

THE VERMILION RIVER WATERSHED

RESTORATION &
ENHANCEMENT
PROJECT



Vermilion River
WATERSHED ALLIANCE

The Vermilion River Watershed Alliance

The Vermilion River Watershed Alliance (VRWA) is comprised of local volunteers working side by side in the watershed. Members come from local towns and counties, federal and provincial governments, conservation groups, and the public. The VRWA also has a strong partnership with the North Saskatchewan Watershed Alliance (NSWA), who provides project management and administrative support.

In 2012, the VRWA created the Vermilion River Watershed Management Plan, which outlined 5 primary goals and priorities to:

- Develop capacity and knowledge in the watershed
- Improve reliability of surface water supply
- Improve and maintain surface water quality
- Improve and maintain water ecosystem health
- Protect and sustain groundwater quality and supply

From these 5 goals, 54 actions were determined.

Because surface water quality and ecosystem health were both priority goals, it followed that an important issue would be to restore and enhance wetlands and riparian areas.

The Vermilion River Watershed Restoration & Enhancement Project

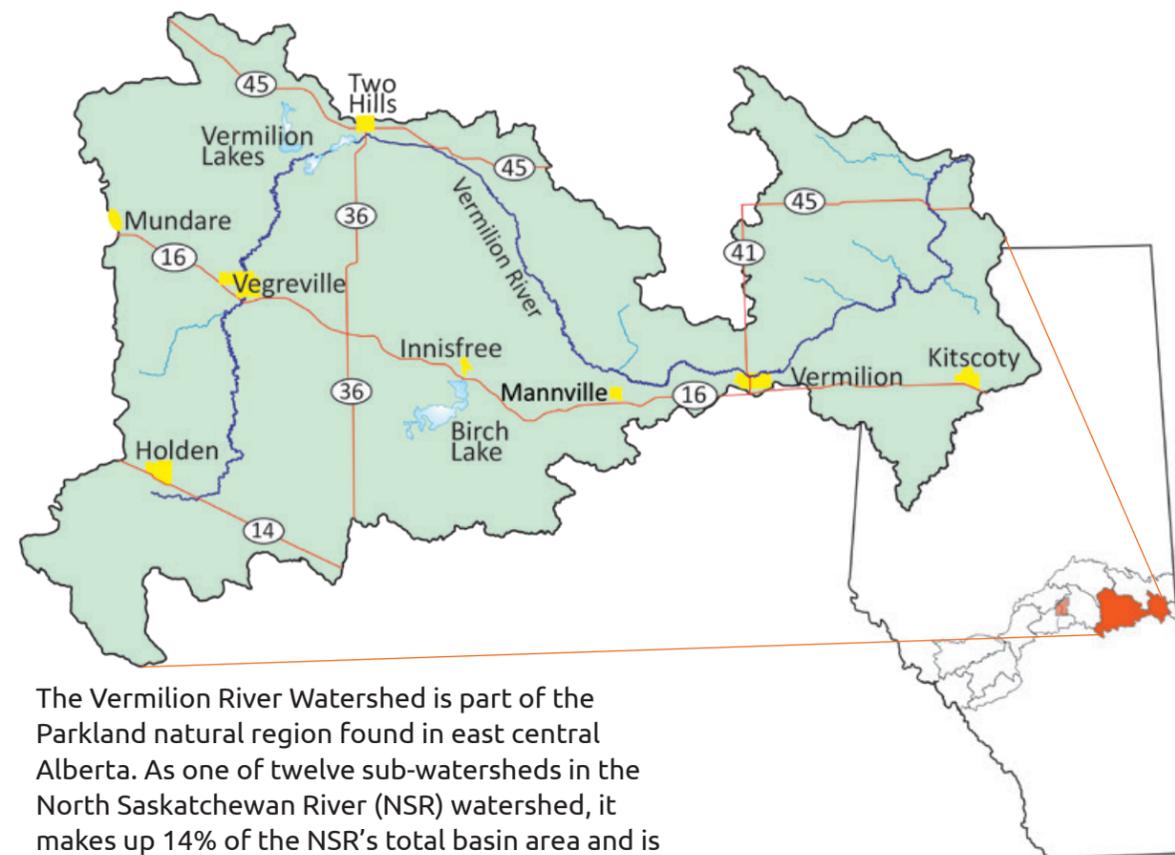
Since 2016, the VRWA has partnered with the NSWA to restore and enhance wetlands and riparian areas in the Vermilion River Watershed as part of the Vermilion River Watershed Restoration & Enhancement Project (VRWREP). The Alliances have collaborated with local landowners and other non-profit organizations to complete three years of on-the-ground restoration and enhancement activities as well as accompanying outreach events and educational initiatives.

