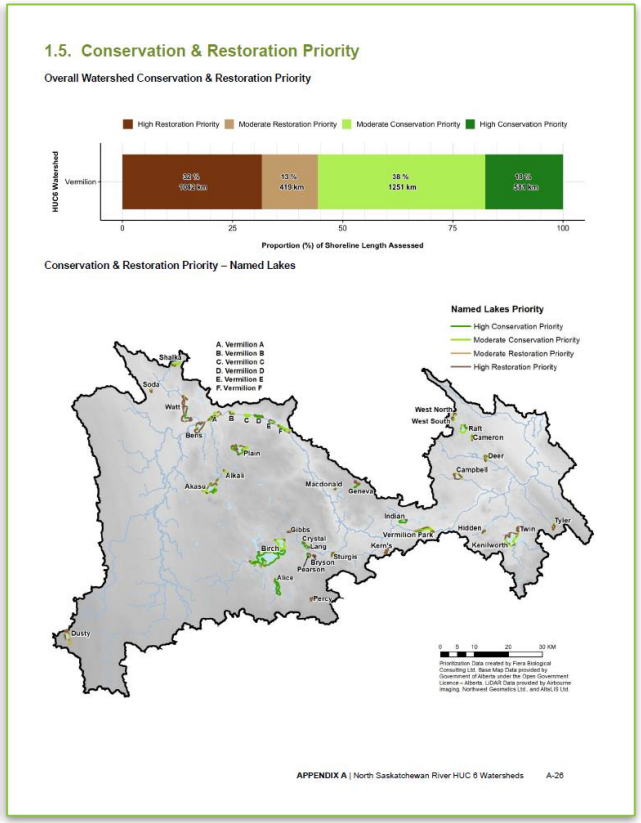


Subwatershed Summaries









Recap: Tools and Resources for Using the Data

- Riparian Web Portal
  - Riparian Map Data
  - Projects on the Ground
  - Riparian Resources
- Waterbody Summaries
- Local Government Summaries
- Subwatershed Summaries

Sign up for the 102 workshop now to learn more!

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Examples of Riparian Data in Action

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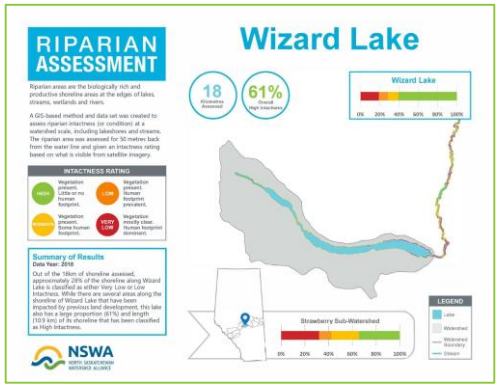
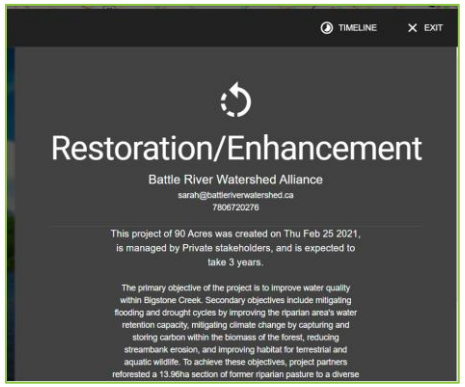
Watershed Stewardship Groups





Attend 102 Training

- Register via Eventbrite
- Receive personal log-in
- Learn how to use the Riparian Web Portal
- Upload completed riparian projects

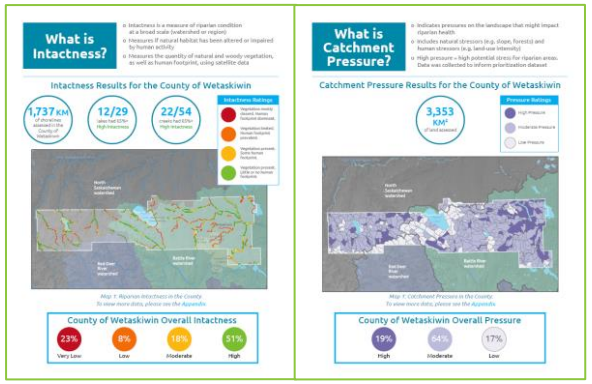
Waterbody Summary

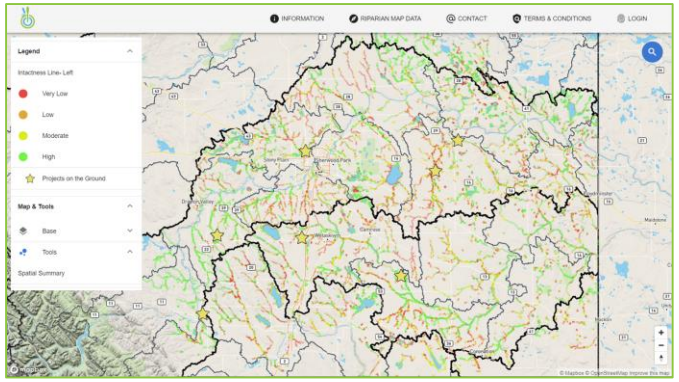
- Work with your WPAC to create a waterbody summary
- Send out the waterbody summary to local residents

