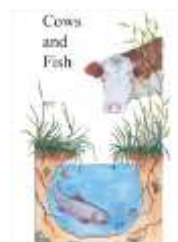




# Resiliency & Restoration in the Lesser Slave Watershed



In collaboration with our funders and local partners



## About the Lesser Slave Watershed Council

The Lesser Slave Watershed Council (LSWC) is a nonprofit, charitable organization whose mission is: to be a proactive organization working towards long term environmental, social and economic sustainability of the Lesser Slave watershed. The LSWC is guided by a board of directors elected by members within the watershed.

## What does the LSWC do?

- Report on the health of the Lesser watershed through State of the Watershed reports and other technical studies.
- Provide watershed management recommendations to decision makers, including the Government of Alberta, municipalities, industry and other stakeholders through the development and implementation of the integrated watershed management plan (2019) for the basin.
- Promote watershed stewardship through diverse education and outreach programs for people of all ages.
- Work with the Government of Alberta to deliver Water for Life goals.

## Watershed Resiliency and Restoration Program

The primary objective of the program is to increase the natural ability of the province's watersheds to reduce the intensity, magnitude, duration and effects of flooding and drought through watershed mitigation measures.

Additionally, the program aims to address impacts of past flooding and/or droughts through the restoration of degraded areas in priority watersheds, which will enhance communities' ability to withstand future flooding or droughts. Finally, the program seeks to promote the ongoing stewardship and preservation of key components of Alberta's watersheds.

## WRRP Outcomes

Alberta Environment and Parks' (AEP) WRRP aims to improve natural watershed functions in order to build greater long-term resiliency to droughts and floods through four key focus areas:

- Restoration and enhancement of degraded or lost wetlands, riparian areas and floodplains within priority watersheds to improve flood and drought resiliency.
- Conservation of critical wetlands, riparian areas and floodplain features within priority watersheds, with these areas being given greater consideration for preserving by decision makers and landowners.
- Stewardship is increased through greater understanding and awareness among the public, land-use decision makers and other key stakeholders of the importance of watershed functions, and their relationship to flood and drought mitigation.
- Data, research and information are available to support the WRRP and aid future decision-making.



## Project Overview

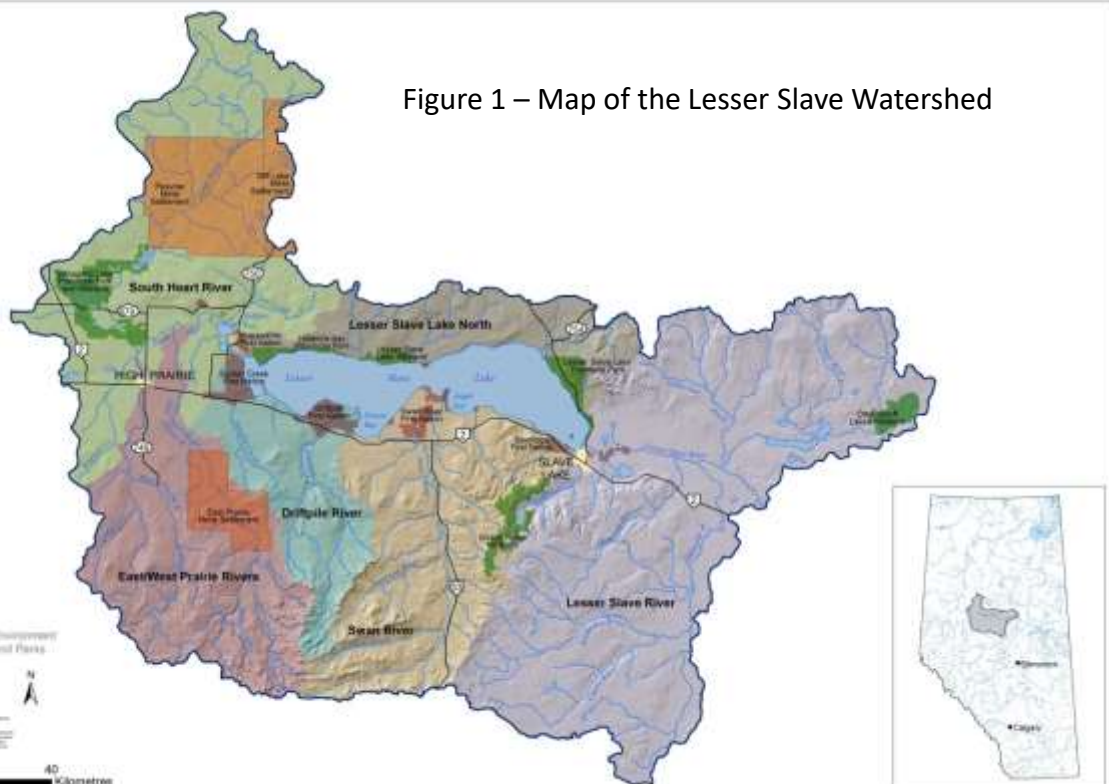
The Lesser Slave Watershed Council (LSWC) strives to promote best management practices that will protect and conserve streams, riparian areas, and wetlands in our watershed. In 2015 the LSWC received our first Watershed Resiliency and Restoration (WRRP) grant from Alberta Environment and Parks in the amount of \$12,500 and began to build capacity to deliver on the ground projects with landowners in our watershed.

The LSWC established a working partnership with Big Lakes County Agricultural Services Board, Peace Country Beef and Forage Association (PCBFA) and Cows and Fish. With the expertise and support of the team the LSWC sought to engage with landowners who were interested in working together to address watershed and operational challenges they were experiencing.

In 2016 the LSWC received a second WRRP grant in the amount of \$37,480 that enabled us to take on our first five projects. The LSWC also receives funding support annually from Big Lakes county that is allocated to projects with a focus on sustainable agriculture.

This report showcases the projects completed and in progress from 2016-18 in the Lesser Slave Watershed. The LSWC and our partners will continue to support these landowners and monitor project successes over the long term.