With NSWA-held funding from Environment & Climate Change Canada and the Government of Alberta's Watershed Resiliency and Restoration Program (WRRP), activities as part of this multi-year initiative were collectively managed by the NSWA as the VRWREP.

This project was undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :

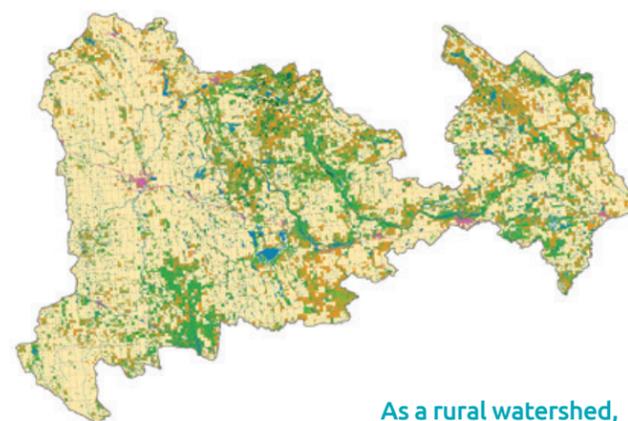


About the Vermilion River Watershed



The Vermilion River Watershed is part of the Parkland natural region found in east central Alberta. As one of twelve sub-watersheds in the North Saskatchewan River (NSR) watershed, it makes up 14% of the NSR's total basin area and is home to 56,977 people (Statistics Canada, 2011).

Vermilion River Watershed Land Cover



Legend

Crop	Pasture
Exposed land	Shrub
Forest	Urban
Grassland	Water

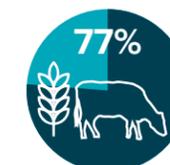
As a rural watershed, the VRW is dominated by agricultural crops and pasture lands. This means that streams, dugouts and wetlands on private land play a critical role in surface water quality and quantity.

How the watershed's land use has changed

Over the past century, the VRW has been modified to facilitate agricultural production, land development and to alleviate negative effects of flooding. Some of these large-scale changes include:

- Activities by Holden Drainage District (est. 1918)
- Channelization of the Vermilion River (est. 1974)
- Operation of the Morecambe Structure (est. 1976)
- Re-establishment of the Vermilion Dam (est. 1980)

Due in part to the modified hydrology of the basin, the Vermilion River Watershed was assessed and rated as "poor" by the NSWA in its 2005 *State of the North Saskatchewan Watershed Report*. This prompted the NSWA to apply for funding to tackle some of the report's issues, in partnership with the local VRWA.



Agricultural



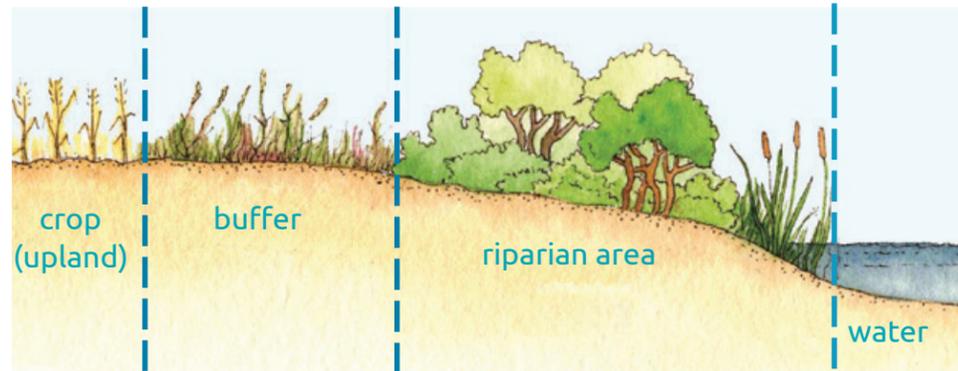
Natural & Water



Human Development

What is a riparian area?

