



**COWS
& FISH**

CARING FOR THE GREEN ZONE

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THE EASTERN SLOPES: OUR ROCKY SPINE

By Amy Berlando, Provincial Riparian Specialist

The Blackfoot word for the Rocky Mountains is Miistakis, which translates to backbone. A fitting name as the Rockies are dependable, strong, and steadfast. If age is a currency for wisdom and resilience, then the mountains are certainly richer than us; their existence predates humans. Growing up on the prairies and foothills of the South Saskatchewan Watershed (Treaty 7 lands), the Rockies to the west were my compass. Living in Southern Alberta, these giants are also our source of water. Every spring, snow-covered peaks turn small streams into raging rivers, and parched landscapes into lush habitats teeming with life. Their forests and glaciers, our money in the bank when times are rough and rivers dry. The Rockies are also a place for spiritual escape; they evoke a sense of awe for their magnificence and an appreciation for the natural world. Given all those reasons, one could say that the mountains have our back. The feeling I get when I look to the west is reverence.

In 2019, when the Alberta Government awarded Cows and Fish a grant to focus on riparian stewardship in the Eastern Slopes, it was a recognition that to have healthy communities in Alberta, we needed a healthy backbone. Maintaining and improving riparian areas within the Eastern Slopes is critical for preserving our source of drinking water and irrigation, providing drought and flood resiliency, and providing habitat for many species, including several species at-risk including Native Trout.

**“There’s a feeling I get when I look to the West
and my spirit is crying for leaving”**

- Led Zeppelin (Stairway to Heaven)



The same [riparian area](#) in the McLean Creek PLUZ 4 years apart, after fencing was installed to block OHV use

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We are grateful for the funding opportunity from the Alberta Government as well as the dedicated landowners, organizations, and strong volunteers that had our back throughout the program. Although the provincial funding for our Eastern Slopes program has now ended, the good work will go on. Our commitment to the Eastern Slopes is steadfast and our stewardship spirit unbreakable. We invite all of our partners to continue on the path of stewardship with us. The journey to conserve our Rocky Mountains is a long one, hopefully forever, but isn't that the point?

**“Yes, there are two paths you can go by,
but in the long run
There's still time to change the road you're on
And it makes me wonder”**

- Led Zeppelin (Stairway to Heaven)

Eastern Slopes Highlights

Awareness



105 In-person events
65 Virtual events
6 Videos

Tools



Riparian Health App,
Riparian Montane-
Foothills Habitat Guide

BMPs



50 Projects
> 196 Hectares
> 25 km Shoreline

Planting



20 sites restored
> 11,600 plantings

Riparian Health Assessment



158 sites
> 362 Hectares
> 69 km Shoreline

Infographic by Amy Berlando,
Provincial Riparian Specialist



RESTORING OUR HEADWATERS: TAKING INSPIRATION FROM BEAVERS ON PINE CREEK

Written by Maddy Skinner, Riparian Specialist

Nestled amongst the rolling foothills in a valley nurturing poplar and peavine, spruce and snakeroot, lie the headwaters of Pine Creek. Should you walk downstream from the creek's source, you would quickly lose count of the springs welling up from bedrock that trickle down to add their fresh, bubbling waters to the flow of Pine Creek. Nor would it take much time to notice, as you tried to navigate the stream's course on foot, that you were walking up and over odd bumps in the valley's terrain. These bumps, taller than a person, cut directly across the stream and span the whole width of the valley bottom – sometimes more than 50 metres. They seem out of place, and you might suspect the meddling of humans in their creation, but these features are really the work of a different keystone species: beavers. Each grassy, steep-sided bump is the remains of a historic beaver dam that tells of a time when this narrow little stream spanned the entire valley bottom.

With the beaver families of upper Pine Creek gone, so too are the benefits they provided to other species and to the land.

The valley containing Pine Creek's headwaters, as well as several springs that add to its flow.

Photo by: Amy Berlando, Provincial Riparian Specialist

The headwaters of Pine Creek lie within Ann and Sandy Cross Conservation Area, southeast of Priddis. From there, the stream flows 43 kilometres to its confluence with the Bow River. When the conservation area was first established, more than fifty beavers called the area home. However, illegal trapping resulted in beavers disappearing from the headwaters, unable to reestablish due to barriers downstream. Now, only their enormous old dams – the grassy, odd 'bumps' – remain

to remind us they were there. With the beaver families of upper Pine Creek gone, so too are the benefits they provided to other species and to the land. The stream is now

incised in places, struggling to overflow its banks to recharge the floodplain. In response to the loss of water in the floodplain soils, riparian habitat has shrunk and no longer spans the width of the valley. What's more, Pine Creek now runs dry on occasion and because of that, it now offers poor habitat for fish, who can no longer overwinter there.

