VOLUME 26 SUMMER 2025

COWS & FISH

CARING FOR THE GREEN ZONE

The Newsletter

A PUBLICATION OF COWS AND FISH
RIPARIAN MANAGEMENT SOCIETY

CONNECTING
LAND AND WATER

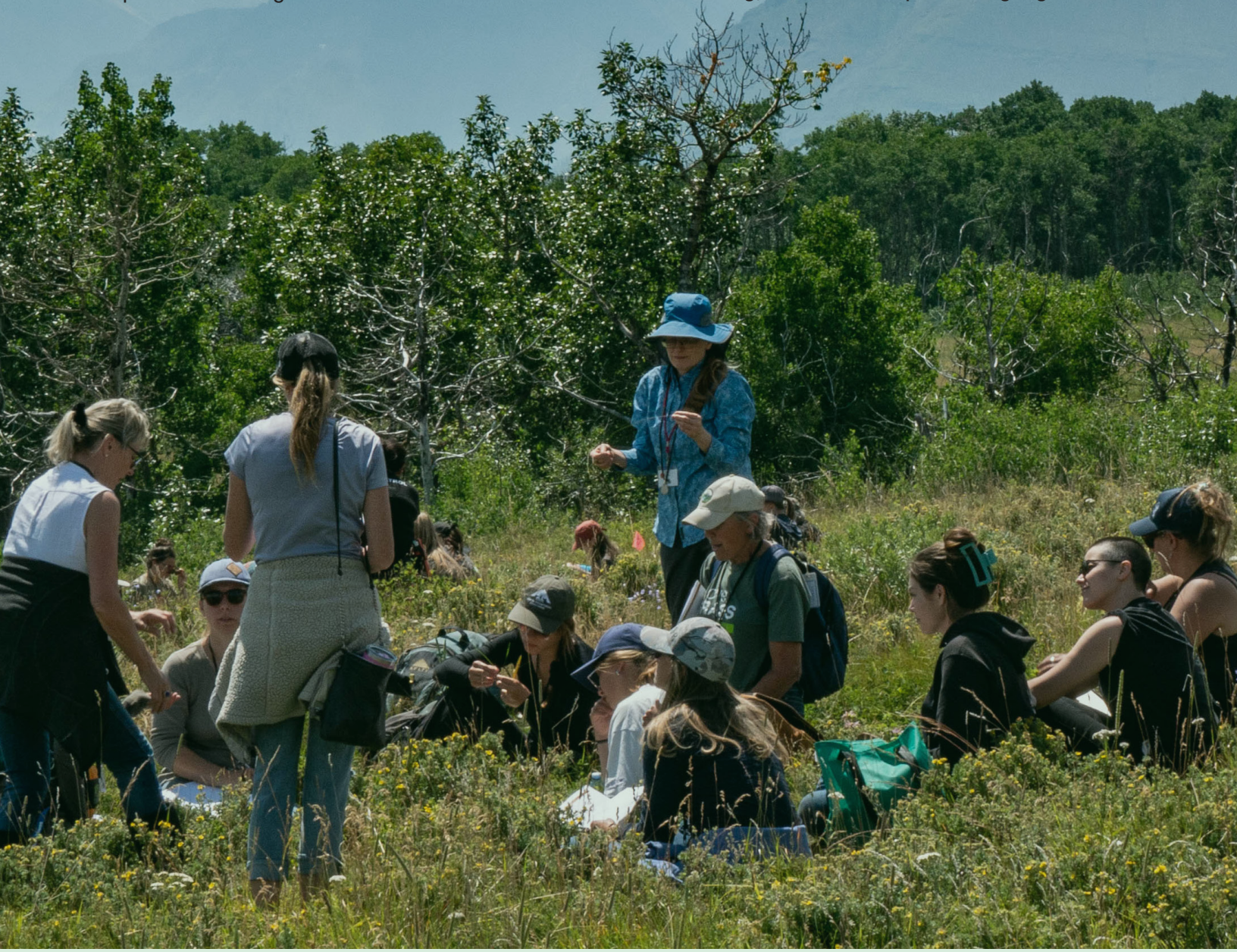
WWW.COWSANDFISH.ORG
@COWSANDFISH

GRAZING, GALS, & THE GRASSLAND

Written by Norine Ambrose, Executive Director

In our 22nd year delivering the Southern Alberta Grazing School for Women, we returned to near where we'd started—the Pincher Creek area. To be precise, we went just south, to Twin Butte Hall, and the field sites were at the awe-inspiring Waterton Park Front, looking over Cottonwood Creek. With over 60 attendees, speakers, and committee members, it was a large, energetic group that spawned lots of great conversations.

The two days, filled with great food, amazing learning, and keen, thoughtful questions from ranching women, built upon our committee's reputation for putting on a great event. Recently, I spoke to one of the husbands of one of our staunch supporters and repeat attendees, and he wanted to ensure I knew how much positive feedback he'd heard from his wife. But...this story is about the women in ag, so let me recap a few highlights ▶

