

# Caring for the Green Zone

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May your days be

## MERRY & BRIGHT

holiday wishes from all of us at Cows and Fish



## Cows & Fish Highlights



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## Working Together for Riparian Buffers in Lamont County by Tonya Lwiwski

Lamont County recently partnered with Cows and Fish, the North Saskatchewan Watershed Alliance (NSWA), and the Vermilion River Watershed Alliance (VRWA), and the County was successful in securing a Canadian Agricultural Partnership (CAP) grant, which will allow us to work together with producers to tackle some important watershed-scale issues in the county. The CAP grant is providing funding for us and our partners to reach out to producers and landowners within the county to talk about flooding and drought issues facing them in a changing climate, and how maintaining or improving riparian health in the watershed can help mitigate some of these issues. We hosted a *Living with Water and Beavers* workshop in April to start the conversation.

As part of this grant, our team is working with crop producers to plant riparian buffers, buffer strips, or grassed buffers of perennial vegetation to create, as their name suggests, a “buffer” between crops and riparian areas. This buffer can increase the effectiveness of a riparian area by helping filter nutrient run-off from fields, as well as catching sediments before they reach the riparian area and ultimately the waterbody nearby. The more permanent root systems of the perennial plants have a higher capacity to reduce soil erosion compared to those of annual crops. These riparian buffers can also trap snow in the winter, leading to more soil moisture come springtime, which becomes particularly important in drought years.

This summer, an enthusiastic farming family in Lamont County answered the call to be a demonstration site for testing the buffer strip concept in this area. As part of this project, they chose to convert 20 meters of annual crop into perennial vegetation, adjacent to an intermittent stream and a wetland, for the trade-off of improved riparian health, and water and soil quality. Much of the area planted was, according to the producer, too wet to seed or grow healthy crops in wetter years, which helped make their decision to change the way that land is used easier. While riparian buffers can be composed of either native or non-native species, both were planted in this site in parallel strips: closest to the riparian area, a 10 metre strip of native grass seed was planted, and adjacent, a 10 metre tame forage mix was closest to the crop, with the intended possibility of haying that strip in the future. In August, a small group of local farmers toured the project to learn more about it, the program, and the partners involved.

Over the next 2 years, the aim is to work with up to five more crop producers within Lamont County, to set up similar riparian buffer projects to benefit the farmer, their riparian areas and the watershed. For more information on riparian buffers, see the [Crops, Creeks, and Sloughs](#) factsheet, available at [www.cowsandfish.org](http://www.cowsandfish.org). If you are in Lamont County and are interested in being a part of, or have questions about this project, please contact Lindsay Benbow at [lindsay.b@lamontcounty.ca](mailto:lindsay.b@lamontcounty.ca).

JUNE 2019



AUGUST 2019



While a wet and rainy summer presented some challenges early on, seeding was accomplished in late June. All that rain sure helped the grass grow! Top photo was taken shortly after seeding, while bottom photo was taken near the end of summer, after 2 months of growth.



