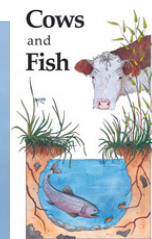


**Volume 20 | Fall 2023**



# THE COWS AND FISH NEWSLETTER

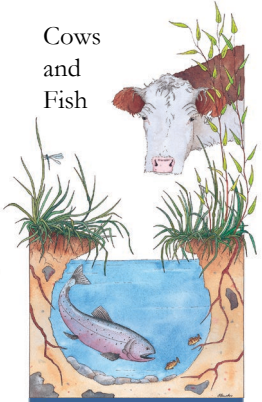
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# Caring for the Green Zone

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## Cows and Fish

### Learning Launches Stewardship: Profiling Lorree and Ralph Erdell

*Written by Kerri O'Shaughnessy, Riparian Specialist and  
Norine Ambrose, Executive Director*

Farming at Ronan Farms is a family affair. Their stewardship journey has led them to make many personal changes, along with gathering community input from, and supporting, the Paddle River Group, which they helped create. On this journey, through sharing ideas and realizing common goals with their neighbours, they have restored their river riparian area and are looking at other riparian areas on their property differently too. "The creek that flows through the property is such a gift to our family," says Ralph Erdell. Fencing 3.5 miles of river to exclude cattle has been just one of many concrete examples of putting their commitment to stewardship into action.

*"Let's all do our part so we can enjoy places like this" - Lorree Erdell*

**2009 Before Fencing**



*This photo shows bank alterations and bare ground at a cattle watering site. The area lacks deep binding roots for bank protection but was fenced to allow it to heal.*

**2021 After Fencing**



*This photo was taken after cattle exclusion fencing was installed. The banks have since revegetated, which means that the site is healing.*

The Erdells have taken many stewardship actions over the years at their property in the Paddle River watershed in the Mayerthorpe area. These actions included creating a catch basin around their corrals to give runoff a place to settle before reaching the river, and new fence locations to help keep cattle away from the water's edge. Cows and Fish has been lucky to work with them over many years, as they care for the land and water – and a big part of that stewardship has been a willingness to plan and to learn, then implement, new management changes.

Lorree went off to pasture school with hopes of learning more about drought-proofing the farm. She came back with a renewed sense of

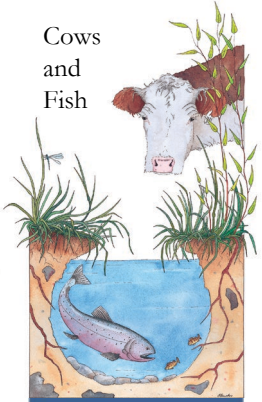


*Spruce tree, planted in 2009, showing healthy growth in 2020*

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excitement and many new concepts, “launching their stewardship journey to another level,” as Ralph describes it. The new concepts included rotational grazing using smaller paddocks, new fencing to provide rest to riparian areas from livestock use, water development to provide year-round watering options for their cattle away from natural waterways, and tree planting to promote biodiversity. They are seeing the fruits of these labours through the Ronan Farm Rs: rebuilding, replenishment, regeneration, and return.

Fence lines were installed around their waterer to allow cattle to access the trough from whichever pasture Lorree and Ralph plan. This means with one well-placed waterer, cattle in multiple pastures can access water throughout the year, eliminating the need for the cattle to access natural waterbodies, while keeping them out on the pasture, even in winter, since the system is meant for year-round use.

As Lorree has told us, they are always planning for new things, looking to keep making changes, and are open to ideas and helping others learn too. Hosting farm tours has been one way they have helped others learn, but so has hosting Cows and Fish staff for erosion control training to showcase and learn more about grazing management and other riparian restoration techniques in an active, grazed landscape.