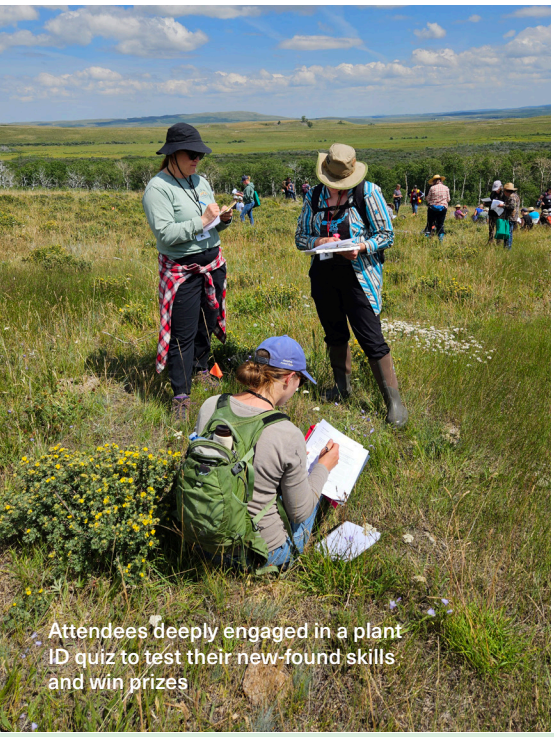


DAY 1

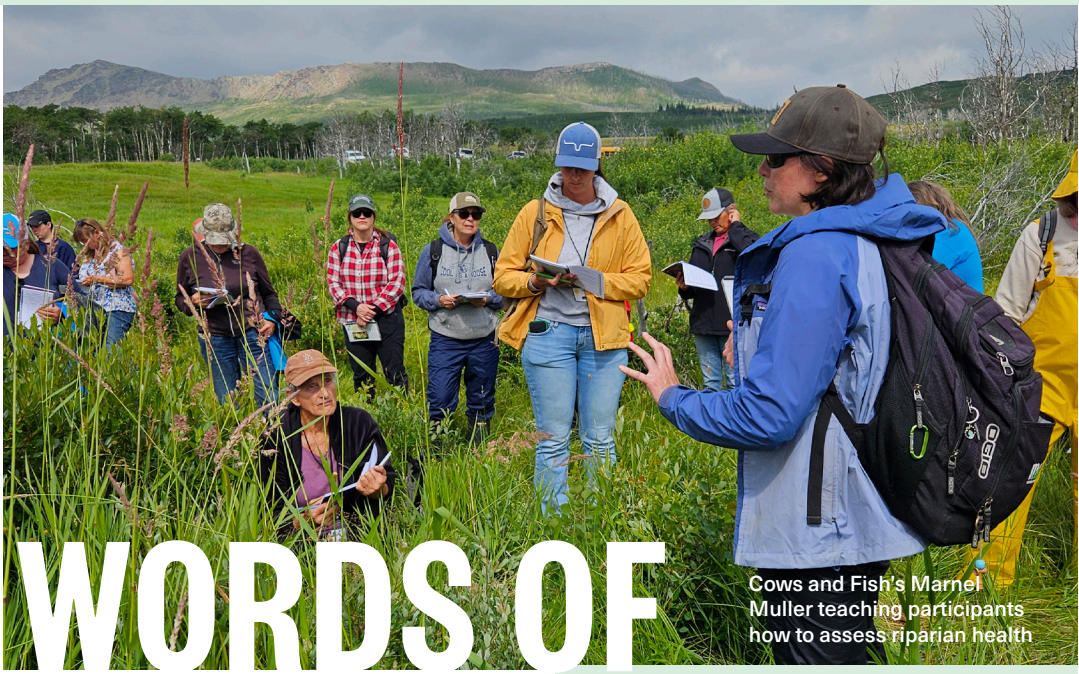
The just ripening saskatoons, mixed with abundant wildflowers made for a “delicious” field session on day 1 as the attendees learned about range health and then tested their plant ID skills. The vet and rancher talk, focussed on liver flukes in cattle reminded everyone that there are always new and emerging considerations for livestock management, just as the later carnivore and bear safety talk put practical training into their hands.

DAY 2

We spent the morning learning about riparian plants and tuning attendees’ eyes to what to look for in a healthy riparian area. As they estimated cover of invasive plants, browse level on willows and amount of bare ground, each small group had just completed their tallies, as a thunderstorm rolled toward us, enabling everyone to get back onto the orange school bus, just as the raindrops arrived.



Attendees deeply engaged in a plant ID quiz to test their new-found skills and win prizes



Cows and Fish’s Marnel Muller teaching participants how to assess riparian health

WORDS OF WISDOM

Each year, we make it a priority to include content from ranching women. This year, in addition to a panel of 3 local ranchers, we also had a group of 5 returnees, who have attended time and time again. We asked them what advice they wanted to share.

Their ‘Words of Wisdom’ included some excellent feedback and advice that shows the value of the school.

“I have missed just 4 or 5 years, [but] I learn something at every one.”

- ANNE STEVICK, RANCHER

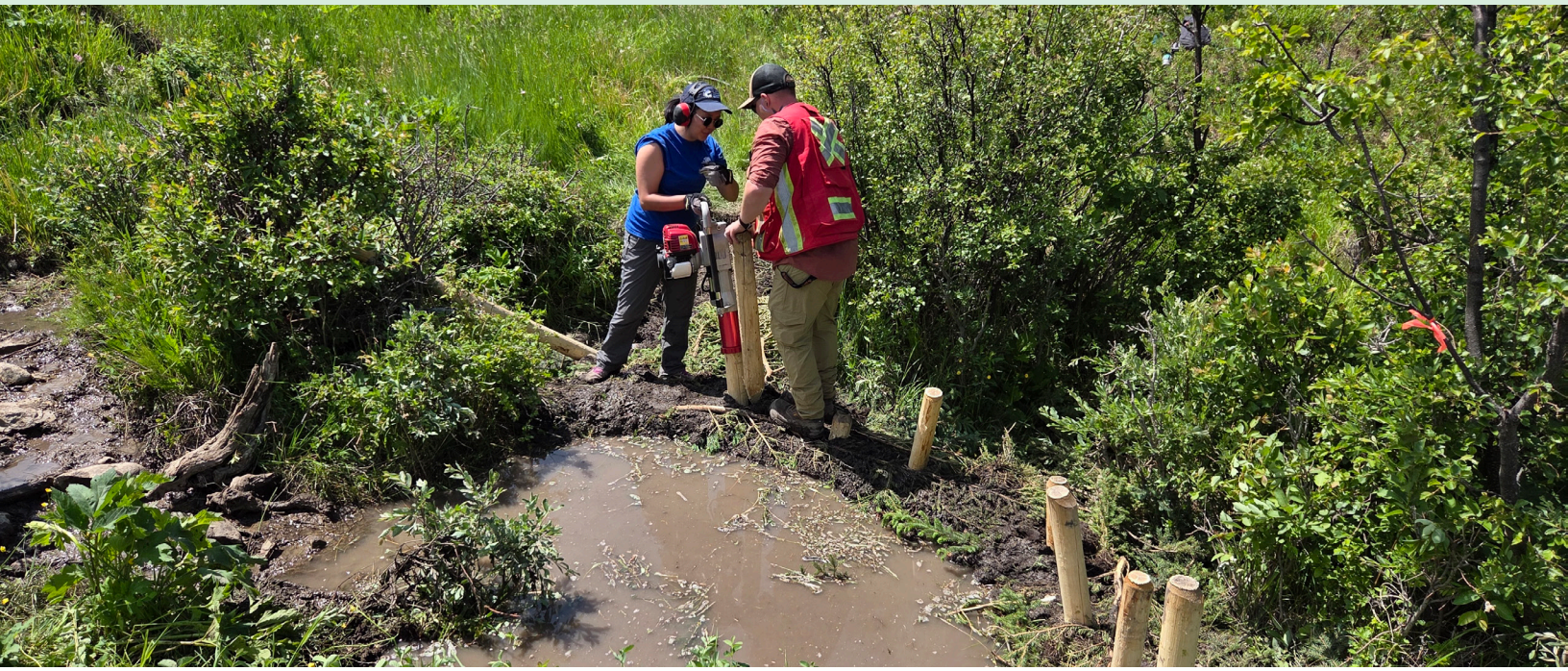
“The word I’d like to share that has deepened at this gathering is ‘Stewardship’... part of that is because I am surrounded by allies.”