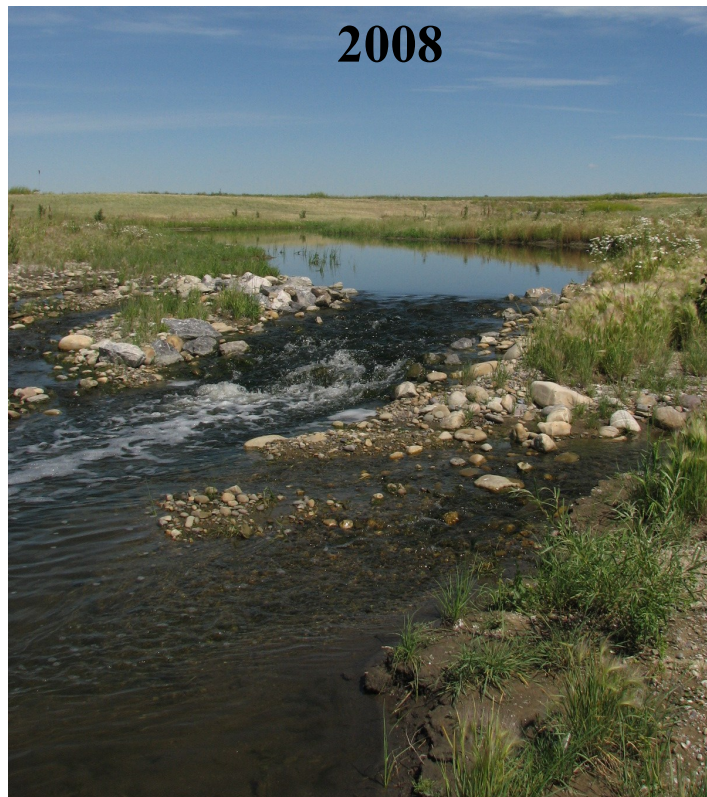


## An Unlikely Success From Northeast Industrial Calgary by Kathryn Hull

It seems these days there is just gloom and doom on many horizons. Forest fires, droughts, a climate emergency looming ever closer, water quality concerns on the rise, wildlife species driven closer to extinction.... and the list goes on. It can be hard to remain optimistic in the face of it all. But once in a while, in the face of all odds, we see small glimmers of hope.

Setting out that day last summer into a muggy, hot, smoky afternoon, driving alongside a massive landfill facility in northeast Calgary, I can't say I was feeling particularly hopeful—quite the opposite really. The last time we had come to this rather odd location was ten years ago, also at the request of the City of Calgary. At that time, our task was to capture baseline riparian health conditions for a newly engineered 'drainage channel', where a small stream (Forest Lawn Creek) had to be realigned to avoid contamination from the landfill. Certainly a great deal of effort had gone into the planning and design of this engineered channel. Not only were tight meander curves built to help slow flows and mimic natural stream processes, but rock riffles were also strategically built in to improve channel stability and enhance in-stream fish habitat. Although vegetation, planted a year prior, was establishing at our initial visit in 2008, the carefully chosen plantings were little more than leafy twigs in the ground. In another context, by 2018, I may have been quite hopeful as to what we'd find, given the level of effort that went into this project; but with this site wedged between a landfill and two major highways, I wasn't too optimistic. Weeds tend to thrive in such disturbed landscapes, typically inundating riparian areas and choking out plantings. Not only are weeds abundant in downstream reaches of Forest Lawn Creek, but so too is reed canary grass. Dense stands of reed canary grass often take over where aggressive, non-native cultivars have been planted, choking out most other plants. So, as we approached the site, all I could imagine awaiting us would be a weedy mess, eroding banks and streambanks scattered with plastic grocery bags.

The little stream wasn't quite visible to us until we crested the small valley. Wow, was I amazed at what we found! Not at all as I had imagined, but instead a veritable green oasis.



## An Unlikely Success From Northeast Industrial Calgary (Continued from page 4)

As we wandered closer, entering into a willow thicket and emerging next to a sedge-lined, rippling stream, we were startled by a mule deer buck that bounded out at us, quite unexpectedly. The willows towered above me as I kept walking cautiously upstream. Balsam poplar trees, green and vigorous, offered a shady reprieve from the pressing heat. Red-winged blackbirds sang in chorus around us. Incredible. Thickets of planted tufted hair grass (a native preferred plant!) offered a soft place to sit and just take it all in.



Despite the B.C. forest-fire smoke thickening in the air as we headed back to our truck later that day, I took a deep breath, refreshed and invigorated with something rare – hope! Against all odds it can be done – with enough care and attention in aiming to mimic natural form and function, nature it seems will respond.

## Following Up on Past Investment

Two years ago, when we asked participants of our external program [evaluation](#) if they wanted Cows and Fish to follow up with them, nearly 300 people were interested in us following up, but with these interested people being scattered all over the province, we struggled on where to start, with so many requests. By gathering funding from the Hanen Society, Alberta Ecotrust Foundation, Environmental Damages Fund and others, and getting the support of local county partners, we have begun reaching out where there are small clusters of requests, to reconnect, identify riparian health changes, as well as offer advice and input for additional management changes.