*Willow stakes, planted in 2020, showing new growth in 2021*



*A new year-round watering system at installation, located in the central area of many pastures.*

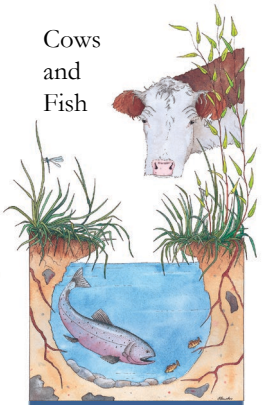


*Lorree (left) discussing management history, runoff and potential restoration or management changes to address erosion from water coming onto their place from the adjacent county road and hills nearby.*

Finding novel solutions to new or old problems is not something Lorree has shied away from, nor has recognizing issues and challenges that need to be addressed. The Erdells are always adding more to their management; recognizing that their work is ongoing. Having started some changes 15 years ago, they continue to adapt and incorporate new ideas and techniques on their farm.

[Click here](#) to learn more about the Erdells by watching their digital story.





## Get Your Hands Dirty:

### Tips for a Successful Riparian Restoration Project

*By Maddison Skinner, Riparian Resource Analyst/Riparian Specialist*

Riparian health is becoming an ever-larger discussion amongst landowners and land managers across the province and beyond. As a disrupted climate starts to bring about more severe droughts and extreme flood events, the critical importance of Alberta's streams, rivers, lakes, and wetlands – and the riparian areas supporting them – has been brought into sharp focus. Healthy riparian areas along these waterbodies translate directly to keeping water on the landscape for longer, slowing the speed of floodwaters, safeguarding against wildfires, and preventing bank erosion and collapse. As such, many land stewards are wisely looking to incorporate management techniques that strengthen the land's resiliency against some of the tough changes at their doorstep.

If you've been pondering ways to bring back the life and vigour of the waterways on your land, you might want to consider rolling up your sleeves and diving into a riparian restoration project like live willow staking. Willow staking is simple and effective: simply stick willow cuttings into the ground, where they grow all-new roots and shoots that quickly begin to stabilize streambanks, tap into the water table, and provide a suite of other benefits. In this article, we'll explore some valuable tips and considerations to ensure your restoration project blooms into a resounding success.

#### Is Willow Staking Right For My Land?

Riparian areas, sensitive to overuse impacts from livestock and humans alike, perform functions critical for people, wildlife, and land. On the flip side, unhealthy riparian areas have a hard time performing these essential roles. Their ability to combat erosion, enhance water quality, recharge aquifers, and provide habitat all suffer. If you suspect your riparian area is less than healthy, or perhaps you've received a detailed riparian health report from our team confirming that improvements could be made, you should consider whether willow staking – the simplest and still the most popular restoration technique – could help.

Willow staking can be remarkably effective in a broad range of situations, but where it particularly shines is when erosion or bank instability are of concern. This is because willow staking quickly and effectively increases underground root mass that provides the 'natural rebar' that holds banks together. Another ideal candidate for willow staking is a riparian area needing more woody plant cover, especially if woody plants are entirely absent and there are no willows or other woody plants nearby to spread into the vacant spaces.

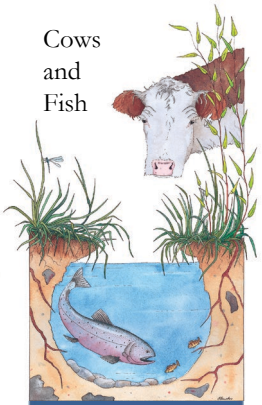
It is important to address the root cause of the lack of woody plants in order to accurately consider riparian restoration techniques such as the



*The satisfying result of a willow staking project. These little stakes don't look like much now, but in a few years' time they'll be well on their way to helping heal the riparian area*

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temporary exclusion of vulnerable areas. If willow staking has been done in a pasture, livestock happily trample willow stakes and munch away at new growth, so the area should be excluded for the first few years after the work is done to ensure your hard work yields the results you're after.

## Sourcing Your Willows

When you're looking to revive your riparian areas, native willows are your best bet. They grow rapidly, making it easy to see tangible results in just a few years, and they grow well from cuttings. This means that if you have mature willows growing elsewhere on your property, you can harvest cuttings from them for your restoration project, free of charge! Even better, sourcing willows locally guarantees that you're getting hardy plants adapted to your unique local conditions.