Figure 1 – Map of the Lesser Slave Watershed



## Background

The Lesser Slave Watershed has 5 major tributaries that flow into Lesser Slave Lake. These tributaries flow from sub foothills elevation to low lying wetland areas before reaching the lake. There are many land uses across the watershed and around Lesser Slave Lake including oil and gas activity, forest harvest activity, lakeshore developments for recreation, and both ranching and cropping activities

Sediment transport, erosion of stream banks, and high nutrient loads are factors that contribute to declining water quality in our tributaries and Lesser Slave Lake. Lesser Slave Lake is a world class fishery and people who live work and play in our watershed and the LSWC would like to see it managed in a way that sustains water quality, wetland and riparian habitat and the aquatic environment.

The LSWC and our partners seek to work with landowners to support them in projects that will enhance, conserve or restore wetlands and riparian areas with the long term goal of improving watershed resiliency to flooding and droughts while improving habitat, water quality, and promoting best management practices .

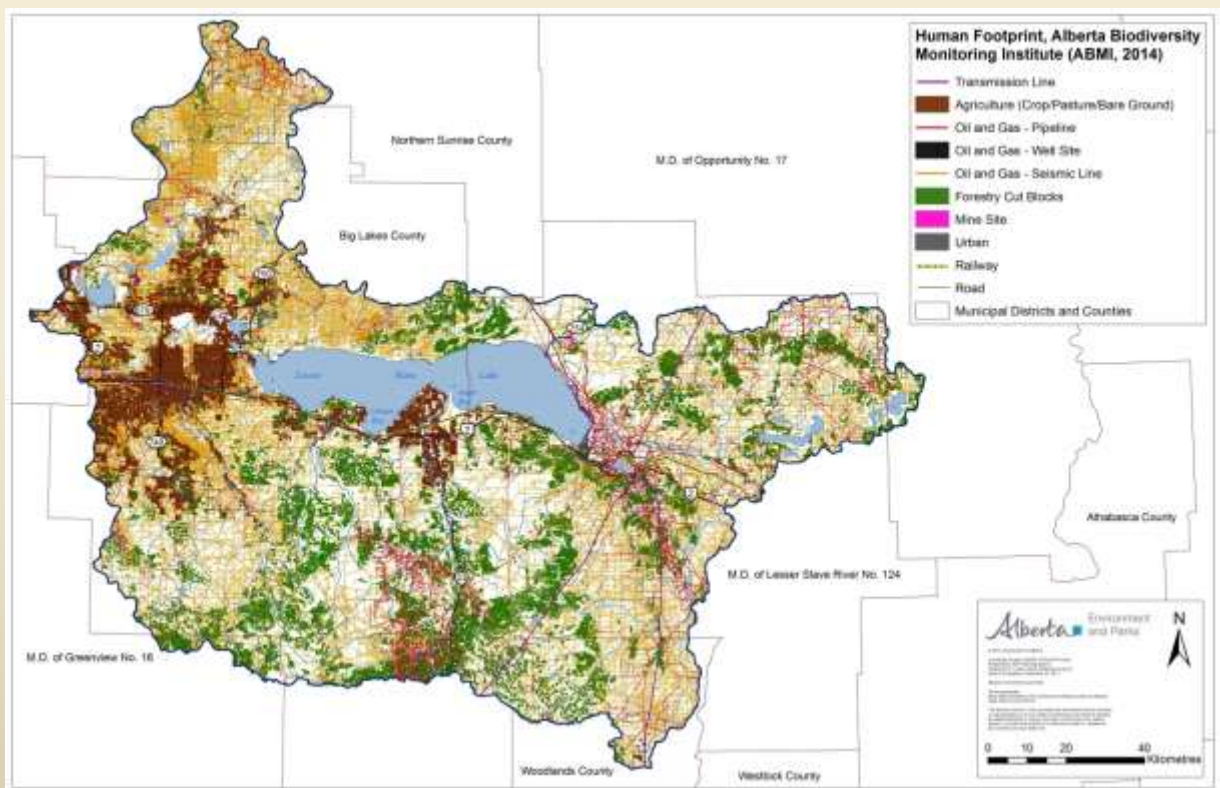


Figure 2 – ABMI Human Footprint Map of the Lesser Slave Watershed



# Riparian Health Assessments - Getting a Baseline

## What is a riparian area?



Riparian areas are the lands adjacent to streams, rivers, lakes and wetlands, where the vegetation and soils are strongly influenced by the presence of water. Although they make up only a small fraction of the land, they are among the most productive and valuable of all landscape types and have been the focus of conflicts between resource users.

- *Cows and Fish*

Riparian health assessment relies on visual observation, a little practice and fine-tuning your 'eye' to accurately interpret the health or function of a riparian area. Riparian health assessment helps you address the questions "Where am I?", "Where do I want to go?", and "Did I make it?" in terms of riparian health. Both vegetative and physical parameters are examined to provide information about the function and condition of that riparian area.

A detailed riparian inventory that thoroughly examines vegetation, soil parameters, and hydrology of the area. Riparian health inventory is used by riparian resource management professionals to capture benchmark data, examine details of the plant community and structure, and for monitoring purposes. It is a very important tool for examining the health of watersheds, collecting baseline information, and for evaluating the impact of management changes over time. The riparian health score is calculated by computer based on the details of the inventory.

The LSWC hires Cows and Fish to complete a pre-project riparian health assessment at each of our project sites. We cover the costs associated with the assessment and the report is a very useful tool to aid the landowner in planning projects and measuring the success of their activities over time.



# Blackhurst Ranch Project

**Landowners:** Ted and George Blackhurst

**Watershed:** South Heart River

## Site Description

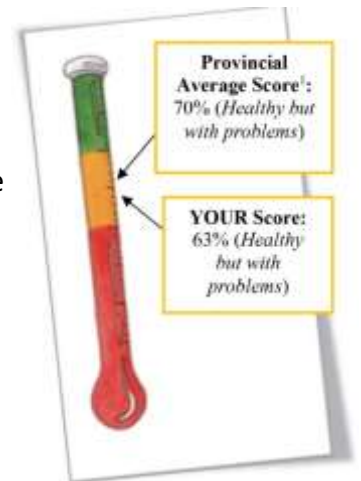
The project area is a half section pasture with an un named creek winding through it. The creek flows intermittently depending on precipitation and is the only water source for cattle. There are active beavers in the creek and in dry times the water that their dam holds back is the only water available. The cattle also cross the creek at 2 locations .