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 (403-381-5538).

We go where we are invited and look forward to your invitation!

**Read the full Evaluation Report for more information on the Cows & Fish program.**

Click [here](#) or go to <http://cowsandfish.org/publications/documents/Report047CowsandFishEvaluation-FinalReportDecember112017.pdf>



## Pigeon Lake Shoreline Improvement Demonstration Project

By Kerri O'Shaughnessy

Demonstration sites provide real world management alternatives and can be used for educational opportunities. In 2016, we began working on a site showing how a shoreline can be restored to a healthy and functional riparian area while also maintaining recreational access and key features that ensure enjoyment by the homeowner. This lakefront project involved the landowner, the Pigeon Lake Watershed Association, Alberta Low Impact Development Partnership, and ourselves.



**Sept 2015**

A 2008 aerial video shoreline assessment showed that 65% of Pigeon Lake's shorelines are highly compromised. Our on-the-ground riparian health inventory of the project site indicated it was *unhealthy (non-functional)* due to extensive cover of lawn grass and invasive plants and alterations to soils and the natural vegetation. This means many key functions are missing: healthy shorelines stop erosion and protect the shoreline from ice and wave action; are the last chance to filter nutrients and other pollutants from runoff before it enters the lake; and 80% of all wildlife depend on a healthy shoreline during at least some part of their life cycle. Diverse native plants provide fish, mammals, birds, amphibians and invertebrates food and shelter.



**July 2017**

In collaboration with the homeowner, a planting design for a rain garden was developed to add native plants to the yard and reduce the amount of lawn. A plan to add willows back onto the shoreline while still leaving a gap to allow dock access and for taking the hoist and boat in and out of the lake in the spring and fall was also included. The project included removing over 15 bags of invasive plants, initially, just from the shoreline area and each year since, 2 or more bags have been collected. Approximately 60 willow cuttings of 3 different species were added to the shoreline and 2 bundles of willows (fascines) were buried Oct 2016. Due to the sandy, well drained soils and southern exposure, several of the cuttings along the top of the bank did not grow, however others, and one of the fascines, closer to the water, are doing great. One volunteer shining willow and balsam poplar have also established on their own.



**Sept 2019**

Photographs of Johnsonia showing growth of plantings in the lakeside riparian improvement project.



**ALIDP**

Alberta  
Low Impact  
Development  
Partnership



## Ranching and Species At Risk in Southern Alberta By Kyla Rushton



Although you may think of wildlife and cattle living in different spaces, many species at risk and cattle grazing do co-exist throughout Alberta. For millennia, bison and other large herbivores ranged the plains and grazed our grasslands. As a result, our rangelands evolved with the presence of grazing and rely on a certain amount of disturbance for regeneration. In the last several centuries, in addition to the loss of bison roaming freely, fragmentation of the landscape has occurred with roads, homes, industry and introduced species encroaching on native grasslands. Cattle are now our primary grazers, and the ranchers and farmers that manage them are, in many ways, the caregivers and managers of our rangelands. With the loss of native rangeland, it is imperative to manage the remaining areas carefully to ensure they provide ecological goods and services, including forage productivity, into the future.



**Spot the Frog!** A Northern leopard frog at one of the SARPAL project sites.

Along with providing forage for cattle, native rangelands provide valuable habitat for wildlife. Alberta is home to 25 different native species that are recognized as being in danger of being extirpated (lost from an area) or are threatened by human activities. These sensitive species federally listed as At Risk, includes the piping plover, peregrine falcon, bull and westslope cutthroat trout, grizzly bear and mountain short-horned lizard. These species are sensitive to habitat changes and rely on often small remaining critical habitats for their survival. Often, these critical habitats are also where cattle can be found.

Where a herd of heifers munches grass in a meadow during the day, a grizzly bear may cross over at dawn to reach a berry patch for breakfast or get to a stand of trees where he dens for the winter. While ranchers rely on native rangeland to feed and shelter their animals, these valuable lands also provide food and water to wildlife, sequester carbon, filter water before it enters waterways and a multitude of other functions.