Willows are typically harvested in the fall, after their leaves have begun to drop and the plants focus their energy on transporting their energy source – carbohydrates – back into their stems for the winter. Early spring, before they leaf out, is another prime time to harvest stakes. This way, your willow cuttings will contain all the energy they need to create new roots and buds in the next growing season.

A pair of loppers is all you need to do the harvesting. Look for fairly straight branches that are at least half an inch thick – wider diameter is better. Length isn't as critical, though you'll generally want to have stakes about a metre long. Also consider the fact that you'll want at least three-quarters of that length under the ground and long enough to tap into the ground water – if you're in the grasslands, that might be a tall order for two-metre stakes!

Make a diagonal cut at the bottom end of the stake. This gives your future little willow more contact with water and makes stakes easier to drive into the ground come planting time. Finally, once you're happy with your harvest, trim off any side branches, bundle your stakes for ease of transport, and throw the bottom end of that bundle into a dugout or another water source until planting time.



*Hauling bundles of willow is an excellent way to stay warm on the crisp days of spring and fall!*

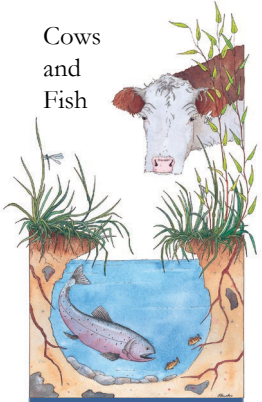
## Let There Be Plants!

It's time to get your hands dirty. Here's how you go about willow staking like a seasoned pro:

1. **Timing Is Key:** As with harvesting, late fall or early spring is the sweet spot for willow staking. This gives the cuttings enough time to establish their roots before the heat of the growing season kicks in. For the very best success rate, harvest within a few days of when you plant.
2. **Prepare the Ground:** Drive a planting bar into the ground to create a hole for your willow stake. Depending on your soil type, this could require some strong muscle power and perhaps a mallet. Remember, about three-quarters of the willow should be underground, with the aim of reaching the water table so it can keep its feet wet.

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3. **Plant The Stake:** Plant your willow in the hole you've just made. Make sure it's the right way up – willows won't grow upside-down! Then, fill any remaining space in the hole with soil – air pockets are a growing willow's enemy, as any new roots not in contact with soil will perish. To prevent them from drying out above ground, trim off all but 6 or 8 inches above the ground.
4. **Keep It Wet:** Regularly check on your willows, especially come growing season. Tending your willows is important – watering them regularly in their first two years, particularly in the heat of July and August, is key to ensuring their survival.

In no willow staking project will every stake survive and grow, but following these steps during the stages of harvesting, planting, and tending your plants will ensure you maximize your return on time and energy – and, ultimately, increase the future resilience of your riparian area.

## Concluding Thoughts

A successful riparian restoration project isn't just about the land; it's about fostering a community spirit. Get your family, friends, and neighbours involved. Host a restoration day, share your experiences, and inspire others to join the cause. The more hands on deck, the greater the impact you can make. Besides, inspiring your upstream and downstream neighbours to think about the health of the water that connects you will boost the benefits for all.

Lastly, don't forget to document your restoration journey. Capture before and after photos, as having visuals to look back on can remind you of dramatic changes that the mind may not recall.

With the power of willow staking and the knowledge to empower you on your journey, you can spearhead a riparian restoration project that will not only benefit your land but also leave a lasting legacy of stewardship. It's time to take the reins and lead the charge in restoring health to those precious riparian areas.



*Cows and Fish staff regularly work with interested landowners on riparian restoration projects, and a determined crew can often harvest and plant hundreds of willows in a day*

## Happy staking!

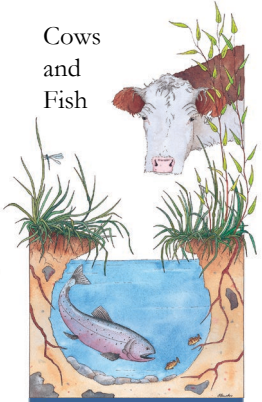
Learn more about riparian restoration by accessing the following resources:

- [“Growing Restoration” Fact Sheet](#)
- [“Reclaiming Restoration,” digital story](#)
- [“Restoration,” digital story](#)



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## Cows and Fish

### Highlights Reel from the 2023 Field Season

*Article written and compiled by Kelsey Spicer-Rowe with submissions from Alex Cressman, Maddison Skinner, Anne-Marie Lefebvre, and Jed Lloren*

I started my career at the end of the analog era. My first email address was acquired in my first year of university, my first cell phone only at the time of my third permanent position of employment. Paper maps, cameras with film requiring developing, and suitcase-sized GPS systems were the standard for my early years working in the field. Our Cows and Fish Riparian Analysts are from a younger and highly digital generation. As they help us shift to a more digitally based field data collection system, they continue to note the analog essence of the wetlands, streams and landscapes they are setting foot on. A unique balancing act that has them hovering both in the future and the past. From fescue, an ancient grass bison once grazed, to birds sharing a name with a tyrant lizard, and fens and bogs that hold generations of secrets in their anaerobic soils – our Analysts noted much this past field season from northern to southern regions of Alberta and endured to tell the tale.



*Eastern Kingbird nest*

While on a field site out west, Alex, a first-year Riparian Analyst, was mobbed by swooping Eastern Kingbirds while bushwhacking through a dense stand of silverberry. The cause of the aggression was readily apparent – a tightly woven nest of twigs and grass with five fuzzy chicks only a few feet off the ground. Both parents and some of their neighbours kept a watchful eye perched on nearby bushes and hovering overhead chirping angrily, as Alex continued along his path. As a tyrant flycatcher, the Eastern Kingbird appropriately has the scientific name *Tyrannus tyrannus*, earning the title over a century before the fellow theropod *Tyrannosaurus rex*. Their combative behaviour is not limited to Cows and Fish staff, with Eastern Kingbirds frequently mobbing crows and hawks. These birds have also been known to fight off predators who might discover fake nests placed by researchers, indicating strong communal defense!

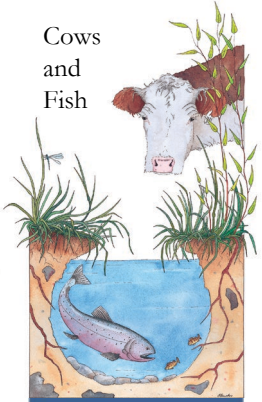
Maddison (Maddy), for her part, was especially appreciative of the time she spent in the Ghost, a Public Land Use Zone in the Eastern slopes northwest of Calgary. With each field site inventoried, Maddy became increasingly grateful for the ongoing stewardship of those sites, as she recorded more and more occurrences of the iconic rough fescue (*Festuca campestris*). Fescue grasses once blanketed the northern great plains from the grasslands through the foothills and into the mountains; nourishing vast herds of bison, elk, and later cattle, wherever it grew.



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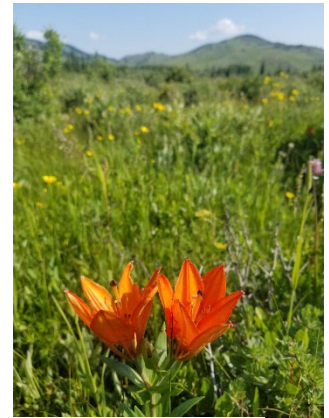
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These days, however, fescue has disappeared from much of its historic range and our Analysts come across it only sporadically, in small pockets of well-managed or inaccessible land. Maddy felt the abundance of these grasses still present in these carefully stewarded areas of the Ghost affirmed the importance of ongoing care and respectful use of the area by the recreationalists who enjoy this landscape. Besides, it's hard not to appreciate a place where a tired biologist can pitch a tent and spend the evening fishing on the river after a long day's work.

For Anne-Marie, some of the most memorable field days are ones spent in a bog or a fen. The characteristic spongy and mossy ground under her feet and the low growing shrubs found in these habitats inspire a sense of spiritual mystery, awe, and fascination. One of the most noteworthy fens Anne-Marie surveyed this summer was located near Castle Wildland Provincial Park; with the backdrop of lush foothills and mountains. The scattered flowering wood lilies across the site and the sound of numerous bird species singing made this bog breathtakingly beautiful. Special places like these are the reason Anne-Marie passionately advocates for the protection of these vital habitats which support unique plants and wildlife.