Riparian areas are the green zones of water-loving plants and saturated soils found between the upland and adjacent waterbody

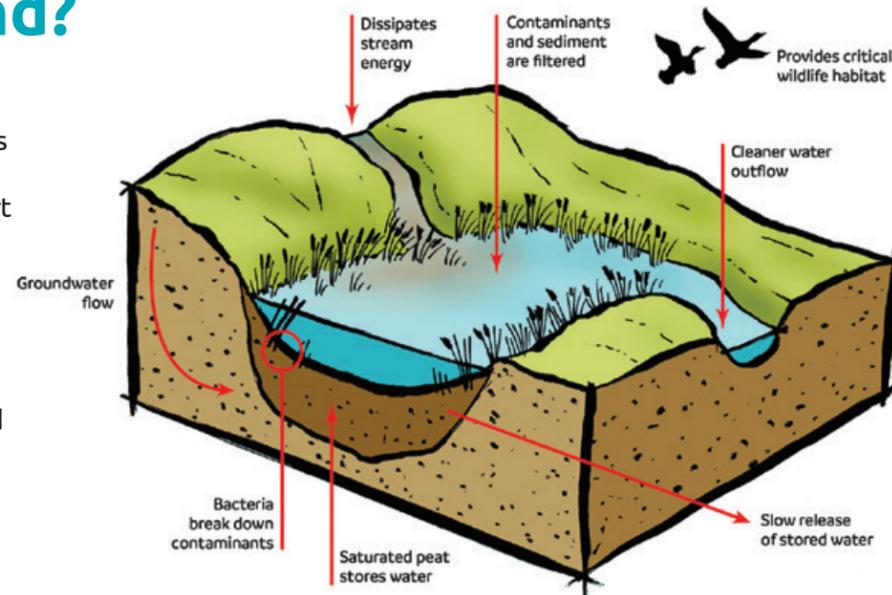


Graphic: Cows & Fish

What is a wetland?

Whether you call it a slough, marsh, swamp or pond, these are all “wetlands,” and collectively make up about 20% of Alberta’s surface area. Like riparian areas, the soil is wet enough throughout the year to support water-loving plants. Wetlands also provide many of the same human and ecological benefits as riparian areas (see below). Unlike river or stream riparian areas, prairie wetlands often have standing water.

Wetlands serve as both a natural filter and a sponge, which is important in a prairie-fed (rain, snow, runoff and groundwater) watershed like the Vermilion River as they can store water in times of floods and slowly release it in times of drought.



© Ducks Unlimited Canada

Benefits of riparian and wetland areas

Improve water quality by trapping sediments, filtering nutrients and pollutants, reducing enrichment that leads to increased aquatic plant and algal growth

Mitigate floods and droughts by storing and slowing the release of water and reducing erosion

Improve biodiversity by providing fish and wildlife habitat and cooling water temperatures

Provide aesthetically pleasing areas for recreation or cultural activities

Add economic value by increasing property values or providing areas for nature viewing.



3 years



30+ landowners



20 km riparian areas



150+ hectares

Between 2016-2019, 16 riparian and 22 wetland projects were completed by over 30 landowners in the region. This resulted in the restoration and enhancement of riparian areas along approximately 20 kilometers of river and creeks and over 150 hectares of wetlands.

Project activity examples

Grass buffers are areas of seeded permanent cover (whether native or tame, forage and hay species, etc.) planted between agricultural crop margins and an adjacent riparian zone. Grass buffers help to trap and filter excess sediment and nutrients, as well as slow water runoff.



Riparian Fences are used to keep livestock away from waterbodies, protecting both water quality and the surrounding riparian area condition. Managing livestock access in riparian areas also prevents soil compaction as more sponge-like soil helps filter and store water. Riparian fences can also be used to create riparian pastures, as part of a strategically managed grazing plan.



Wetland restoration repairs the natural function of a once-drained wetland. From earthen ditch plugs to engineered structures, restored wetlands provide wildlife habitat, water storage during times of drought, and mimic a sponge-effect in wetter seasons, alleviating overland-flooding.