Too many cattle watering out of a stream or wetland can increase sedimentation in the water and reduce fish habitat, or prevent plants that wildlife rely upon from growing. Overgrazing a pasture can degrade soil quality and result in soil loss and reduced forage for cattle and wildlife in the future. Fortunately, many ranches understand and appreciate these functions that rangelands provide when managed carefully. Management for wildlife can include embracing options such as wildlife friendly fence, which reduces fencing costs and wildlife fatalities, and installing off-site watering systems that allow riparian areas to flourish, while cattle benefit from increased weight gain. [Click here](#) for info on riparian grazing.



## Ranching and Species At Risk in Southern Alberta Continued from p 7

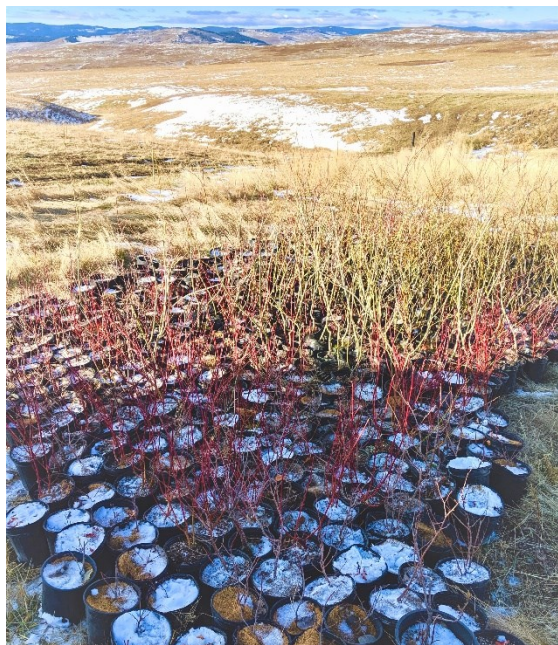
Cows and Fish, in partnership with MultiSAR [www.multisar.ca](http://www.multisar.ca) and Prairie Conservation Forum [www.albertapcf.org](http://www.albertapcf.org), have been benefiting wildlife, range and riparian areas as part of the federal Species at Risk Partnership on Agricultural Lands (SARPAL) work in southern Alberta over the last five years. The grant, administered by Canadian Cattlemen's Association, recognizes the key role livestock producers play in supporting species at risk. Cows and Fish has completed detailed riparian health inventories of over 40 km of streams and over 220 acres of wetlands and in 3 years (2016-2018)! These detailed inventories assess the health of riparian areas and the potential for wildlife habitat. With these assessments in hand, we work with our partners and ranchers to create management plans and help implement changes to benefit wildlife that work for the rancher's grazing operation.

If you'd like to increase or improve wildlife habitat on your property, it can be as simple as avoiding grazing during certain vulnerable periods for local bird species or using management tools like water, shelter and minerals to improve cattle distribution. To learn more about riparian grazing [click here](#). For more information on projects like these, contact Kyla Rushton ([krushton@cowsandfish.org](mailto:krushton@cowsandfish.org)).