- KELLY HALL, RANCHER

“People come for different reasons. I come for the knowledge. Probably the first thing I learned that I took home was how to get cows to eat grass in the corners...When I came home I said if we put the salt up there, then they will come."

- GERI TRAUTMAN, RANCHER

Events like this take a lot of work and a committed group of partners to succeed. The planning committee includes ourselves; Alberta Conservation Association; Alberta Government (Rangelands staff); Chinook Applied Research Association; Foothills Forage and Grazing Association; MD of Willow Creek; MULTISAR program; Nature Conservancy Canada; Prairie Conservation Forum; Southern Alberta Land Trust Society; and Starland County. Funding and sponsorship support, with over 30 supporters, is diverse, from cash to cover things like the bus, to donated door prizes. Cows and Fish specifically wants to acknowledge contributions to us or that we received on behalf of the committee. These include door prizes from Alberta Beef Producers and the Native Trout Collaborative and cash support from an Alberta Conservation Association grant, and financial support provided under the Sustainable Canadian Agricultural Partnership, a federal-provincial-territorial initiative.



BDA pooling on tributary to Nanton Creek

MOBILIZING BEAVER FOR FRESHWATER SECURITY AND ECOSYSTEM HEALTH

Written by Amy Berlando, Provincial Riparian Specialist

Much of Alberta has been dry until the recent rainfall events in SW Alberta. Although the rain has helped, after several dry years in a row, drought conditions persist across the province.

As rancher Kelly Hall of Timber Ridge Ranch, located in the Porcupine Hills can attest, six years of drought has impacted their land and ranching operation. With streams and springs running dry, the Halls are looking toward natural solutions for water storage to support their ranch, the local wildlife, and communities downstream. As Kelly explains, “conservation and good agricultural practices are on parallel tracks.”

Beavers are a natural solution for water security. Beaver activity improves water holding capacity and resilience to drought and fire, reduces flood peaks, and expands wetland habitat. Adding beavers back into the system could improve aquatic ecosystem health and resilience in the face of past land impacts and future climate extremes, in addition to benefiting beavers themselves. However, due to the historical removal of beaver and decreased availability of suitable habitat caused by land clearing, development, and inconsistent water availability, in many places, beaver and the benefits they bring are lacking. But as the saying goes, if you build it, they will come.

It’s a hot day in June and staff from Freshwater Conservation Canada (FCC), Cows and Fish, and the Alberta Conservation Association (ACA), together with the Hall’s and some of their keen friends gather along Oxley Creek to build Beaver Dam Analogs (BDAs). BDAs are a Low-Tech Process Based Restoration (LTPBR) technique, which utilizes hand-built structures that mimic natural beaver activity to help reconnect streams to their floodplains. In this reach, the stream is already mostly dry, except for some old pools that remain from past beaver activity. Kelly tells us that when the beaver were active in the area, that creek stayed wetter longer, and by the end of the summer, it was the only place that had water. We are fortunate to have support from hard-working partners and financial support too; our BDA efforts are funded in part by the Government of Canada through the Environmental Damages Fund.