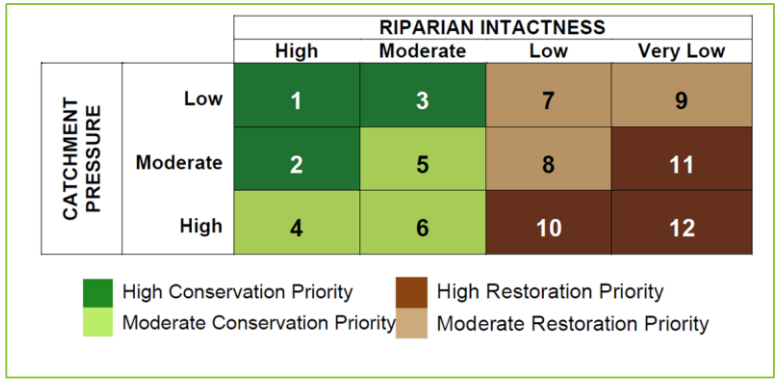
Landowner Outreach

- Find resources and funding to support projects on the ground
- Upload project details to the Riparian Web Portal

Local Governments







Local Government Summary

- Receive a local government summary report from your WPACs
- Identify priority waterbodies
- Work with WPACs to set regional targets

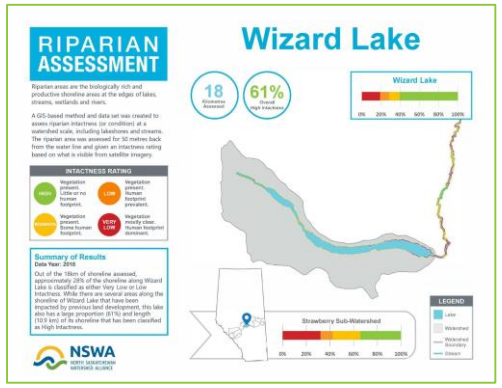
Riparian Web Portal

- Attend 102 training
- Receive personal log-in
- Learn how to use the Riparian Web Portal
- Dive into the data
- Upload completed riparian projects

Action on the Ground

- Incorporate the data into planning documents
- Prioritize conservation and restoration areas
- Partner with WPACs, ag associations, etc.
- Reach out to landowners

Landowners



Receive Riparian Info

- Receive info about riparian projects from local government or stewardship groups

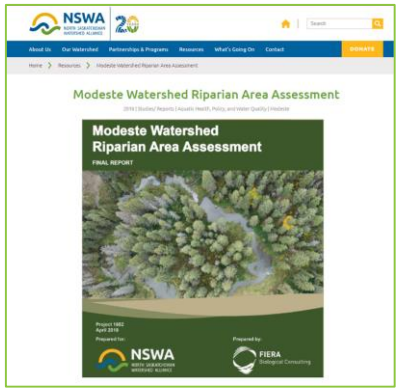
Riparian Web Portal

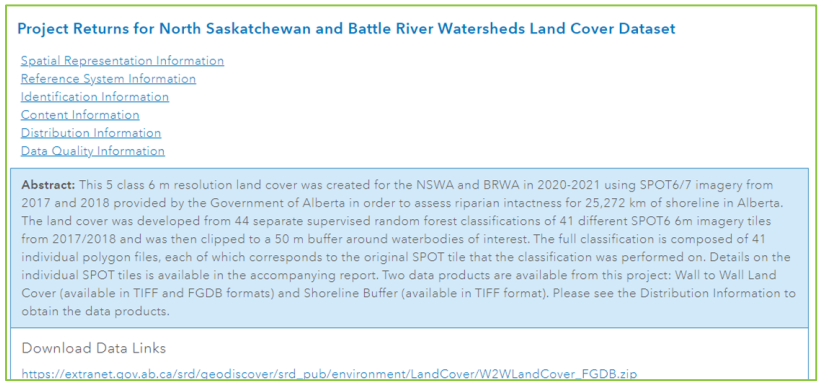
- Learn more about riparian areas
- View coarse scale data on the web portal
- Browse resources based on landowner type

Projects on the Ground

- Come up with project ideas
- Contact local watershed groups and local governments for more info about programs and funding available
- Put projects on the ground

Academia





Project Returns for North Saskatchewan and Battle River Watersheds Land Cover Dataset

Spatial Representation Information
Reference System Information
Identification Information
Content Information
Distribution Information
Data Quality Information

Abstract: This 5 class 6 m resolution land cover was created for the NSWA and BRWA in 2020-2021 using SPOT6/7 imagery from 2017 and 2018 provided by the Government of Alberta in order to assess riparian intactness for 25,272 km of shoreline in Alberta. The land cover was developed from 44 separate supervised random forest classifications of 41 different SPOT6 6m imagery tiles from 2017/2018 and was then clipped to a 50 m buffer around waterbodies of interest. The full classification is composed of 41 individual polygon files, each of which corresponds to the original SPOT tile that the classification was performed on. Details on the individual SPOT tiles is available in the accompanying report. Two data products are available from this project: Wall to Wall Land Cover (available in TIFF and FGDB formats) and Shoreline Buffer (available in TIFF format). Please see the Distribution Information to obtain the data products.

Download Data Links

https://extranet.gov.ab.ca/srd/geodiscover/srd_pub/environment/LandCover/W2WLandCover_FGDB.zip

Review the Technical Reports

- Review the methods used to evaluate riparian intactness, pressure, and prioritization

Download the Data

- Download Land Cover data from the GOA website
-Intactness data available for download shortly

Integrate the Data

- Integrate data into research projects
- Validate the effectiveness of on-the-ground projects
- Direct projects on the ground

Thanks for coming!

Next Steps:

- 102 Workshop on May 6th
- Evaluation Survey

Please feel free to get in touch with any follow-up questions:

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