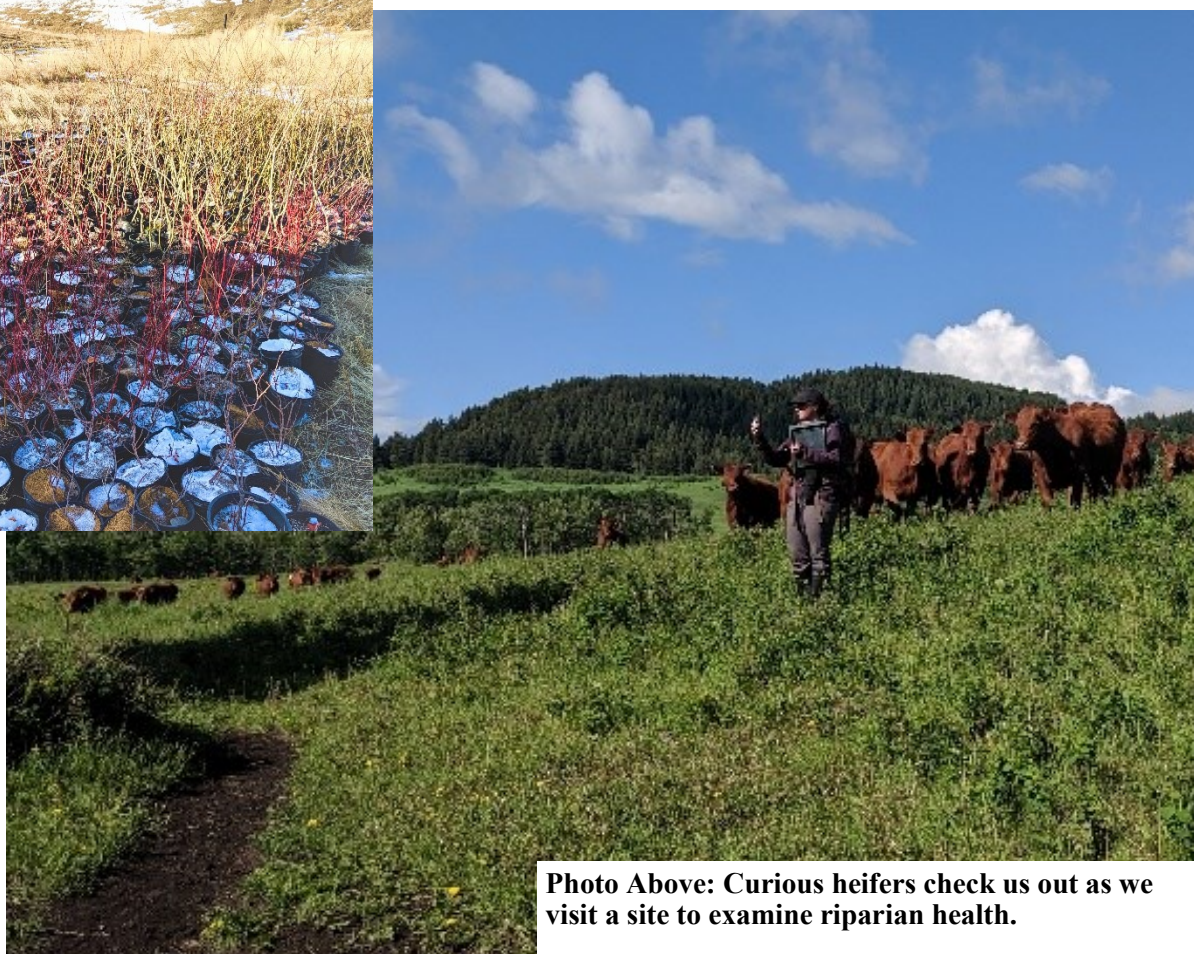
### Resources

If you're interested in managing grazing in riparian areas and watering projects: <http://cowsandfish.org/riparian/caring.html>

If you're interested in species at risk management: <http://multisar.ca/landowner/>



**Photo Left:** Shrubs ready for planting at one of our volunteer events with Oldman Watershed Council at a rancher's dugouts to improve habitat.



**Photo Above:** Curious heifers check us out as we visit a site to examine riparian health.



## Fun Fact: Prairie Soap Holes

by Kelsey Spicer-Rawe

Soap holes are a unique landscape feature that gain notoriety among farmers and ranchers for livestock and vehicular safety reasons – most notably for the risk of getting stuck. Anyone else singing *Truck Got Stuck* by Corb Lund while you read this? Yup, me too! The name *soap hole* stems from the greasy or soapy texture of the clay that is extruded in these localized features. They are also referred to as mud holes, mud boils and quickclays.

Picture them like this, a small region of soil that is saturated to the point where it has lost all its strength and has liquefied. Sounds like just the place you don't want to be driving your truck, right? Soap holes are like a spring where water travels upward from the ground and appears at the surface. The mud or clay extruded can form a mound over time (called a mud volcano), but it may also appear flat or even as a slight depression in the land. As Corb would say, the really 'muddy, boggy and sticky' feature of the soap hole is that the liquefied soil can extend down one meter to over ten meters before any resistance is met. Hence the infamy for "truck got stuck" potential. Researchers at the University of Calgary are studying these features to understand why and where they form. Researchers at the University of Calgary are studying these uncommon features to understand why and where they form.