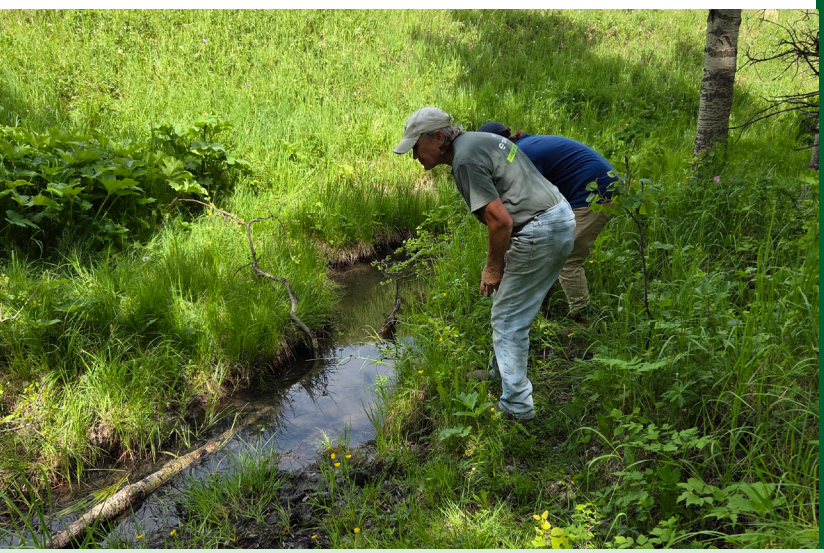
Cows & Fish

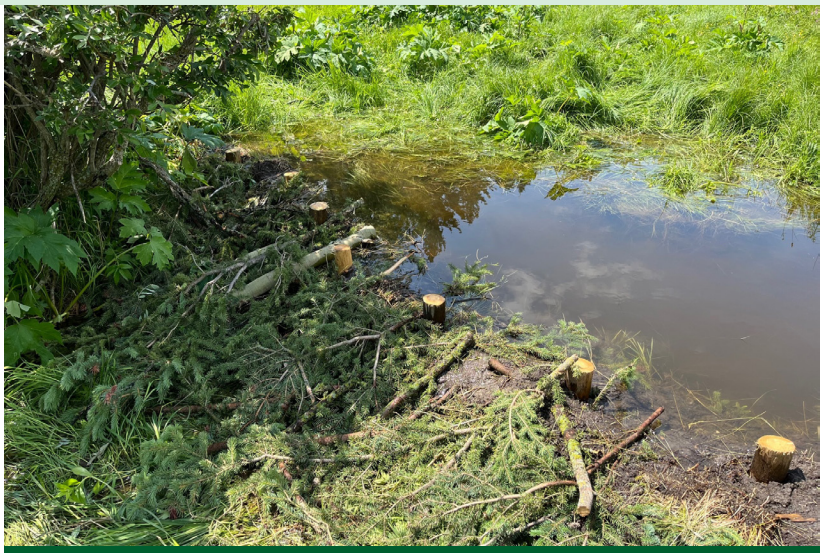
Glen and Kelly Hall contacted FCC regarding a potential beaver restoration project on their property. Elliot Lindsay with FCC followed up with a site visit and determined both Nanton and Oxley Creeks were good candidates for BDAs with the long-term goal of facilitating beaver re-occupation and increasing the resilience of both streams to flood and drought. With funding support from the Government of Canada, we were able to jump in and lend a hand as well.

While this technique is gaining momentum in the USA where it is recognized as a valuable tool for increasing water security and restoration for sage grouse and fish habitat, it is relatively new in Alberta, but demand is increasing.

Not only do BDAs help store water, which ranching operations need, they help to recharge groundwater and rehydrate soils to promote plant growth; in particular woody species to support healthy riparian habitat and healthy fisheries. “LTPBR is a good way to address degradation that has resulted in structurally starved and/or incised stream reaches, of which there are thousands of kilometers throughout the province, especially in southern Alberta,” Elliot explains. Thanks to partner organizations like FCC, we are seeing more LTPBR projects pop up; the project on Oxley and Nanton Creeks on Timber Ridge Ranch is just one example.

Kelly Hall excitedly pointing out a frog in a BDA





After 5.4” of rain, the pools are holding water

After three days working in the sun, multiple structures were built in Oxley and Nanton Creeks. Aside from the sweat and tears that went into building the structures, both systems are mostly dry. There is rain in the forecast however, and to everyone’s delight, Kelly sends an email Sunday morning to let us know that they got 5.4” of rain on Saturday and the BDAs are holding water.

While building beaver dams is a good way to kickstart healing, ideally beavers return and finish the job, with much less sweat equity involved. In some cases, that will happen on its own, but in other cases, beaver have not been able to get a foothold due to predation, hunting, and barriers in the watershed. Community opinion can also be a barrier. Elizabeth Anderson, with the Waterton Biosphere Reserve Association (WBR) explains, “I think that beavers will always elicit mixed responses. Frustration is a common and understandable response among folks who have output money and time when their infrastructure was threatened by beaver-related flooding. But those who have had surface water persisting in these dry years or who have hayfields sub-irrigated by higher ground water levels are becoming beaver believers. Increasing awareness of coexistence tools, through opportunities offered by organizations such as Cows and Fish, ALUS Pincher Creek, and WBR, are making folks consider the possibility that beavers don't have to be an either-or scenario.”

Thanks to ongoing beaver coexistence work championed by the Working with Beavers Collaborative, with the Miistakis Institute and Cows and Fish, as more people recognize that they can not only manage to live with beavers, but they can receive the many watershed resiliency benefits beaver provide, they want to move beyond conflict management toward living with beavers and actively moving beaver back to accomplish this desire.

However, there is no defined process in Alberta to relocate beaver. Working with Waterton Biosphere Reserve Association and local community members, the Working with Beavers Collaborative, funded through Alberta Ecotrust Foundation and Land Stewardship Centre grants, is undertaking a pilot project that will navigate the regulatory and social licencing necessary to successfully relocate beaver, sharing lessons learned on best practices and offering recommendations to community members, practitioners, and government policymakers. The primary objective is to develop and share a streamlined and tested process to enable beaver relocation in Alberta through a pilot beaver relocation project in the Waterton Biosphere so that landowners, land managers, and communities across Alberta can receive the benefits that beaver enable, such as increased water storage and wetland habitat.

With changing climate, including rising temperatures, increased drought, and unpredictable water availability, affordable techniques that enhance water security are needed for sustainable use of Alberta's rangelands. While we still recommend coexistence with beaver as a first priority, LTPBR and beaver relocation could be utilized in areas where restoration is required.

PORCUPINE HILLS LTPBR INSTALLATION DAYS

Help build in-stream structures in the Porcupine Hills area

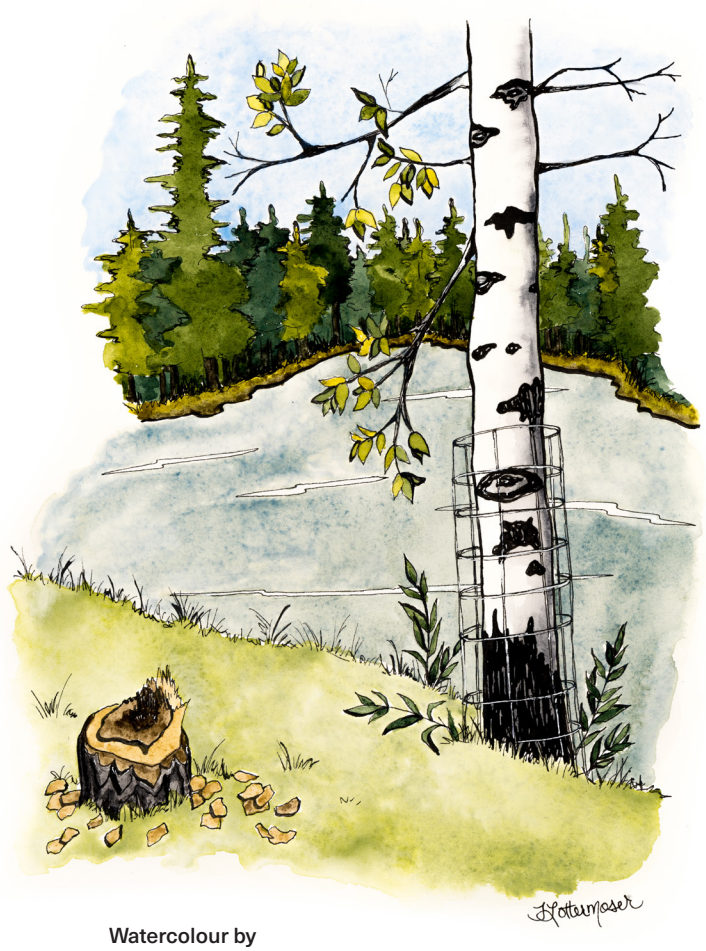
Help restore degraded habitat and increase resilience to floods and droughts by building Beaver Dam Analogs (BDAs)