## Management Challenges

Blackhurst wanted to establish a reliable water source so that they can utilize this pasture more effectively in both winter and summer without relying on the creek as their main water source, and provide rest for the riparian area so that it can regenerate and improve its overall function.

## Riparian Health Assessment

On August 26, 2016 Cows and Fish Field Technicians completed a Riparian health Inventory along a representative segment of the creek shown below. The overall score was 63% which is healthy but with problems. With some management changes there is the potential to bring the health score up to 80%



Some of the items contributing to the health score include:

- Invasive weeds are present
- Removal of woody trees by beavers.
- Moderate browsing and grazing of riparian area.
- Some soil compaction from livestock traffic.



## Watering Solutions

To keep cattle out of the creek and provide clean water, Blackhursts utilized the LSWC's demo solar and wind powered watering system to pump water from deeper pools in the creek to the trough placed on the upland area adjacent to the creek.

In 2016 the LSWC and our partners held a field tour and visited the project area and checked out the water system in use. Blackhursts purchased their own solar system to continue to use in this pasture.



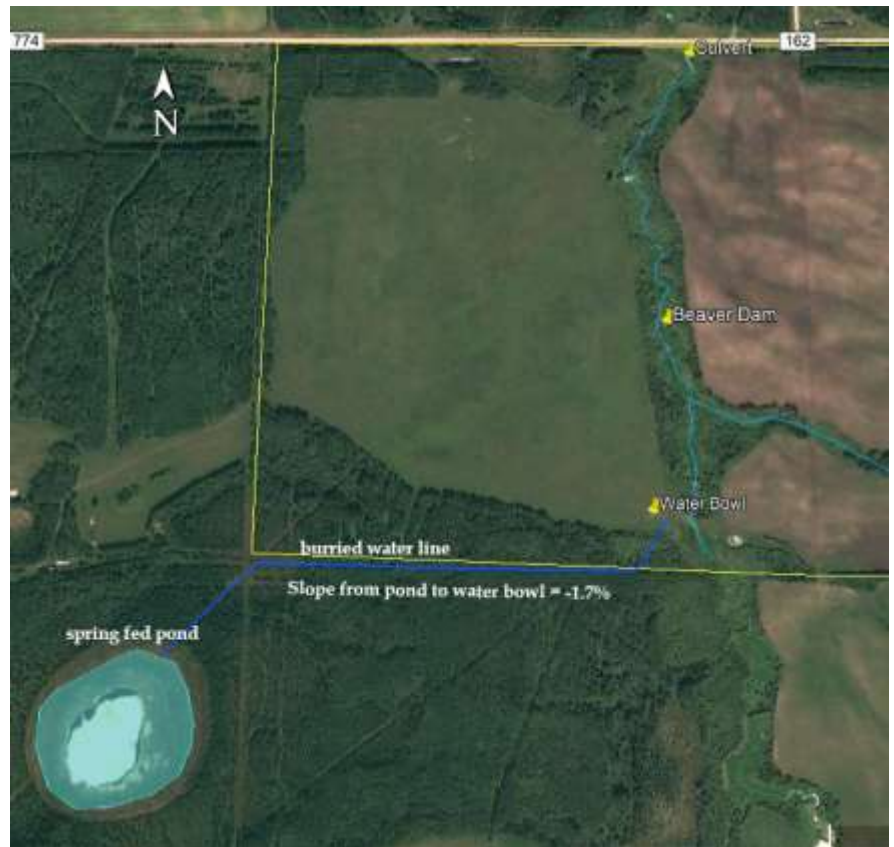
### A Gravity-fed Electricity Free Water System

Blackhursts' came up with an idea to utilize a spring fed pond about 620 meters to the south west of the pasture as a water source for an all season water system. Utilizing the existing cut line they laid out PVC pipe from the pond to the desired location of their water bowl. They used a vacuum truck to pull water through the line to ensure that the slope would allow for a gravity fed flow once primed. An exiting water bowl and float switch was used to test the pressure. Once they were confident that the system would work they hired a back hoe to bury the water line.

At the pasture end of the line they brought the line up through a 24 inch culvert about 16 feet in the ground.

Blackhursts purchased a CAPsule from CAP Solar with the capacity for 700 head and installed it over the culvert and connected the four insulated drink tubes.

The installation was completed in November 2017 and they immediately began to use it with their herd. This system allowed them to utilize the pasture year round with bale grazing distributed across the pasture.





*The waterline being strung in fall 2017. The landscape changes from grassland to muskeg closer to the pond.*



*This image from CAP Solar shows how the CAPsule fits over the culvert and connects to the water line.*



Happy cattle utilizing their new watering system in December 2017 are pictured on the left. Temperatures dropped to -38 C in December 2017 and the system did not freeze up as long as cattle drank continually throughout the day. Blackhursts had to break the ice on the bowls a few mornings during the extreme cold.

No pump, no power and the lay of the land make this system a great solution for this remote area.

George Blackhurst, pictured on the right beside the spring fed pond, explains their plans for the gravity fed watering system to the participants of our Fall 2016 watering system tour.