Wood Lilies

And lastly, a new Riparian Analyst, Jed, was happy for the opportunity to finally put images to the names of many different towns in Alberta. Jed temporarily moved to Lethbridge for grad school a few years ago, only to have his experience heavily restricted by the COVID-19 pandemic. Because of that, there weren't many opportunities to explore the province. Now, having returned to Alberta after two years away, and through the riparian inventory work completed this summer, Jed was able to see all that Alberta has to offer from the Grande Prairie region to the Waterton Lakes National Park region, and witness all of the beautiful natural areas present across our grand province.

From north to south, Alberta is full of distinct and dynamic habitats and our Riparian Analysts get to wander through over 100 of them each summer. Although the *Tyrannosaurus rex* that shares the same genus as the Eastern Kingbird likely didn't get the chance to feel the crunch of rough fescue under its king-sized feet, it may have felt boggy mud seep between its claws in that subtropical Late Cretaceous environment. It gives us pause to think of all the footsteps, wingbeats and seed heads waving in the wind that inhabit our riparian areas both past and present. The digital era enables us to capture these moments as images at a resolution and frequency that didn't used to exist, but our analog memories will endure forever.

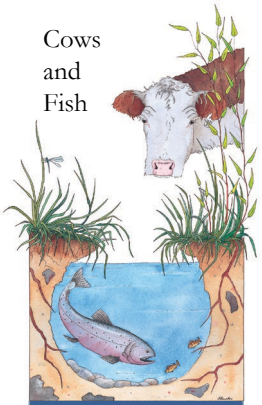


Castle Wildland Provincial Park



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## Cows and Fish Inspiring Expansion of the ATCO Heritage Grassland

*Written by Emma Stroud, P. Biol, Team Lead - Ecology & Conservation, Friends Of Fish Creek Provincial Park Society*

Fish Creek Provincial Park in Calgary, Alberta, is one of the largest urban provincial parks in Canada. The Bow Valley Ranch (BVR) is a historic site on the east end of Fish Creek Provincial Park that has a long history of modified use. The BVR was initially settled by John Glenn, purchased in 1896 by William Roper Hull, and sold to Patrick Burns (Senator Patrick Burns) in 1902. In the process of developing the land into a cattle ranch, native Foothills fescue grasslands that had prevailed for millennia were converted into agricultural land dominated by smooth brome (*Bromus inermis*), Timothy grass (*Phleum pratense*), and other agronomic species. For the next 100+ years, the grasslands remained heavily modified, with recreational use continuing to proliferate invasive species. Circled in red in the photo above is the site of the present day ATCO Heritage Grassland. The photo was taken on the hillside behind present day Annie's Café and Bow Valley Ranch Restaurant.



*Original layout of the Bow Valley Ranch, with the historic homestead site in the foreground and agricultural land in the background (Photo credit: Glenbow Archives NA-1511-1)*



*Volunteers help keep the plant plugs alive with weekly watering (using rain barrels) and weeding*

In 2015, ATCO Energy needed to replace a high-pressure gas-line through the area. Once the 0.5-hectare pad site was no longer required, ATCO funded the re-vegetation of the site with a native grassland seed mix, designated the "ATCO Heritage Grassland." ATCO then supported the restoration of the site, providing \$10,000/year for six years of maintenance and invasive species control.