DATES

Multiple

REGISTER NOW

Click here to sign up



Watercolour by Terra Lottermoser

Cows & Fish

RESTORING RIPARIAN AREAS BY REDUCING EROSION

Written by Norine Ambrose, Executive Director

Since riparian areas are adjacent to wetlands, streams, rivers, and lakes, that usually means they are at the lowest point on the land in the area.

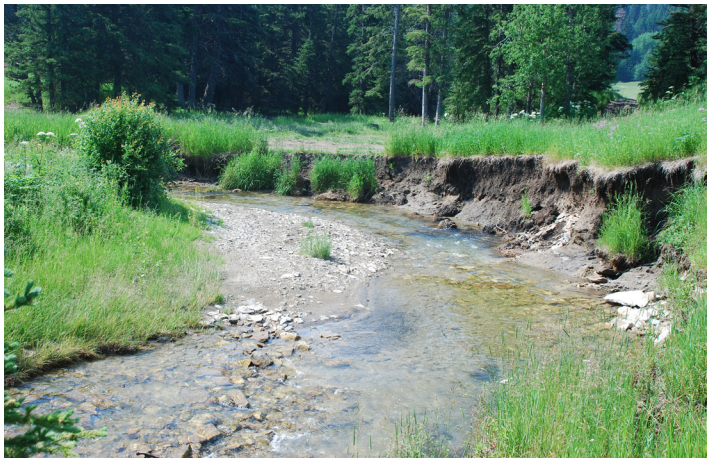
Everything else (on land) is above them, which is why you will sometimes hear them referred to as lowlands. Being lower than everything around them, runoff flows downhill into these areas. With thick and diverse plants present, the critical buffering and filtering functions of riparian areas helps keep the materials in runoff out of waterbodies.

While the plant cover in riparian areas is critical to protecting water quality, so are the plants upslope, as they prevent soil and contaminants from reaching the riparian area in the first place. Exposed soil, whether in either the upland, or the lowland (aka, riparian) areas, increases the risk of erosion, and ramps up the need for that filtering, to keep soil on land and out of the water.

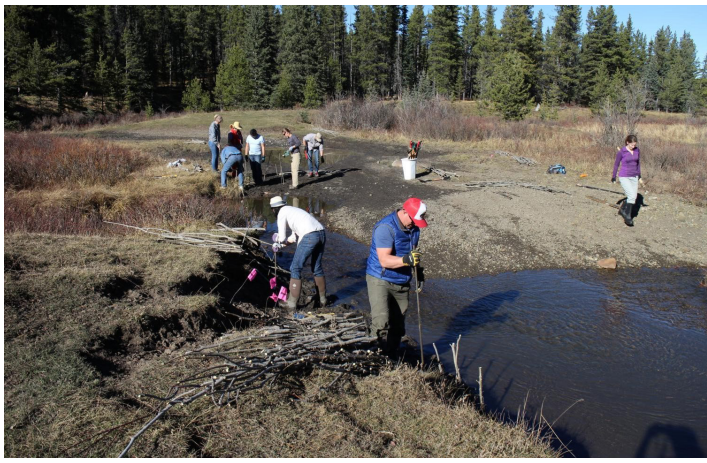
In our work to improve the function of riparian ecosystems, we often need to look at the use and management of nearby non-riparian areas. When unhealthy, or with a lot of bare soil, these uplands can contribute high levels of sediment and contaminants to riparian areas, which makes it harder for them to keep up. These flow paths themselves are sometimes also ephemeral riparian areas in coulee draws, or moist seeps and springs that flow in wet years.

Moving water has a lot of energy, or horsepower, which allows it to do work. Often that work is moving soil – which means eroding soil and carrying it to a new location. By putting the brakes on that horsepower, we can reduce erosion, and with it, stop the unwanted things that come with soil, like nutrients and chemical contaminants.

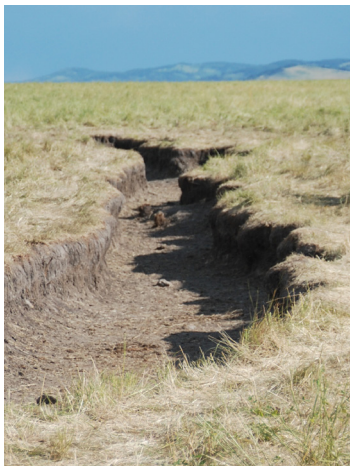
In recent years, we have worked with partners and landowners to implement erosion control and restoration projects, some of which are in riparian areas, while others are cutting off the source of soil leading into riparian areas. Techniques we have been using are mostly low-tech and aimed at mimicking natural processes that have gone missing, such as using plants to trap sediment.



Streambanks naturally erode, particularly on the outside bends, but when banks lack deep binding roots, the shallow rooted grasses often fail to hold banks together, increasing erosion



Live willow stakes being 'planted' to bring back deep-rooted plants



These 2 sites, both in the southern Alberta foothills, were runoff spots that started small, and got concerningly bigger. On the left, it was an ephemeral flow route, out in open pasture on a gradual slope. On the right, a head cut, akin to a very tall step, formed as an ephemeral runoff path left the forested hillside

Cows & Fish

With the right management changes, erosion features away from streambanks and shorelines can sometimes heal themselves. When they do not heal and instead get bigger, with more vertical drop, it creates more horsepower, and ultimately, more erosion.