Enter the [beaver dam analogue](#). Beaver dam analogues (BDAs) are a habitat restoration tool that mimics a naturally occurring beaver dam. They're built instream using upright posts (either from trees in the surrounding landscape, or untreated fence posts), a natural weave material (typically willow, spruce, or other on-site vegetation), and clumps of sod and mud. BDAs can halt and reverse stream degradation, making streams more inviting to fish, beavers, and other species who call them home. How do they pull it off, you might ask? BDAs don't just look like beaver dams; they also encourage the same valuable natural processes as the real deal: allowing sediment to sink to the bottom in the now-slower-moving water which raises the stream bed, reconnecting streams to their floodplains, rehydrating riparian soils, and substantially increasing the complexity and diversity of riparian and aquatic habitats. Though this isn't always a goal or even a possibility where we build these structures, the managers at Ann and Sandy Cross hope that the BDAs will eventually heal the stream and riparian habitat enough to allow for the reintroduction of beavers.

For one week in October of 2024, the teams from Cows and Fish and Ann and Sandy Cross began our days gathering on the frosty lawn of the old Rothney farm, ready to construct BDAs on a reach of Pine Creek. Excited staff hauled the tools needed for the day's work into trucks and onto buggies. We were preparing to install no fewer than twenty BDA structures throughout a kilometre-long stretch of the stream. With such lofty ambitions, we couldn't possibly have done it without some serious help. Thankfully, there was no shortage of keen helpers throughout the week: we were joined on various days by Freshwater Conservation Canada, the Miistakis Institute, the Elbow River Watershed Partnership, the Bow River Basin Council, Margo Supplies, the Government of Alberta, an entire class of students from SAIT and, most valuably, more than twenty wonderful volunteers from the surrounding areas.

[Click here to watch our #FieldWorkFriday video featuring the crew installing BDAs in the Ann and Sandy Cross Conservation Area](#)

The first few days were spent readying materials: we limbed willow and poplar so they could be woven, and with the help of FCC and their hydraulic post pounder,



Volunteers work to weave young aspen and harvest sod to form beaver dam analogues

we got the posts that would form the backbones of our structures into the ground. We chose the locations of each structure in ways that worked with the terrain: narrow sections of the stream that would require less material, remnant beaver dams that would naturally widen our own efforts, and the still-standing posts from older experimental structures put in by the University of Saskatchewan's Cherie Westbrook. Then we got to work channeling our inner beavers. Dividing into small groups working on each structure, we got down to business: one or two people weaving, others harvesting clumps of sod with shovels and mattocks, still more using the sod to plug gaps and create a ramp. The days started off crisp and frosty but we quickly warmed up with the sun's rays, and the stunning golden fall colours of the foothills gave us good reason to look up from our work and spend some quiet moments in gratitude.

Each day we moved downstream, making steady progress on new structures. But before tackling the day's work, we'd first take our crew upstream to see structures we'd built the previous day. Pine Creek flows slowly in October, so our new dams would back up water gradually overnight. Filling and then overflowing the incised, narrow stream channel, the ponded water spilled out onto the floodplain before flowing over the top and around the sides of our BDAs. We were full of excitement running up to each of the previous day's

builds to see how much water had ponded. Immediate results are rare in habitat restoration, which usually requires a bit more patience – it takes time to see success when planting dormant willow stakes or decompacting a trail! But building BDAs in a flowing stream is immensely, immediately rewarding. Within a day we could see with our own eyes the water rehydrating dry floodplain soils and ponding up to restore habitat for species as varied as wood frogs, willows, ducks, and sedges.