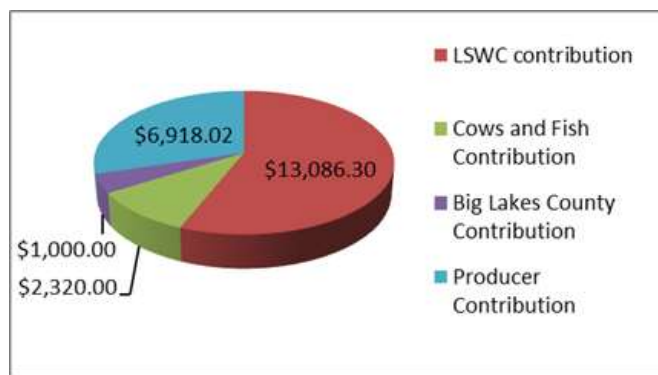




## Project Costs to Date

Project Component	Cost
Riparian Health Assessment	\$3,290.92
Waterboy Solar system	\$7,350.00
CAP Solar CAPsule	\$3,808.05
PVC waterline	\$5,040.00
Backhoe and Operator	\$4,578.00
Total cash expenses:	<b>\$24,066.97</b>

## Break down of cash contributions



## Estimated In Kind Contributions

In kind contributions are non-cash contributions to the project such staff time, producer time, and donated good or services. In kind time is calculated at \$45 per hour.

**Producers:** \$5,000 to date

**Cows and Fish:** \$1,800

**PCBFA:** \$2,750



While beavers may be difficult to deal with, in the long run their dams play an important role in riparian function. This dam on the creek running through the pasture holds back water in the summer months when the rest of the creek is dry.

## Next Steps

Going forward the LSWC and our partners will keep supporting the Blackhursts in their efforts to improve their operation and maintain watershed resiliency. The LSWC has applied for more funding from the WRRP and if approved, could support more project work.

We have discussed riparian fencing along the creek to ensure that it has rest from grazing and is allowed to regenerate healthy vegetation.

The pasture also has two areas where cattle cross the creek when water levels are low. Future project work could include crossing improvements to make a more permeant cattle crossing that protect the creek banks from erosion and can be used year round.

# Dallas and Trisha Turcotte Project

**Landowners:** Dallas and Trisha Turcotte

**Watershed:** East Prairie River

## Site Description

The Turcotte property is located along the East Prairie River and the family has plans to move their small herd of cattle to their home quarter for summer grazing and winter feeding. The quarter section is in mixed hay but will transition to grazing pasture.

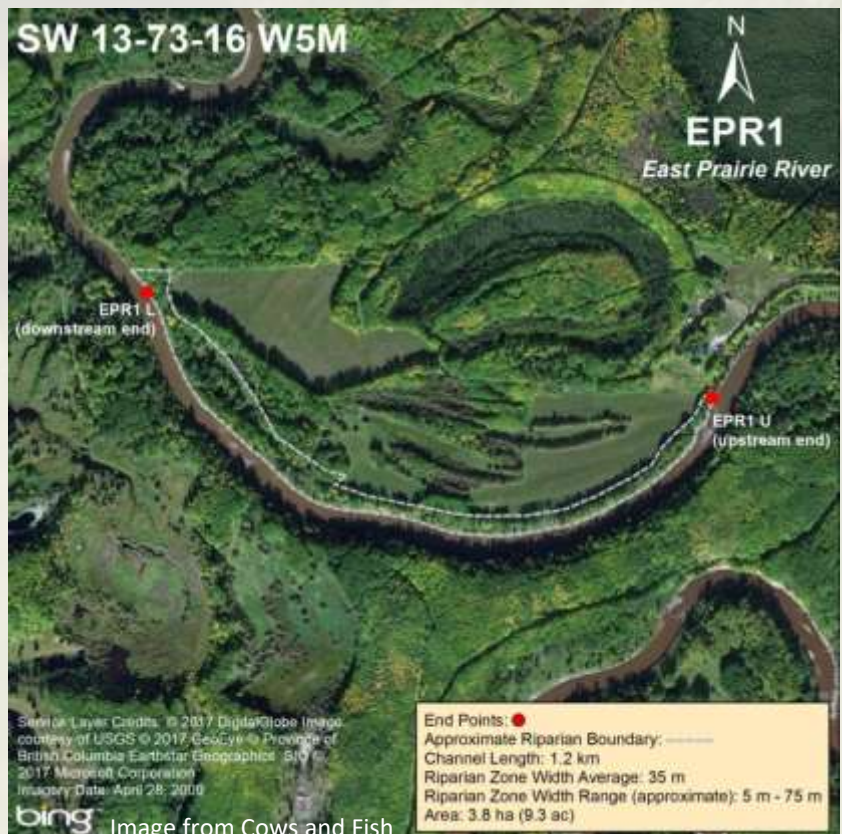
## Management Challenges

The East Prairie River is the only surface water source on the property. Turcottes needed to come up with a solution for year round watering with minimal impact to the riparian area and river.

The riparian area is in good health and it is a priority to keep it in a healthy condition so that erosion is limited and the benefits of a health vegetated riparian area are maintained over time.