When we are losing banks and shore, we often resort to adding big rock, known as riprap, to slow erosion, but that does not generally help the site heal; in fact, water speeds up downstream of riprap. Instead, we should consider techniques that address the root cause of the problem and will sustain themselves. Low-tech approaches that harness natural processes can be very effective to help the site heal.

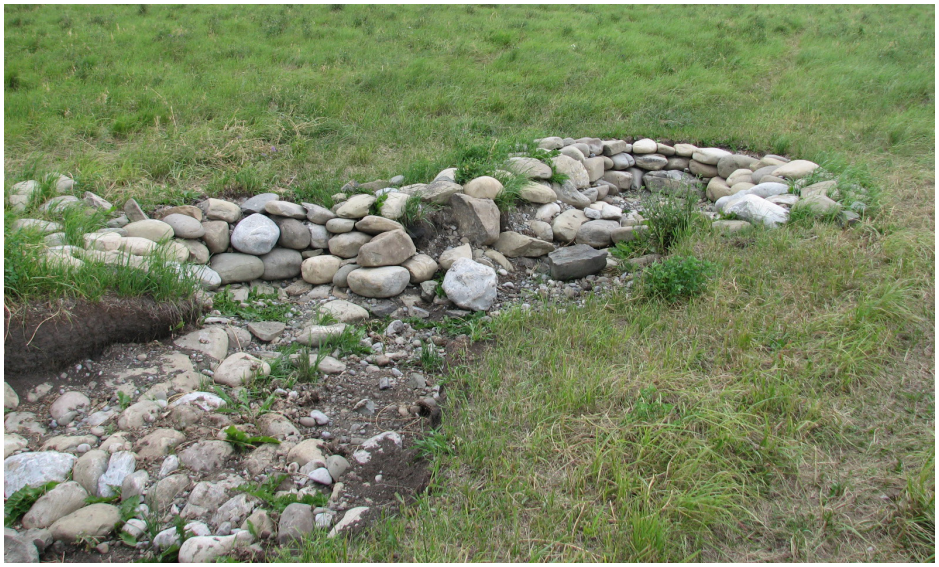
Instead of riprap, using living materials to help create new structure, trap material, and regrow the natural rebar that helps hold banks together is called bioengineering. Using live materials gives the woody plant community a boost, jump-starting recovery. Whether it is live willow stakes or more complex wattle fences, these kinds of projects normally require regulatory approval due to their closeness to waterbodies.

A number of techniques, including those originally designed by Bill Zeedyk in the southern USA, are focused on induced meandering – letting the materials recapture the soil and rebuild the eroding area, and as the name implies, encouraging meandering, to reduce horsepower and erosion. In uplands, these same principles can be applied, capturing the soil in runoff to speed the healing process.

The specific induced meandering or low-tech erosion restoration techniques need to fit each unique situation. Over the years we have built a number of Zuni bowls, log step downs, and one rock dams, all designed to capture sediment and fill in eroding areas.

In 2024, we led the design and building of one rock dams, to help slow soil erosion in runoff flow paths south of Medicine Hat at the Bell Legacy site. The formerly cultivated field is part of a Nature Conservancy of Canada's (NCC) efforts to restore native grassland. Because it was in critical habitat for Greater Sage Grouse, we were excited to be the first ones in Alberta (that we know of!) applying this technique to slow erosion and build moist soils, to benefit this endangered species.

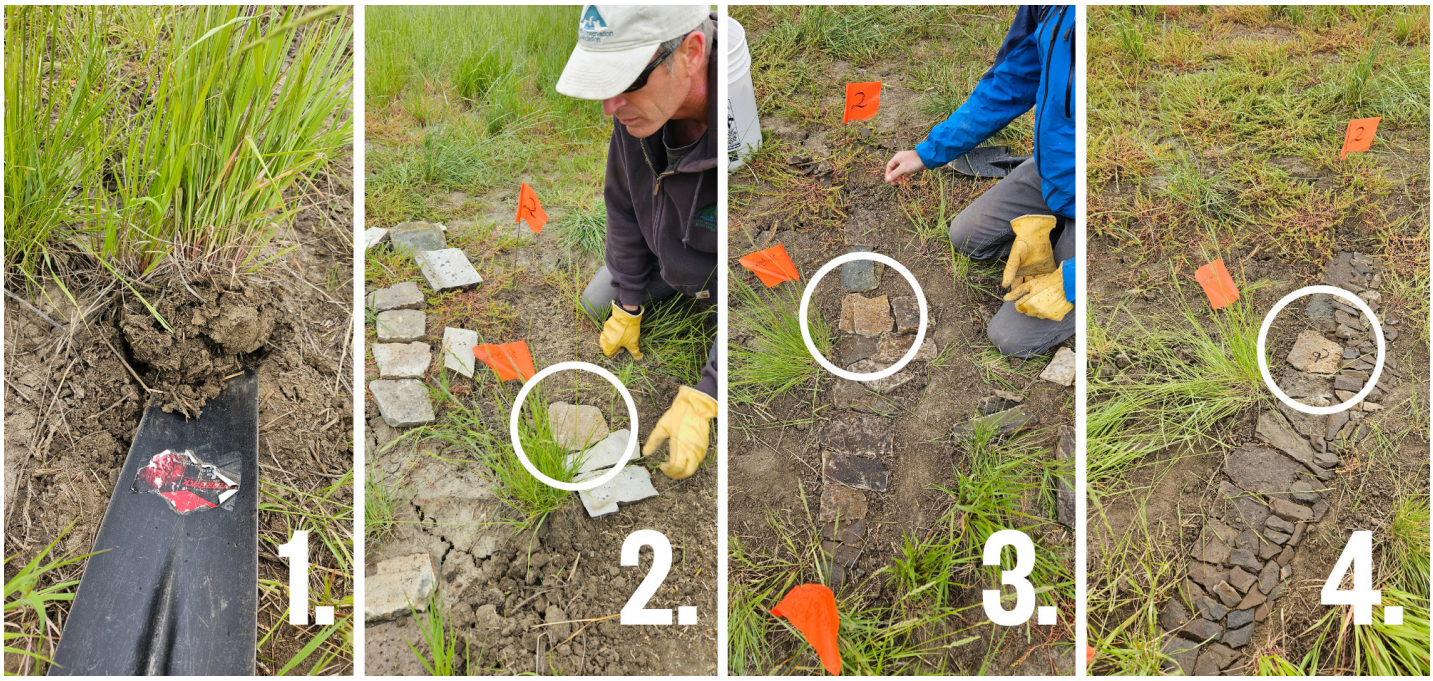
After visiting the area and identifying the best options for erosion reduction and restoration, with support from CEG Inc., Alberta Environment and Protected Areas wildlife staff, and Alberta Conservation Association, we collaborated with NCC to plan the installation. Cows and Fish designed and oversaw the installation of one rock dams, which as the name suggests, are only one rock tall, with rocks placed side by side. On the rather rainy day of the work, we were joined by NCC staff, Alberta Conservation Association, and CEG Inc. to lay the tiny rocks and carefully build these very small structures, sized for these erosion paths.