[Click here](#) to watch our #FieldWorkFriday video filmed just 1 week after the BDAs were installed in the Ann and Sandy Cross Conservation Area

By the end of the week, thanks to an incredible collaboration of organizations and volunteers, we had twenty brand new BDAs installed throughout the reach. These all-natural structures started the process of healing Pine Creek's headwaters the day they were installed, though it will be several years before larger changes in the surrounding landscape start to become noticeable. In the meantime, we'll continue to monitor how things are going in Pine Creek and making any repairs needed to allow the BDAs to keep doing their job. The beaver family who built the enormous, valley-spanning dams still visible today might have chuckled at our

small structures built to mimic their work. But then, they also would have despaired at how the health of the headwaters and valley had suffered in their absence. The managers at Ann and Sandy Cross hope to one day reintroduce beavers to Pine Creek. Perhaps someday, when our structures have allowed the creek to widen and deepen again to become habitat that a beaver can once more survive in, a new beaver family really will get to lay eyes on our structures and shake their heads at our mimicry attempts. But the next thing they'll do is get right to work improving on them, expanding them, and reinvigorating the slumbering valley. When that happens, whether they agree with us or not, we'll be able to say we did a dam good job.

This article was originally published in the Bow River Basin Council's "[Preserving our Lifeline](#)" Newsletter



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NATIONAL BEEF SUSTAINABILITY ASSESSMENT AND STRATEGY EXECUTIVE SUMMARY

Article provided by [The Canadian Roundtable for Sustainable Beef](#)

The Canadian Roundtable for Sustainable Beef (CRSB)'s National Beef Sustainability Assessment (NBSA) measures the Canadian beef value chain's environmental, social and economic sustainability performance and progress against an initial baseline of indicators and metrics approximately every seven years.

The first NBSA was published in 2016 utilizing data from 2014, which provided a baseline for evaluating progress and improvements over time. This second study is the first to measure changes against that baseline, utilizing data from 2021, and serves as a benchmark and a halfway point as the industry works towards its 2030 goals.

In the interval of 2014 to 2021, there have been improvements in the majority of environmental indicators (carbon footprint, fossil fuel depletion, water consumption, agriculture land occupation and freshwater eutrophication). These improvements are driven by increased efficiency in beef production signaled by higher cattle end-weights and shorter production periods. This ultimately means that more beef is now being produced from the same number of animals, while requiring fewer resources.

Maintaining agriculture land occupied by beef cattle on native grasslands and pasture is vital to supporting biodiversity



Greenhouse gas (GHG) emissions intensity reduced by 15% (per kg boneless beef, consumed) since 2014, and with the 2030 beef industry goal of a 33% reduction in GHG emissions intensity, we are on track towards achieving that goal. The total soil organic carbon (SOC) is estimated at 1.9 billion tonnes in land used for beef production in Canada, with a large proportion (84%) attributed to pastureland, showcasing the importance of preserving that land as it has the highest capacity to store carbon and promote biodiversity in agricultural areas. While the overall habitat capacity on cropland

and pastureland has decreased due to land use change (LUC), the contribution of habitat capacity attributed to land used for beef production increased

since 2016. Maintaining agriculture land occupied by beef cattle on native grasslands and pasture is vital to supporting biodiversity and storing SOC.

Within each region, eastern and western beef production both decreased their [blue] water consumption since 2014. The proportion of national beef production has grown in western Canada.

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When accounting for this shift, the national [blue] water consumption value has increased slightly (0.4%), as more irrigation is used in this region.

The social assessment made key observations in the life cycle of Canadian beef production, identifying strengths and how to manage the risks and challenges regarding labour management, people's health and safety, animal care and antimicrobial use (AMU). The assessment indicated that labour availability, recruitment and retention are increasing workload levels with potential negative repercussions on people working in the industry. However, it is recognized that there is broad awareness and efforts being made across sectors to address workload levels and integrate innovative approaches to reduce risk. Health and safety are also identified as an area that can be overlooked and where more dedicated efforts are needed. Producers are experiencing high levels of physical and mental stress; on a positive note, awareness and the stigma around mental health are improving.

Animal care is a success story in Canada, and many federal regulations and industry standards (e.g. Code of Practice for the Care and Handling of Beef Cattle) play a role; increased coordination and communication across areas within the beef supply chain are areas for improvement to fully secure animal care throughout the cattle life cycle. Antimicrobial use is important to the

industry and its stakeholders. There are good practices currently being utilized by producers to ensure responsible use. Further training would be beneficial to drive continuous improvement. Room for improvement also exists with respect to the adoption of management practices associated with AMU, including further reduction of stressors and increased access to veterinarians in some regions.

The economic sustainability of the Canadian beef industry has undergone many supply and demand shocks including the COVID-19 pandemic and widespread severe drought in 2021. The resilience and ability to shift according to market conditions resulted in increased off-farm income and a growing feedlot sector despite high feed prices. Inflationary pressures have increased the cost of inputs faster than cost of outputs, but consumer demand here in Canada and globally for protein remains strong with a preference for high-quality beef.