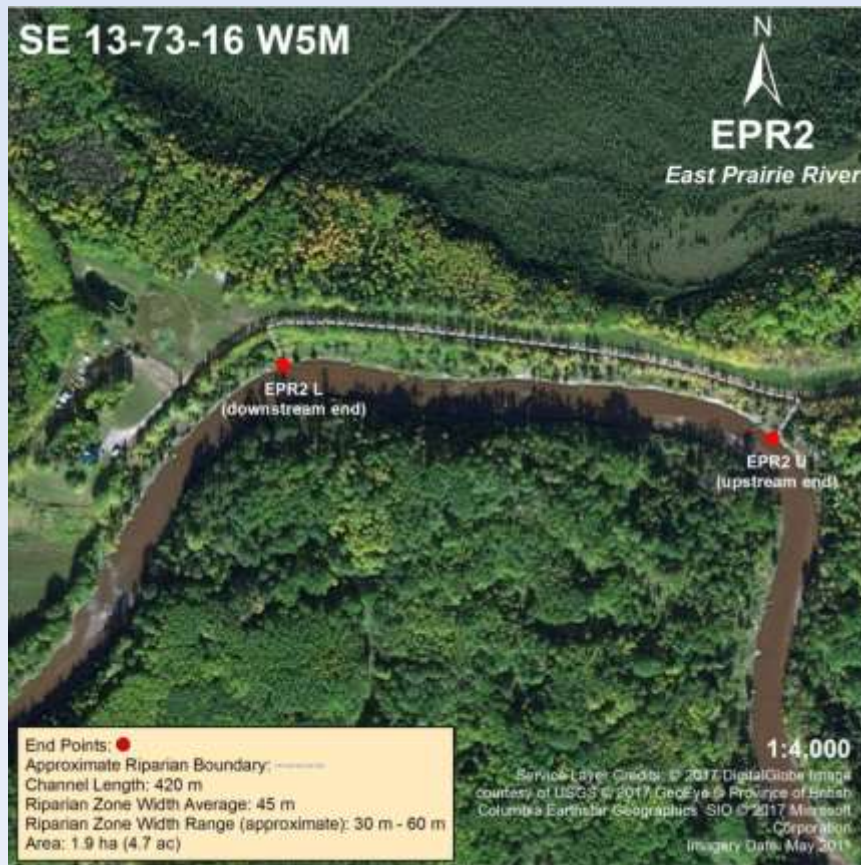


On August 24, 2016 Cows and Fish staff completed a riparian health assessment along the East Prairie River. The segment that was surveyed had an overall score of 94% healthy. Some of the management



Considerations include: maintaining existing tree and shrub cover, monitoring invasive species (Canada Thistle), and minimizing any bare ground that encouraged weeds and invasives to establish. Fencing out the riparian area will prevent disturbance and protect stream banks.





A second assessment was completed at another location bordering an outside bend of the river. This reach also had a high score of 91% healthy. This stretch along the river is too steep for livestock to graze and fencing out the area is a

good strategy to protect existing tree and shrub cover that will aid in bank stabilization during high flow periods. Perennial Sow Thistle is the only noxious weed found in this reach and should be monitored and controlled so it does not spread. Another recommendation is to limit spring grazing in this area while soils are wet and erode easily.



Despite having deep binding roots along the bank erosion still occurs along steep banks, especially during high water events.



This image shows the transition area between riparian area and upland pasture. Fencing along this divide will maintain riparian health.

## Shallow well & all season water bowl installation

Dallas received advice from Marvin Jackson from Sundog Solar when we visited his site on our riparian tour in the fall of 2016. Because of the close proximity of the East Prairie River a shallow well was the recommended option for both summer and winter watering. The banks of the East Prairie River are very steep and an off stream system that pumps from the river up to the pasture would require a lot of battery power for the amount of lift.



A backhoe was hired to dig down to the water table at about 16 feet below surface. Once they reached water a load of rock was put in the hole before a 24 inch culvert was placed. The bottom portion of the culvert was coated with plastic to prevent erosion over time. Once the culvert was placed correctly it was held in place by a skid steer while the backhoe filled around it.



*The complete system looks like the one above. There is a submerged pump in the well that, when triggered by the motion eye pumps, water into the bowl. Once cattle drink and move away from the motion eye the water drains from the bowl back down the well, preventing freezing. The solar panel keeps the battery fully charged.*



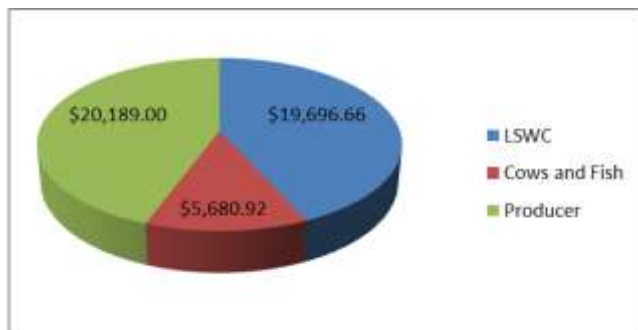
*The LSWC and partners hosted a fall watering system tour in 2016 and visited the Turcotte farm to examine potential watering system solutions. Pictured above is the group with Marvin Jackson from Sundog Solar*



## Project Costs to Date

Project component	Cost
Riparian health assessments	\$6,461.82
Well dig and install	\$15,540.00
Fenceline brusher and fuel	\$5,000.00
fencing materials	\$14,514.92
Water bowl and pump set up	\$6,156.78
<i>total cash expenses</i>	<i>\$47,673.52</i>

### Break down of cash contributions



### In Kind Contributions

In kind contributions are non-cash contributions to the project such as staff time, producer time, and donated goods or services. In kind time is calculated at \$45 per hour.

Cows and Fish: \$653 in staff time

High Prairie Riparian Action Team: \$1,725 in fencing materials

Producer time to date: \$4,230

## Watershed Field Tour Highlights



Marvin Jackson of Sundog Solar explains operation of a solar and wind powered unit.



Producer John Prinse shows the group his winterized solar powered system.



The group listens intently as Ted Blackhurst explains their plans for a year round gravity fed system from a spring fed pond

# Travis and Esme Beamish Project

**Landowners:** Travis and Esme Beamish

**Watershed:** West Prairie River

## Site Description

Beamishs have a quarter section of newly acquired crown grazing lease south west of High Prairie along the West Prairie River and adjacent to their own farm. The land is rolling with lots of tree cover and meadows dispersed through it.

## Management Challenges

The only fencing on the grazing lease was in dis-repair and Beamish's have not been able to graze their cattle on it. The West Prairie River winds through the lease and Travis wanted to ensure that his fence restricted access to the river so that cattle don't wander away when flows are low.

Another challenge is OHV use. Because the lease has not been in use for several years there has been an increase in OHV traffic. Travis has also experienced issues with disrespectful users cutting fences and gates to gain access to trails.



On August 25, 2016 Cows and Fish Staff conducted a riparian health assessment on a representative segment of the West Prairie River. The overall health was scored at 88% healthy.