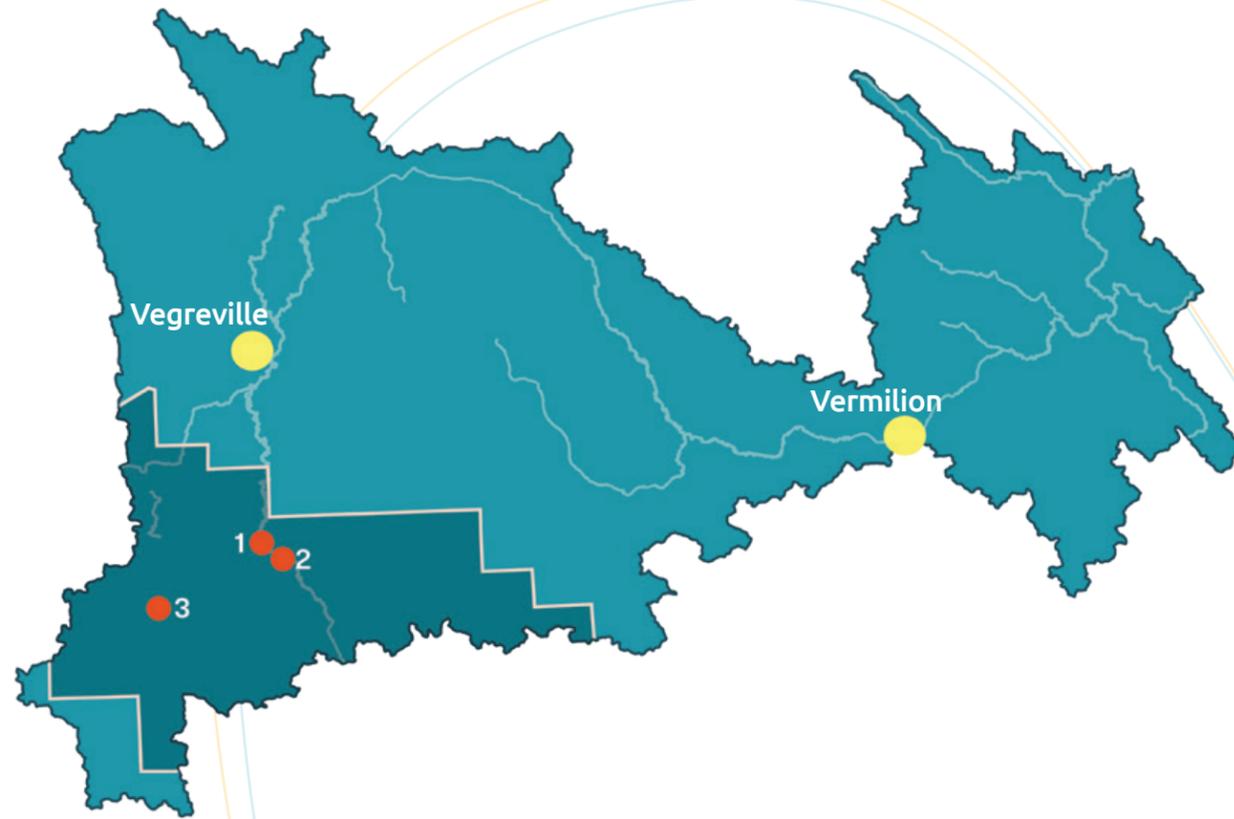
Off-stream watering systems use a pump to draw water from a dugout or waterbody and carry it to a trough or bowl some distance away. This allows livestock to consume water without contaminating it, and also reduces the animals’ physical impacts to sensitive riparian and aquatic ecosystems. Evidence suggests that livestock who use such systems gain weight more quickly than those who drink directly from the source, creating a win-win for both the ecosystem and livestock operations.



Revegetation includes seeding bare patches along waterbodies with native grass seed or planting site-appropriate tree seedlings. This mitigates soil erosion as deep-binding root systems help to build and reinforce stream banks. Riparian trees also shade the water and thus regulate water temperature, and provide important bird and wildlife habitat.



PROJECTS IN Beaver County



1| A Vermilion River win-win

PROJECT ACTIVITIES

- Riparian fencing
- Off-stream watering system

This Beaver County landowner recognizes that “Keeping cattle out of the river is a win-win deal,” for both his operation and the environment. Having had livestock get stuck in the mud before, he moved ahead with a fencing and off-stream watering project. Fencing not only prevents bank erosion and keeps the river from being contaminated the landowner noted, but also, “cattle do better with fresh water access.”