In 2021, Cows and Fish performed a Rangeland Health Assessment on the ATCO Heritage Grassland. The grassland was given a score of 63%, assessed as "healthy, with problems," with main concerns



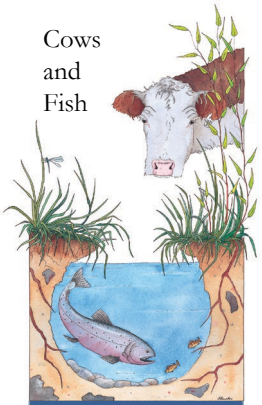
*Emma Stroud and Kathryn Hull from Cows and Fish perform a rangeland health assessment in 2021 (Photo credit: The Friends of Fish Creek)*

coming from invasive species like smooth brome, Canada thistle (*Cirsium arvense*), yellow toadflax (*Linaria vulgaris*) and other noxious weeds. The assessment recommended managing smooth brome surrounding the 0.5-hectare plot, to ensure native grasses were not outcompeted by the strong agronomic grass. Following this advice, in 2022-2023 we expanded the site to 6-hectares, mowed,



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raked, solarised (see description that follows) and re-seeded with the custom seed mix prepared by Eastern Slopes Rangeland Seeds (Tannas Conservation Services Ltd.). We also created two large “solarisation” plots, covering 450 square metres of smooth brome with greenhouse plastic. The plastic forces the seedbank to germinate, and then suffocates live grass for a full growing season. Once the plots were uncovered in the spring, they were planted with 1,800 live Foothills fescue (*Festuca campestris*) and other grassland forbs also grown by Eastern Slopes Rangeland Seeds. Cows and Fish returned in 2023 to help with the restoration process and document our management of the site.

We look forward to performing a follow up Rangeland Health Assessment next year, to evaluate our interim success of the expanded grassland restoration project. Thank you Kathryn Hull from Cows and Fish for inspiring the expansion of grassland restoration in Fish Creek Provincial Park!



Emma Stroud pointing to new plant plugs planted in solarisation plots in June 2023 (Photo credit: Cows and Fish)



Solarisation plots in September 2023, after seed germinated and plant plugs grew to fill out the area (Photo credit: Emma Stroud)



Prairie Coneflower (foreground) and Blue Grama grass (background) (Photo credit: Emma Stroud)

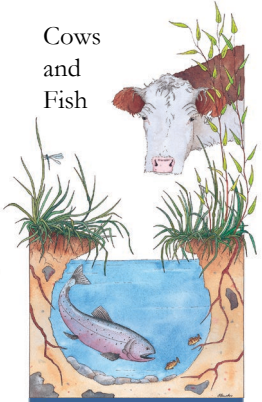


Harebell (right) and Foothills Fescue (left) in the foreground (Photo credit: Emma Norris, volunteer)



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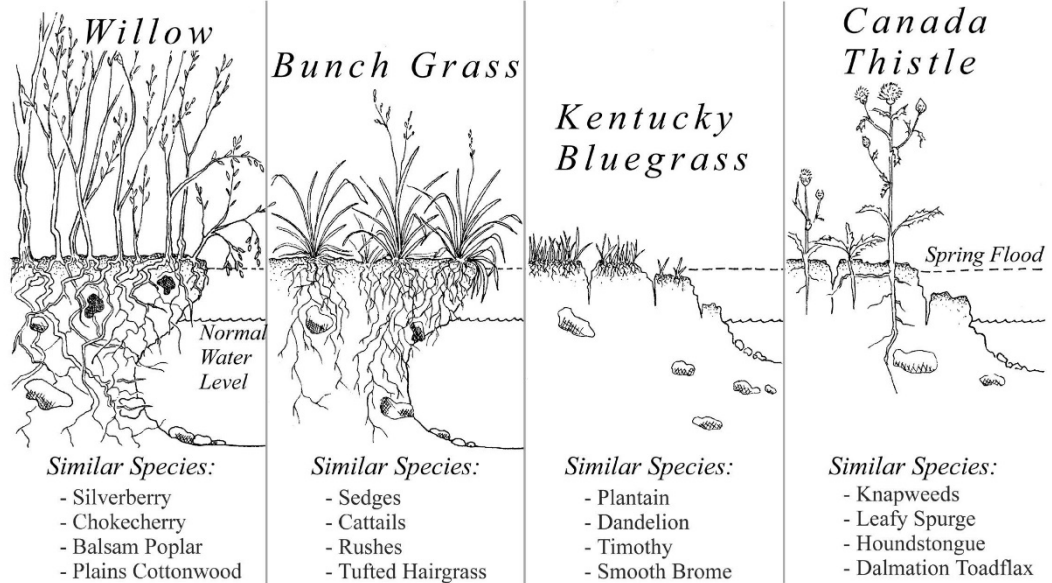
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## Willow Fun Facts

By Tonya Lwiwski, Riparian Specialist



Did you know? The scientific name of willow, *Salix*, denotes the fact that they have a compound called salicin (similar to aspirin) in their bark, which humans have been chewing on for pain relief for millennia.