Some challenges were identified including:

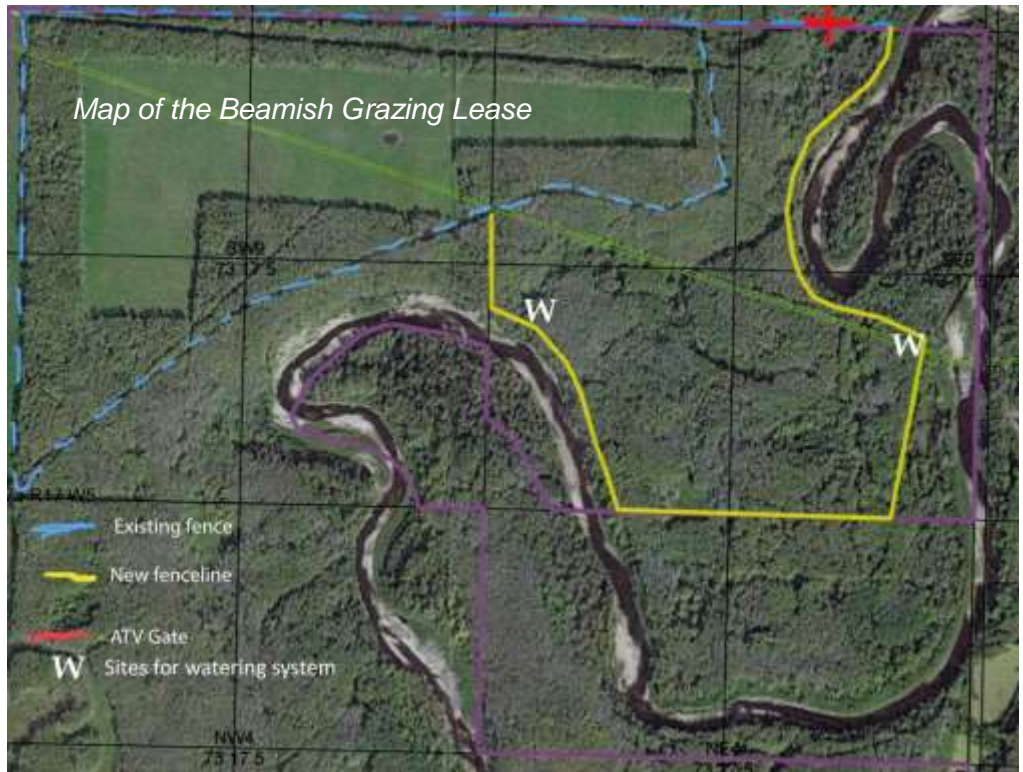
Invasive weed species, some disturbance cause plants, erosion from high flows, and some impacts from OHV's but these are limited to existing trails. The fence that Beamish's have installed will protect the riparian area and maintain its health. There is potential to raise the health score up into the 90th percentile.





## Riparian Fencing & Off Stream Watering

The boundary of the grazing lease is shown on the map in purple. Beamish worked with Public Lands staff to plan the new fence line for this parcel (yellow) and obtained approval for the installation permitting fire hazard was low enough not to cause significant risk. Travis also planned to install an OHV friendly gate that will deter people from cutting fences to gain access. This metal pole gate is



Designed for OHV's to drive over but restrict cattle from going across it. Beamish have purchased a solar powered off stream watering system that will be utilized along the river in at least 2 locations. The system will be on the upland side of the fence and eliminate the need for cattle access to the river for watering.



OHV trails are present throughout the grazing lease, mainly along the fence line. The majority of users are respectful and stick to existing trails and crossings.



High flows in June 2016 cause large scale erosion along the banks of the river despite the health vegetation and root mass present. This high water event cause the river to incise a new channel and cut off a new oxbow.

## Project Costs to Date

Project Component	Cost
Riparian health Assessment	\$2,849.00
Fencing materials	\$11,256.00
Solar watering system	\$2,273.00
Fuel - fenceline clearing	\$2,500.00
<i>total cash expenses</i>	<b>\$18,878.00</b>

### Break down of cash contributions



## Next Steps

The LSWC and the Beamish's will continue project work in 2019. Fencing is the biggest priority as there are many areas on the new lease with dilapidated fence that will need to be replace. The new grazing lease also has many areas where the river bank is experiencing significant erosion with each high water event. Fencing projects will consider river meanders and riparian buffers to both protect the riparian area and keep cattle away from the river. There are opportunities to plan a willow stabilization, wattle fence, or other bio engineering project at locations on grazing lease and engage other producers & local volunteers who want to learn more about these strategies and how they are executed. Any project work on the grazing lease will be communicated to Alberta Agriculture and Forestry staff for approval in accordance with lease agreements.

## In Kind Contributions

In kind contributions are non-cash contributions to the project such staff time, producer time, and donated goods or services. In kind time is calculated at \$45 per hour.

Cows and Fish: \$517 in staff time to date

High Prairie Riparian Action Team: \$1,578 in donated fencing materials

Producer time: \$3,485 to date



In 2018 Beamish's acquired additional grazing lease land. This grazing lease was not maintained by the past lease holder and has been unused for over 5 years. It requires new fencing, control of invasive weeds as well as restriction to OHV use.



# Town of High Prairie Project

**Landowner:** Town of High Prairie

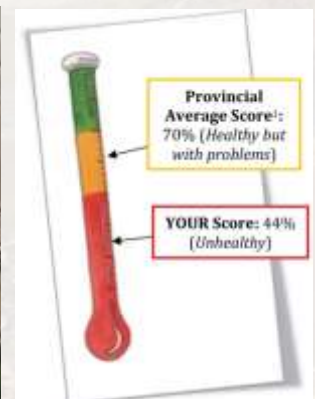
**Watershed:** West Prairie River

## Site Description

This site is located on the west side of the Town of High Prairie along the West Prairie River. This section of the river was channelized in 1950 to reduce flooding in the town. In the 1950's the ox bow that was cut off during channelization was used as a landfill then covered over. There is a lumber mill across the river from this site and it is bordered by a CN railway bridge and a highway bridge.

## Management Challenges

This site has been impacted by OHV's even though OHV use is not permitted within the town. The Town is also concerned about erosion on the east bank where there is a risk of exposing the buried landfill if erosion continues. This site has many species of weeds and it is difficult to manage them on the river bank where it can not be mowed or sprayed. The Town of High Prairie raw water intake pump is located near the rail way bridge and access is needed for staff to access the pump. There is also a storm water outflow located near the water intake and there is erosion taking place below the outflow pipe.