The National Beef Sustainability Strategy is aligned with, and supports achievement of, the beef industry 2030 goals. The applicable goals are re-iterated, and the key performance indicators (KPIs) and action items are dispersed throughout the report labelled "Strategy". The strategy includes an overarching goal of continuing to build on the CRSB's collaborative, engaged beef sustainability community.



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Riparian Fun Fact

NATURAL SUNSCREEN

By Kristina Boehler,
Riparian Specialist

Trembling aspen (*Populus tremuloides*) are a common sight across the Alberta landscape. They're often seen swaying in the breeze along foothill streams or soaking up the sun at the edge of a forest.

Trees use photosynthesis to turn sunlight into food, which primarily occurs in the leaves, but did you know that some trees can perform photosynthesis in other parts? Aspen have special photosynthetic bark that is thought to extend the amount of time that the tree can perform photosynthesis after it has lost its leaves. Unfortunately though, aspen bark is susceptible to UV damage just like our skin.

Unlike our skin however, aspens have developed a form of natural sunscreen. If you have ever walked through an Aspen stand you may have accidentally touched one and found a white powder covering your hand. This powder contains UV blocking properties and is thought to protect the sensitive bark from UV damage, similarly to how sunscreen protects our skin.

This powder can also be used on skin as natural sunscreen, but is thought to only have an SPF of about 5, so although it works great for the Aspen it's not very practical for an everyday hike.



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Special Features

NEW ARTWORK

You may have noticed some beautiful watercolour creatures and scenes throughout our Spring newsletter. This past year, we had the privilege of working with Calgary-based artist, Terra Lottermoser on 16 new riparian-related watercolour paintings.

[Check out this video](#) featuring Terra speaking about the project, as well as some behind-the-scenes moments (video created and produced by her son, Jude).



ABOUT TERRA LOTTERMOSER



Photo provided by Terra Lottermoser

Terra Lottermoser is a visual artist and environmental scientist based in Calgary, Alberta in Treaty 7 Territory. Terra has a deeply rooted passion for the natural world where she gathers inspiration for her artwork. She specializes in creating thoughtful illustrations done in ink and watercolour and acrylic paintings which include the use of decorative papers to build texture and whimsy.

Terra's background in environmental science gives her an inherent curiosity and an eye for accurate detail that she blends with creativity in her art studio. She has filled sketchbooks with places she has explored with her family and the birds, bugs and landscape features often make their way into her bigger pieces. Terra has exhibited artwork on various topics across southern Alberta.

THESE SHOWS HAVE INCLUDED:

- a solo conceptual show on interacting with urban wildlife called "Coexistence,"
- a show in Pincher Creek with artist and friend Janifer Calvez called "Symbiosis" reflecting on how we are affected and inspired by the people and landscapes around us, and
- her most recent show with musical accompaniment by partner Ryan Lottermoser called "Nocturna" where the glimmers of dark times were brought to life metaphorically with moths, flowers, and even a bat.

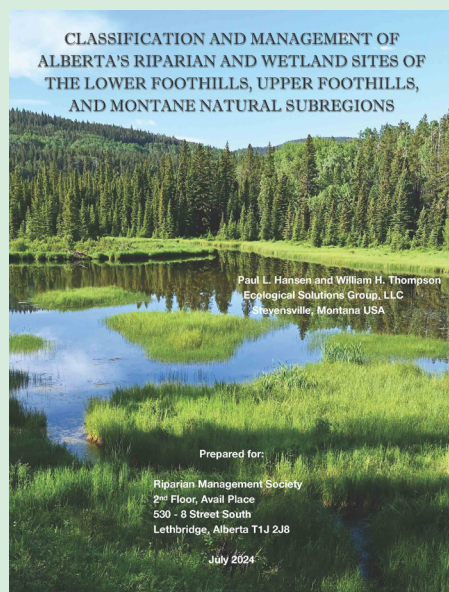
Terra loves taking on new collaborative projects, such as this illustration series on riparian health with Cows and Fish, and can be found posting sneak peeks of what she's making on Instagram at [TLottermoser](#).

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Special Features Cont.

NEW FOOTHILLS AND MONTANE NATURAL SUBREGIONS RIPARIAN CLASSIFICATION

Our new Classification and Management of Alberta's Riparian and Wetland Sites of the Lower Foothills, Upper Foothills and Montane Natural Subregions is here!