To learn more or to report a soap hole on your land contact the 'Soap Hole Research' Facebook page, or email Dylan Cunningham at [dzcunnin@ucalgary.ca](mailto:dzcunnin@ucalgary.ca).

**Photo Right:** Mounded portion of extruded clay forming part of a soap hole in Wheatland County. When dry, a crust forms on the top surface of the soap hole disguising the instability of the feature.



A soap hole in Wheatland County observed this summer by C&F staff.





## The Fishy Bit of Cows and Fish

By Kelsey Spicer-Rawe & Norine Ambrose



Our staff have an interesting fusion of skill sets, being simultaneously riparian ecologists, agrologists and extension specialists plus occasional botanists, fisheries biologists, and restoration practitioners. The roots of the Cows and Fish program run deep in cattle country and many of the projects we work on are cow-centric, but our impact on the land always benefits fish. A popular question we receive is “How are you working with fish?” Some of the fish-focussed work our staff are involved in across the province includes:

### Bringing Back Bull Trout: Tay River Project



Photo Credit: www.alberta.ca

The Tay River, a tributary to the Clearwater River in the North Saskatchewan River basin, historically supported a healthy and robust population of bull trout. Native to Alberta's eastern slopes, bull trout are a sensitive cold water species and require cold, complex, and connected watersheds to complete their life cycle. A variety of impacts throughout the watershed, including industrial and agricultural development along with recreational use, have resulted in changes to water quantity and quality plus degraded and fragmented habitat. Bull trout numbers have also declined to very low densities. As indicators of intact and healthy

watersheds, the near absence of bull trout in the Tay River watershed indicates something is wrong.

In 2019, Trout Unlimited Canada, in collaboration with Alberta Environment and Parks and Cows and Fish, began working to improve the health, functionality, and resiliency of the watershed. The *Bringing Back Bull Trout: Tay River Project*, will engage stakeholders and partners to conduct assessment activities, including riparian health inventory, develop a restoration plan, and implement that plan, with the goal of improving the health and resiliency of the Tay River watershed.

### Westslope Cutthroat Trout Riparian Habitat Improvements



Photo Credit: www.alberta.ca

Reduced to less than 10% of its historic range, native pure strains of westslope cutthroat trout remain in just a few, isolated headwater reaches in Alberta's eastern slopes, in the southwestern part of the province. As such, westslope cutthroat are designated as *Threatened* both provincially and federally. Like all native fish, riparian habitat in good condition is important to their life cycle. As such, maintaining riparian health in these remaining and nearby reaches is a priority for survival. In 2011, Cows and Fish initiated a multi-year project focused on streams with pure (or near pure) westslope cutthroat trout. Our intent is to

benchmark current riparian condition and work with partners and land managers to improve riparian health. Federal funding from Fisheries and Oceans Canada, combined with Alberta Environment & Parks and Alberta Conservation Association grants, support us. Key partners include watershed and stewardship groups, timber operations, off-highway vehicle groups and grazing allotment holders, along with provincial government staff. This diversity of land uses provides a challenge, requiring ongoing efforts to make connections, agree upon priorities, and affect change, but working collaboratively is essential to benefit these fish and their habitat.