Cows and Fish field staff completed a pre project riparian health inventory at the site on July 13, 2017.

Details of the assessment follow on the next page.



Photo by Cows and Fish

This image captured by Cows and Fish staff is taken from the rail bridge facing north (downstream) and shows the riparian areas on both sides of the West Prairie River.

### Riparian Health Challenges

- **Balsam poplar regeneration is absent** but there is a strong potential for establishment and regeneration.
- **Other native trees are not abundant**, but regeneration is present. Manitoba maple and green ash are the only trees present and cover < 1% of the site.
- Preferred shrub species are present and have excellent regeneration. Sandbar Willow is the most abundant
- **There is a high amount of woody vegetation removal by human activities.** Burning of the site to reduce woody vegetation has resulted in most of the site being covered by invasive forb and introduced grass species.
- **Invasive plant species are abundant.** Tufted Vetch and Canada Thistle are abundant.
- **Disturbance-caused undesirable plant species are abundant.** These are typically non-native grasses and forbs that tend to aggressively displace native plants once the soil surface has been disturbed.
- **Human-caused structural alterations to the rest of the site are extensive.** Approximately 50% of the floodplain area away from the riverbank is also altered due to recreational use.



Photo by Cows and Fish

On the left you can see the bare ground caused by ATV use in the riparian area. On the right you can see the abundance of tufted vetch. This vetch covers about 20% of the site.



Photo by Cows and Fish



## Weed Control and Exclusion Fencing in 2018



In August of 2018 the local Junior Forest Warden group joined the LSWC and Town of High Prairie staff for a day of work along the West Prairie River.

10 garbage bags of weeds were removed by the group of girls. This was only a fraction of the extent of the weeds present. Working on weed control will be an ongoing challenge at this site.

With 2 staff and a backhoe from the Town of High Prairie fence posts were installed along the river bank and the Junior Forest Rangers installed and painted the fence boards. Because of the need to have vehicle access to the meters that monitor gasses from the buried garbage dump below we were not able to extend the fence as far as we would have liked.



Work in 2019 and onwards will include weed control, planting native tree species in the riparian area, and seeding with native grasses where there is bare ground cover.

## Project Costs to Date

Project Component	Cost
Riparian Health Assessment	\$2,500.00
Fencing Materials	\$950.00
Signage	\$250.00
Native Vegetation	\$500.00
<i>Total cash expenses</i>	<i>\$4,200.00</i>



### In Kind Contributions

In kind contributions are non-cash contributions to the project such as staff time, producer time, and donated goods or services. In kind time is calculated at \$45 per hour.

- Cows and Fish: a \$240 in staff time to date
- RBC community cleanup: \$1,000
- JFR in kind labour: \$2,205
- Town backhoe and staff: \$1200
- Other volunteers: \$370

# John Prinse Project

**Landowner:** John Prinse

**Watershed:** East Prairie Sub Basin, Mud Creek

**Description:**

Mr. Prinse is a grain and cattle farmer who is located in the Big Meadow area north of Enilda, AB. John has been a board member of Peace Country Beef and Forage Association for years and has been an early adopter of best management practices such as rotational grazing, off stream watering systems, riparian fencing and grazing management, and is always a welcoming host when we plan field tours.

**Management Challenges:**

Johns property has an ephemeral draw that flows through one of his pastures in the spring and after significant rain events. This draw is also receiving water from nearby municipal drainage ditches. John wants to ensure that erosion doesn't start taking place because of the higher volumes of water flowing through so he wanted to fence out the draw and let the riparian vegetation grow and mature. Beavers are very active along Mud Creek and have been falling a lot of mature trees and building dams that sometime back water up into Johns crop or pastures.



Photo by Cows and Fish



Image from Cows and Fish

The image above shows the ephemeral draw after significant summer rain. Riparian vegetation have already begun to establish in the low lying draw.

The image to the left shows conservative, moderate and generous riparian fencing options. Mr. Prince chose the moderate scenario, leaving space for vegetation to thrive, and keeping his cattle out of the soft wet soils. The riparian area may be grazed from time to time when conditions permit.



## Riparian Health Assessment

This riparian site encompasses 320 meters of channel length and an area of approximately 0.8 hectares (2.0 acres) on both sides of the Unnamed Stream (tributary to Mud Creek). Cows and Fish staff completed a riparian health assessment in August 2017. The site scored 65% overall which is below the provincial average of 70% but there is the potential to raise the health score to the high 80's with some management efforts.

Findings of riparian survey:

- Invasive plant species are abundant, particularly Canada Thistle.
- Preferred woody plants (e.g. willows) are present and display signs of regeneration, but are not abundant. The area should be rested enough to provide time for woody plants to regenerate. Planting trees like balsam poplar and shrubs like willow and red-osier dogwood using live stakes or cuttings can also help promote tree and shrub growth.
- Avoid or limit spring grazing in the riparian area. Riparian areas are vulnerable to compaction in the spring, so avoid grazing when banks and shorelines are saturated. Grazing new growth too early can severely impact the amount of forage that is produced by that pasture throughout the rest of the growing season.
- Continue to feed livestock away from riparian areas in the winter. Livestock target woody plants in the fall and winter, which can result in trees or shrubs being lost from the riparian area.