2| Protecting the main stem

PROJECT ACTIVITIES

- Riparian fencing
- Off-stream watering system

The Vermilion River runs through this beautiful stretch of Beaver County countryside, which provides habitat for many wildlife species. The landowner improved the river and its banks from years of livestock access and grazing pressure by installing riparian fencing and dispensing water through a home-welded off-stream watering system. The landowner noted that—thanks to the VRWREP program—“projects which have long term environmental benefits to people wildlife, vegetation, and above all—water quality—become a positive reality.”



3| Beaver County buffer

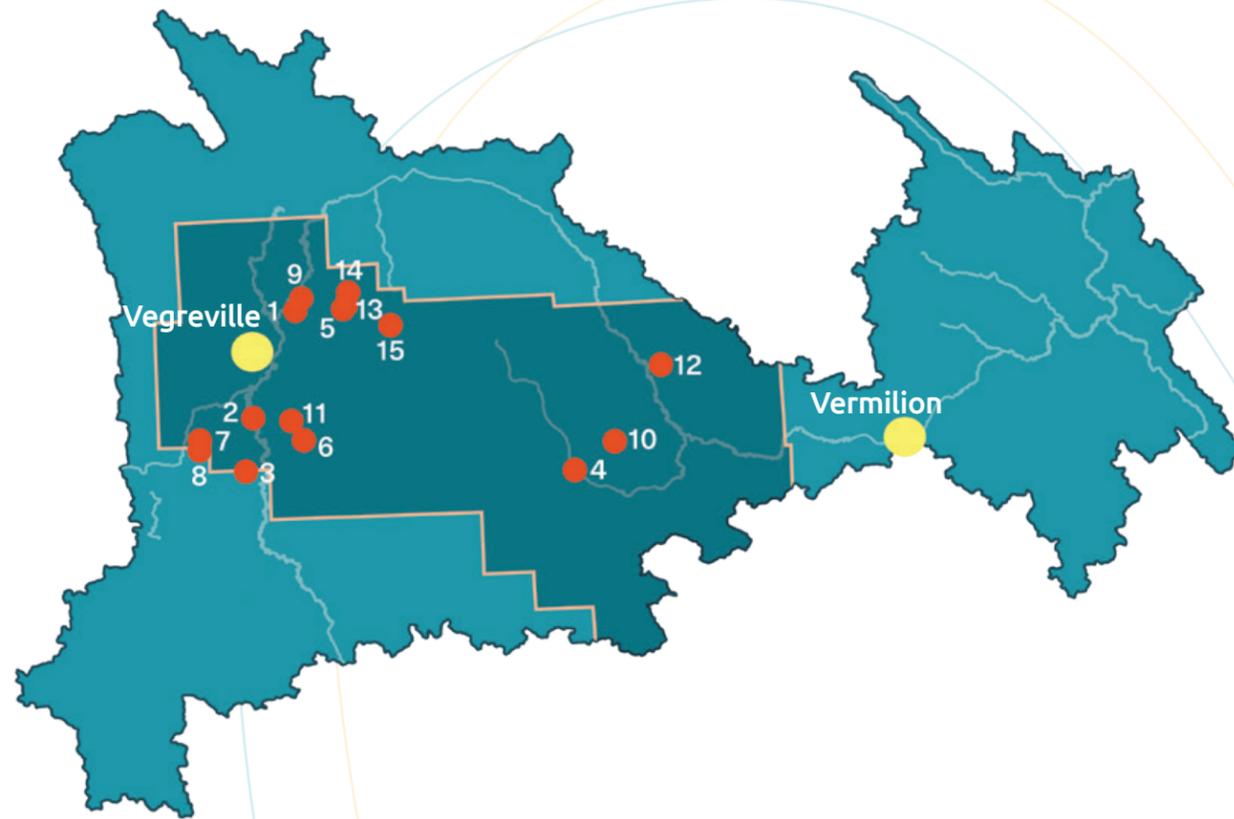
PROJECT ACTIVITIES

- Riparian fencing
- Off-stream watering system

This Beaver County landowner wanted to do his part in contributing to a healthy, sustainable watershed. In addition to fencing around two wetlands on two different quarters and using off-stream watering practices, he also seeded a perennial grass butter strip between his cropland and the wetland area to further enhance riparian function.