ZUNI BOWLS

Zuni bowl time series: Originally built in 2017, and revisited just one year later in 2018

Cows & Fish



Steps to implement when building a one rock dam. 1) Remove objects in the way and flatten. 2) Carefully select rocks for footer. 3) Ensure footer is flat and embedded. 4) Add rows until level.

The Bell Sage Grouse Legacy property is named after a caring NCC donor, Barbra Bell, who wanted to contribute to a legacy of conservation that supports endangered species. Not only was the land needed to carry out the work, but so was the funding to plan and implement the original grassland reseeding, and then, the erosion restoration efforts. Cows and Fish's work on this restoration project was supported by Species at Risk Partnership on Agricultural Landscapes (SARPAL) through a Canadian Cattle Association's grant from Environment and Climate Change Canada (ECCC).

Restoration of this nature does not necessarily happen overnight, and ongoing additions, maintenance and adjustments may be needed to continue the forward trajectory of healing. In an ideal world, we would prevent erosion and eliminate the need for restoration, but it is fortunate that these techniques have been developed to help act as the spark plug of healing needed.

When you are doing restoration, of any kind, keep in mind these key tenets: address the root cause of the problem, don't just treat the symptoms, repair small problems before they become large problems, reconnect severed linkages, and minimize fragmentation of the landscape using natural processes, both at the site and watershed level.

THINGS TO CONSIDER WHEN BUILDING ONE ROCK DAMS

a) only 1 rock tall except the footer – small places need small rocks
b) choose rock to fit tightly with adjacent rocks
c) rocks not taller than their neighbours—maintaining similar height above ground, while keeping the middle of the channel slightly lower than the sides (sloping with channel bottom)

Cows & Fish

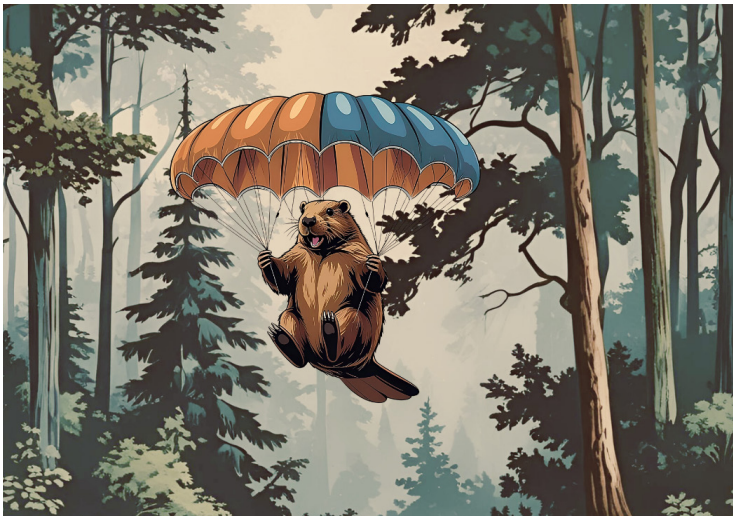
Riparian Fun Fact

BEAVER TAKE TO THE SKY TO RESTORE LAND AND WATER

Written by Amy Berlando, Provincial Riparian Specialist

It's a bird, it's a plane, no it's a beaver!

In the late 1940's, in an attempt to relocate beavers, the Idaho Fish and Game Department resorted to unconventional transportation methods. 76 beavers were relocated from an area with an abundant population, into Idaho's backcountry utilizing surplus parachutes from WWII. The method was apparently repeatedly tested on a beaver they called Geronimo to ensure that it would be safe for the others. Beavers were loaded into crates designed to open upon impact, the crates were attached to parachutes, flown into the wilderness, then, Geronimo! According to Fish and Game records, all but 1 survived the jump, and the ecosystem engineers went on to help restore some amazing wetland habitat. You can watch some of the footage by clicking here.



Geronimo!

While Idaho still relocates beavers today, they don't use the same method. Beaver relocation projects have been ongoing to help restore beaver populations and in turn restore degraded stream and wetland habitats. Researchers at Boise State University have been utilizing remote sensing data to measure the impact of beaver activity on places they have been reintroduced and have found that streams where there are beaver dams are greener and more fire resistant than those that do not have beaver. Click here to learn more.

UPCOMING EVENTS

BEAVER RELOCATION

This event brings landowners and managers together to discuss ecosystem benefits provided by beavers, and to develop a framework for relocating them.

DATE

September 3, 2025

LOCATION

Lundbreck Community Hall

REGISTER NOW

Click here to sign up

THE ORIGINAL GRAZING SCHOOL FOR WOMEN

An event created by farm women for farm women to provide opportunities to develop skills, ask questions and learn with other like-minded women.

DATE

September 10 & 11, 2025

LOCATION

Ardmore Community Hall

REGISTER NOW

Click here to sign up

ATHABASCA WATERSHED COUNCIL OPEN HOUSE

Meet the Athabasca Watershed Council team, take part in a riparian plant ID demonstration, and enjoy a free breakfast!