This classification provides a comprehensive resource for classifying riparian and wetland plant and habitat communities of sites in the Lower Foothills, Upper Foothills, and Montane Natural Subregions of Alberta.

Along with dichotomous keys to help classify sites, it includes descriptions of how each plant community arises or habitat type is maintained, plus possible succession pathways for each type, and photos of many types to help show what a representative site looks like.

A special thank you to Alberta Forestry and Parks, and Alberta Environment and Protected Areas for providing funding and in-kind support for this project.

In addition to Longview Ecological and Bunchgrass Consulting, we want to express a special thank you to the authors, who have been our long-term riparian collaborators at Ecological Solutions Group LLC, (Paul Hansen and Bill Thompson), now retired.

They have generously shared their ecological understanding and expertise with Cows and Fish since the late 1990s. In 1998, their practical, science-based approach led us to adopt their riparian health assessment method, which we continued to co-evolve over the past 25+ years and share across Canada. We wish them and Tom Keith, database expert extraordinaire, a happy and healthy retirement.

VIEW THE GUIDE ON OUR WEBSITE [HERE](#)

This classification adds to our existing riparian classifications for other natural subregions:

GRASSLANDS

[Click here](#)

PARKLAND AND DRY MIXEDWOOD

[Click here](#)

Artist Terra Lottermoser provided us with pre-painted versions of a number of our new watercolours for a future colouring book. We hope you or someone you know will enjoy colouring-in this busy beaver!



VOLUNTEERS NEEDED

For the [NCF Envirothon](#), an environmental science focussed competition for high school students from Canada and around the world.

EVENT INFO

July 20-26 2025 at
Mount Royal University

REGISTER BY JUNE 13

[Click here to sign up](#)

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Upcoming Events

AGRICULTHER SCHOOL

A full-day, female-focused agriculture event

Enjoy a guided Farm Tour, Cow-Calf Vet Presentation, expert talks on farm management and mental health, a yoga break, and great networking with other women in agriculture. Meals included!

DATE

June 21 2025

LOCATION

Sunset House, AB

REGISTER NOW

[Click here to sign up](#)

SAVE THE DATES

RIPARIAN HEALTH FIELD DAY

JUNE 18 2025

Join Cows and Fish and the County of Grande Prairie for a day of learning about what's growing around your wetland or along your stream and how to know if your riparian area is healthy. Contact Kate Winterford: kwinterford@countygyp.ab.ca for more information.

RIPARIAN DAY

JULY 12 2025

Join Cows and Fish and partners Land Stewardship Center, Mighty Peace Watershed Alliance, Northern Sunrise County, and Peace Country Beef and Forage Association for a day of learning about riparian areas and ways to improve them. Contact Katie Bartman: kbartman@northernsunrise.net for more information.

THE 22ND ANNUAL SOUTHERN ALBERTA GRAZING SCHOOL FOR WOMEN

A 2-day event for women in agriculture

Join us for two days of hands-on learning (out in the pasture), indoor presentations, and a chance to meet other women in the industry.

DATE

July 16 & 17 2025

LOCATION

Twin Butte, AB

REGISTER NOW

[Click here to sign up](#)

RIPARIAN AREA FIELD DAY

Learn more about riparian management

Join us for a day in the field exploring the lifeblood of our landscapes – riparian areas. This hands-on event will take you to local examples of healthy and degraded riparian zones, offer real world insights into the management practices that make a difference.

DATE

July 9 2025

LOCATION

Smoky Lake County, AB (exact location tbd)

REGISTER NOW

[Click here to sign up](#)

RIPARIAN HEALTH ASSESSMENT AND PLANT IDENTIFICATION TRAINING

Improve your understanding of riparian ecology and health

Spend a day with Cows and Fish staff to improve your understanding of riparian ecology and health on a stream system in central Alberta (south of Red Deer, north of Airdrie). This day is designed for those working in agricultural or conservation extension, or others in related professions who need to have a better understanding of riparian health and ecology. We'll help you to "tune your eyes" to what to look for in a healthy riparian area.

DATE

July 22 2025

LOCATION

Central, AB (exact location tbd)

REGISTER NOW

[Click here to sign up](#)

ORIGINAL GRAZING SCHOOL FOR WOMEN

DATE

September 10 & 11 2025

LOCATION

MD of Bonnyville, AB

SAVE THE DATE

Follow the Original Grazing School for Women [Facebook page](#) for event updates.

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

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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

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VISIT OUR CONTACT US PAGE

cowsandfish.org/contact-us/