Compared to lawn grass or thistles, willows also have excellent deep-binding root systems that help keep soils in place, particularly along banks and shores. Willows lend themselves to be an excellent tool in bioengineering due to their ability to readily sprout from cuttings, where they can be used in live staking. Early spring and late fall, when the plants are dormant, are the best times to cut willows for live staking. Whether cutting willow stakes and planting them in the ground for new willows, or maintaining existing plants you have; willows provide habitat, food, and shelter for wildlife and livestock as well as overhanging cover for fish, because their roots systems hold soils and shade streams and shorelines.

Want to learn more about how to encourage willow growth through live staking? [Click here](#) to read our *Growing Restoration* fact sheet or [click here](#) to watch our video about restoring Westslope Cutthroat Trout habitat.

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## Upcoming Events

### Forest Grazing Workshop

Enjoy a full day among fellow producers covering several topics including Weed & Plant ID, Weed Management, Riparian Areas, Forest Restoration, Wildfire Preparedness and more! With a delicious catered meal, this is a great opportunity to network and gain new, innovative knowledge.

**Date/Time:** November 10, 2023 / 9:00am – 4:00pm

**Location:** Triangle Hall, High Prairie, AB

[Click here to register](#)

### Plamondon Bay, Plamondon Creek Shorelines, and the Lac La Biche Watershed

Join us for the opportunity to stay informed about the Lac La Biche watershed, learn about the beavers, and understand the importance of preserving shoreline habitat along Plamondon Creek.

**Date/Time:** November 21, 2023 / 5:30pm – 8:00pm

**Location:** 9626 101 Avenue Plamondon, AB T0A 2C0

[Click here to register](#)

### Living with Beavers Workshops

Whether you love them, or love to hate them, we hope you'll join us in sharing and growing your knowledge of beavers on our landscape.

**Session 1:** November 23, 2023 at Twin Butte Hall / 2:30pm – 8:00pm. [Click here to register](#)

**Session 2:** November 24, 2023 at Springpoint Hall / 2:30pm – 8:00pm. [Click here to register](#)

### Ladies Livestock Lessons

A workshop designed for women involved in or interested in the profession of managing livestock. It was developed with the goals of encouraging and educating women in the business and to facilitate the opportunity to expand their professional network.

**Date:** January 19, 2024

**Time:** 8:30am – 4:00pm

**Location:** Cochrane RancheHouse

[Click here to register](#)

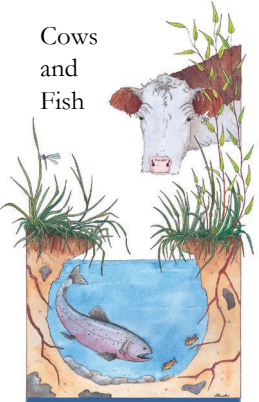
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## Stories of Alberta's Native Trout

Be sure to check out Alberta Native Trout Collaborative's latest blog "Exploring Underwater Secrets: DNA collection and Hybridization in Alberta's Athabasca Watershed" by Paige Lewis, Conservation Crew Lead at Trout Unlimited Canada. With a unique tool called a backpack electrofisher, scientists have embarked on an expedition to unlock the mysteries of the Athabasca watershed.

Read the article on [albertanativetrout.com](http://albertanativetrout.com)



Original development of our newsletter was graciously supported by **Alberta Ecotrust Foundation**, along with our many core [funders and supporters](#). 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! If you haven't already subscribed to our newsletter, [click here](#) to sign up.

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## Cows and Fish

### 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](mailto: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

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

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A special thank you to our partners

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