DATE

September 27, 2025

LOCATION

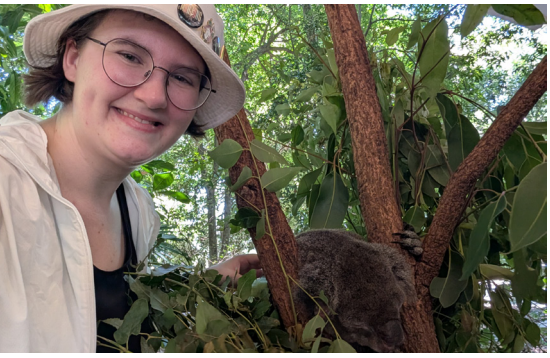
The BRIDGES Society, Hinton AB

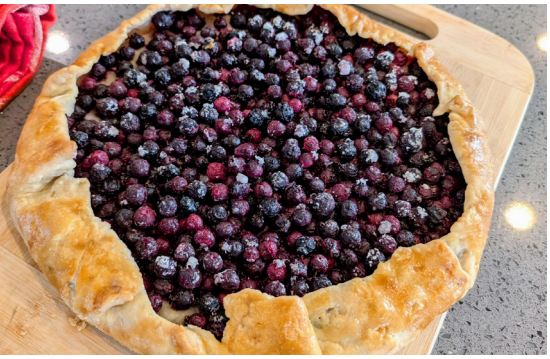
REGISTER NOW

Click here to sign up

Cows & Fish

Meet the new staff





Saskatoon galette made by Alex using berries she picked herself!

ALEX HARLAND

Riparian Specialist

Alex started working for Cows and Fish in December, 2024. She is originally from Manitoba, where she grew up in a small farming town called Lac du Bonnet and studied agriculture and beef production while pursuing her BSc at the University of Manitoba. In 2021 she moved to Edmonton to pursue her MSc at the University of Alberta, where she studied rangeland science and, most notably, worked with virtual fencing collars for cattle. She has published several papers on the use of virtual fencing technology in Alberta, where she used virtual fence collars to rotationally graze heifers and cow-calf pairs. Now she is combining her range and cattle background with her love of learning to bring her expertise and enthusiasm for natural areas to her new role as a Riparian Specialist serving the central/northern regions of Alberta. When she isn't working, Alex is an avid hobbyist – she finds time to tend her backyard vegetable garden, is a self-taught sewist and quilter, and goes out swing dancing as often as she can! Saskatoons (Amelanchier alnifolia) are her favourite Alberta plant, and she spends hours each year picking berries to freeze through the winter!

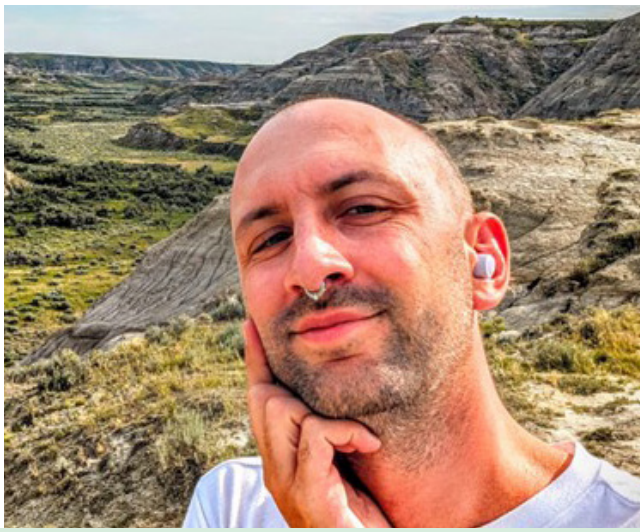
BRYSON RITCHIE

Riparian Resources Analyst

Bryson joined the Cows and Fish Team in May 2025, eager to lend their skills and love of all things botanical to our field operations this summer. Prior to joining Cows and Fish, Bryson was busy mobilizing wetland knowledge and best management practices as part of Ducks Unlimited's National Boreal Program, and scrambling through the muskeg as a research assistant with NAIT's Centre for Boreal Research, studying Peatland Restoration. They bring with them a deep passion for ecological restoration, and the collective stewardship of wetlands. They also bring a wealth of knowledge from their background in visual communications, which they've put to great use in their years of ecology-focused freelance design work, which includes science communication, ecological landscape design, and botanical illustration.

If, like Bryson, you love discovering interesting mosses, then here's one of the best: Although somewhat more common in the subarctic, Paludella squarrosa is quite a rare sight in Alberta, restricted to growing only in calcium-rich fens.

Paludella squarrosa



Cows & Fish
Connecting land & water

HAVE YOU WORKED WITH COWS AND FISH IN THE PAST?

- **Have you wondered how your riparian area scores now?**
- **Wanted to have an extension event in your local community?**
- **Have a riparian management story to share?**

To increase the broader community's riparian awareness and expertise, we will deliver extension events with local partners, bringing together neighbours and sharing successes. If you are a landowner we worked with in the past, and want to reconnect with us, give us a call or email. Visit our contact us page for more information.

WE LOVE HEARING FROM YOU!

Please contact Norine Ambrose: nambrose@cowsandfish.org or any Riparian Specialist, to follow up on any items in this newsletter. For full contact information, visit our contact us page.

COWS AND FISH

Unit 10, Avail Building
530-8th Street South,
Lethbridge, AB, T1J 2J8
Ph: 403-381-5538

Riparian areas, the areas connecting land and water, help clean our water, create drought and flood resiliency, and provide habitat for fish and wildlife.

Cows and Fish's mission is to promote healthy landscapes by fostering riparian stewardship.

MEET OUR BOARD OF DIRECTORS

The Cows and Fish Board of Directors and Members include local producer and community representatives.

Cows and Fish members provide the input, support, and guidance needed to achieve Cows and Fish's mission. We also rely on financial and in-kind support from Donors and Funding Sources to accomplish our goals. Visit our support page to make a donation.

CONNECT WITH US

Find a riparian specialist in your area or send us a general inquiry

NORINE AMBROSE, EXECUTIVE DIRECTOR

Unit 10, Avail Building
530 – 8th Street South
Lethbridge, Alberta,
Canada T1J 2J8

(403) 381 5538

nambrose@cowsandfish.org

LOGAN PETERS, COMMUNICATIONS COORDINATOR

Fully Remote

(403) 606 5134

lpeters@cowsandfish.org

AMY BERLANDO, PROVINCIAL RIPARIAN SPECIALIST

#120, 7777 10 ST NE
Calgary, Alberta, Canada T2E 8X2

(403) 978 5814

aberlando@cowsandfish.org

VISIT OUR CONTACT US PAGE

cowsandfish.org/contact-us/