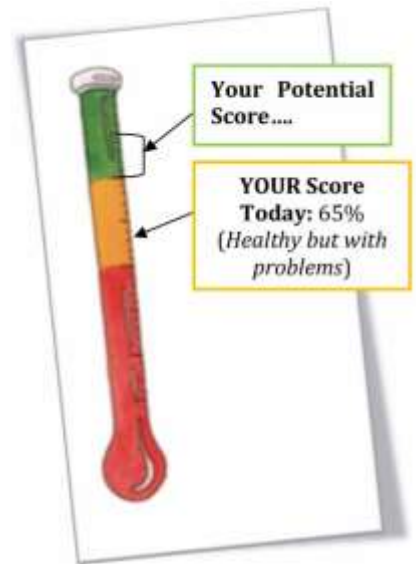


Photo by Cows and Fish

*The Beavers in the downstream channel are active and moving out into the pasture. In addition to this post, some of the woody shrubs have been browsed.*



Photo by Cows and Fish

*This photo was taken in the middle of the channel. Cat tails and some species of sedges are present in the wettest areas.*

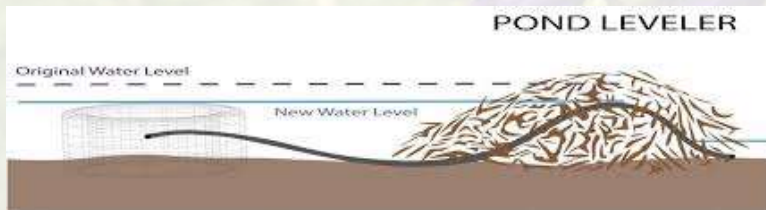
## Battling with Beavers



Beavers along Mud Creek love to chew. They have fallen many poplar trees over existing fences and have even taken to chewing treated fence posts. John is willing to try new tactics to deter them from certain locations.



## Pond Leveling Devices



The intent of a pond leveler is to let water flow out of the dammed area while still maintaining enough water behind the dam to keep Beaver happy. Learn more at [www.cowsandfish.org](http://www.cowsandfish.org)



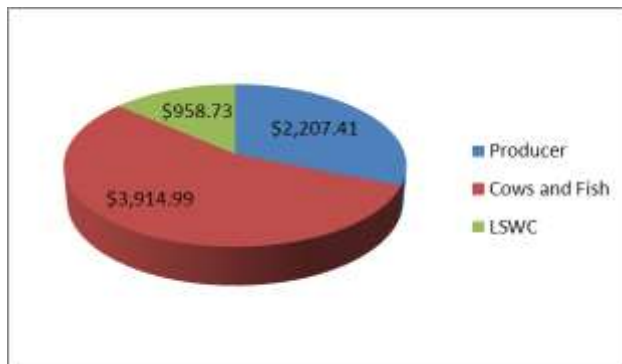
Mr. Prinse has constructed and installed three different pond leveling devices on his property. He learned that if the device is too short the beavers can find the outflow and block it. They are triggered by the sound of moving water so the further from the dam it can be located, the better. The image above, left shows the wire cage that is put around the perforated pipe to prevent the beavers from blocking it with mud and sticks. Above, center, Tanya with Cows and Fish explains the concept of pond levers to our October 2018 field tour participants. The image on the left shows the end of one of John's pond levelers on the upstream side of the dam. One of the installation challenges was making the pipe sink. John made holes in the underside of the pipe with a grinder so that water could seep into it and let it sink below water level. We will continue to work with John to monitor the effectiveness of these devices and whether or not they are "vandalized" by the Beaver.



## Project Costs to Date

Project Component	Cost
Riparian health assessment	\$2,910.00
Fencing materials	\$1,826.15
Materials for pond levelers	\$2,253.67
<i>Total cash expenses</i>	<i>\$6,989.82</i>

### Break down of cash contributions



## In Kind Contributions

In kind contributions are non-cash contributions to the project such as staff time, producer time, and donated goods or services. In kind time is calculated at \$45 per hour.

- Cows and Fish: \$410 in staff time to date
- LSWC and PCBFA In Kind time: \$270
- Producer time to complete fencing and pond levelers: \$1190

## Next Steps

The LSWC, PCBFA and Cows and Fish will continue to support John in his efforts to manage riparian areas and beaver on his property. We will be checking in with him in 2019 and onwards to see how the riparian area recovery is progressing, and to monitor beaver activity and impacts.

## Sharing Success Stories

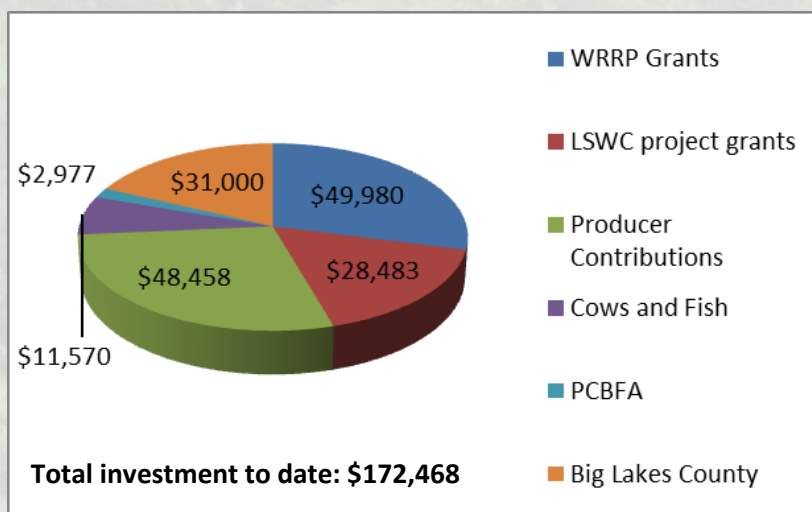
Mr. Prinse is always open to the idea of trying new management strategies and sharing his experiences with others. In the image above- left John is explaining to our tour participants how he put together one of his off stream solar watering systems with materials from the farm to save costs. Below-left John is walking with Monika Benoit from PCBFA and Kerri O'Shaughnessy with Cows and Fish and showing them the ephemeral stream he fenced off and how the riparian plants are recovering.

## 2015 - 2019 Project Impact Summary

### Project Outcomes:

- Working partnership developed between local organizations with like goals and objectives
- Landowners in Big Lakes County are engaged and aware of opportunities that exist to take on projects that support health watersheds.
- 109.62 acres of riparian area conserved or protected.
- 5 projects completed, 1 new project in progress and there is interest from new partners to engage in watershed resiliency work.
- 4 successful extension events held to showcase projects and opportunities and provide stewardship information.

### 2016-2019 total cash investments



### 2016-2019 total value of in kind time & donated goods and services