### Beaverlodge River Fish Passage & Habitat Connectivity Improvement Project



Photo Credit: www.alberta.ca

Arctic grayling are listed as a *Species of Special Concern* in Alberta but were found historically in the Beaverlodge River in northwestern Alberta. A weir across the Beaverlodge River, constructed in 1981 to secure drinking water for the Town of Beaverlodge, created problems with fish passage. Although a fish ladder was in place, fish movement over the weir during low flows created a seasonal barrier to fish moving upstream to their spawning grounds and returning to their wintering grounds. Water quality and land use changes in the watershed

have also affected habitat. Over time, Arctic grayling numbers have decreased, and according to a recent article in *Conservation* magazine (see link below) they have not been observed in the Beaverlodge River since 1994. In 2013, the Redwillow Watershed Restoration Project Team formed, uniting several organizations, including Cows and Fish, and both local and provincial government to collaborate on solutions, source funding and coordinate restoration work. The Redwillow River watershed includes the Beaverlodge River, providing an opportunity for this team to work together to restore fish passage at weir. A natural rock passage design was chosen because it will protect municipal drinking water, accommodate multiple species of fish and require little maintenance over time. The fish passage construction was finished in September 2018 and will be monitored over the next 5 years. A recent article in the Alberta Conservation Association's magazine highlights more about this project: <https://www.ab-conservation.com/publications/conservation-magazine/spring-summer-2019/>



## Upcoming Events

**Ladies Livestock Lessons. January 18, 2020. Cremona, AB.** Join the Red Bow Agricultural Partnership at the Mountain View Heritage Centre for the annual LLL event. Topics in 2020 include, species at risk and grazing management, mental health on the ranch, livestock nutrition and alternative feeds, online tools and apps for agriculture, a Canadian Beef Centre of Excellence demonstration and tasting, and much more. For more information visit [www.redbowag.com](http://www.redbowag.com).

**Benefitting Nature can Benefit your Farm, January 27, 2020, Millet AB.** Contact Carolyn Ross for more information at [cross@cowsandfish.org](mailto:cross@cowsandfish.org) or (403) 506-0965.

**Ladies Ranching Retreat, January 31, 2020 Stony Plain.** For more information contact West Central Forage Association.

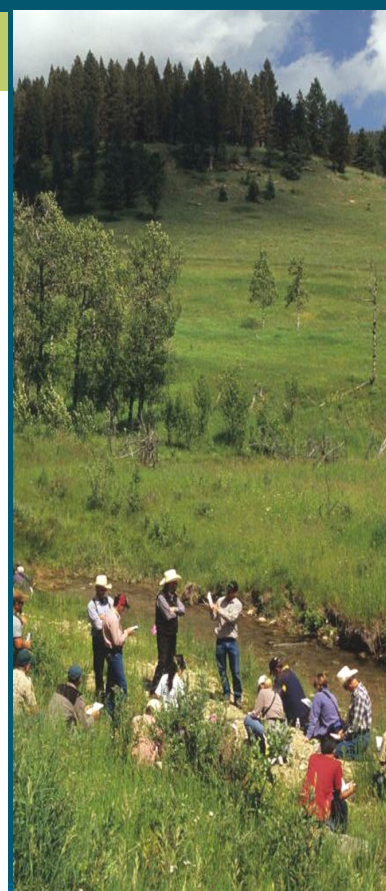
**Living in the Natural Environment Feb 7<sup>th</sup>** at the Cochrane Rancho house from 4-9:15pm. <https://www.mdbighorn.ca/438/Living-in-the-Natural-Environment>

### SAVE THE DATE!

**Grazing School for Women, Holden/Bruce Alberta, June 9 & 10, 2020**

**Southern Alberta Grazing School for Women, Oyen AB July 14 & 15, 2020**

**Range Stewardship Course, Twin Butte June 24 & 25th, 2020**



Original development of our newsletter was graciously supported by Alberta Ecotrust Foundation, along with our many core funders and supporters: (<http://cowsandfish.org/about/members.html>).

As you may know, we rely upon grants to do much of the work we do, so if you want to suggest an opportunity, collaboration, or make a donation, please do! Please check our website for how you can support us.

[Donate Now](#)

Please sign up for our newsletter if you have not already done so:



We'd love to get your feedback and equally importantly, we hope you'll share this with your friends and colleagues.

## We love hearing from you!

Please contact Norine Ambrose [nambrose@cowsandfish.org](mailto:nambrose@cowsandfish.org) or any Riparian Specialist, to follow up on any items in this newsletter.

For full contact information, visit our website at:

<http://cowsandfish.org/contact.html>

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