PROJECTS FOR THE County of Minburn



1| Rest and recovery

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

Improving the banks of the Vermilion River was priority number one for this landowner in the County of Minburn. By fencing off both sides of the river and having his herd of 100 cattle drink from an off-stream watering system, this landowner is providing an opportunity for the riparian area to recover from continued grazing, soil erosion and compaction, as well as water contamination from livestock waste.



2| Best practices on the Vermilion

PROJECT ACTIVITIES

- ◆ Revegetation

With much of his farmland adjacent to the Vermilion River in the County of Minburn, this landowner wanted to improve and protect the function and health of the riparian area. By planting a perennial grass buffer strip between his cropland and the river, he is enhancing the site's ability to filter out excess nutrients before they reach the water. As well, grass buffer strips will increase the water storage potential of the soil and can even—depending on the types of species planted—can boost soil nitrogen levels which is an added benefit for agricultural systems.



3| Re-engaging resilience

PROJECT ACTIVITIES

- ◆ Revegetation

Riparian vegetation filters sediment and reduces water speed. This allows for better nutrient uptake and water storage, which helps mitigate the negative effects of flood and drought. Years of cultivation and resulting bare soil on this County of Minburn site had resulted in eroded banks and washouts within this waterway that flowed seasonally through a cropland. By stabilizing the soil and re-seeding the waterway with perennial grass species, the landowner was able to enhance the waterway's natural ecosystem functions. Cattails waiting in the seedbank for the right conditions to come back also re-emerged.



4| Taking care of Birch Creek

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

This County of Minburn site along Birch Creek is tucked within one of the few remaining tracts of unbroken native pasture in the area. The landowner recognized that the banks of the creek were being eroded and the riparian vegetation was not doing well due to continual livestock grazing and physical pressure. He saw riparian fencing and off-stream watering as beneficial for both his cattle and the creek's riparian area.



6| One step at a time

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

This County of Minburn half section is used as pasture to graze up to 80 cow-calf pairs. A central wetland complex as well as a creek have served as a water source for the livestock. Although one side of the creek was already fenced, the landowner wanted to combat the erosion and trampling on the other side, as well as in the wetland area which had been negatively impacted by compaction and hoof shear from livestock. Through the installation of a wildlife-friendly fence on both waterbodies as well as a solar-powered watering system, he is helping to enhance the ecosystem services of the riparian zones, as well as ensuring his livestock still have access to water outside of the wetland area.



5| Wetland enhancement

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

Over 4 hectares of wetland was enhanced on this County of Minburn site. The wetland had served as a water source for livestock for over a decade, but cattle access had resulted in physical degradation of the wetland banks and vegetation. A new riparian fence will remove livestock pressure from the wetland, allowing the site to naturally rehabilitate. The installation of an off-stream watering system ensures an uninterrupted and reliable water source.



7| The importance of water quality

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

Water-loving rushes, sedges, cattail and willow cover a centrally-located wetland complex on this County of Minburn quarter, which is used as pasture and a watering source for cattle. The landowners installed electric fencing and a watering system in order to restrict livestock access to the wetland areas during the extended grazing period and into winter. Their motivation? To "ensure water quality is improved in the riparian area and wetlands."





“It was pretty unique in that we had that many stakeholders involved...

There were a number at the board level that were contributing to the technical side, and the outreach side and the social side.”
— Chris Elder, ALUS-CVR and VRWA board member [on the success of the VRWREP]

“The landowners have been really pleased with the projects that they’ve been a part of. It really does become a win-win situation because not only are we protecting the riparian area or the wetlands, it helps them to recover. It’s actually best for the cattle too because they actually put a better weight gain when they don’t have to walk down through the wetland area.”

— Dave Berry, VRWA Chair and Vegreville Councillor



“I was raised on my family’s cow-calf farm and the Vermilion River went through quite a bit of our pastureland. We’d learned how to canoe on it and we’d take the horses to the river so it was always a very special place. My father was always very passionate about taking care of the river while utilizing it for our cow-calf farm. It just became very apparent the difference it can make, taking care of it.”

— VRWREP participant, County of Two Hills



Photo credit: Bill Trout

As nature lovers and birders, these farmers said they wanted “to bring flora and fauna back to their original state.” They added, “Giving back to nature by healing a piece of land gives us great satisfaction.”

— VRWREP participants, Two Hills County

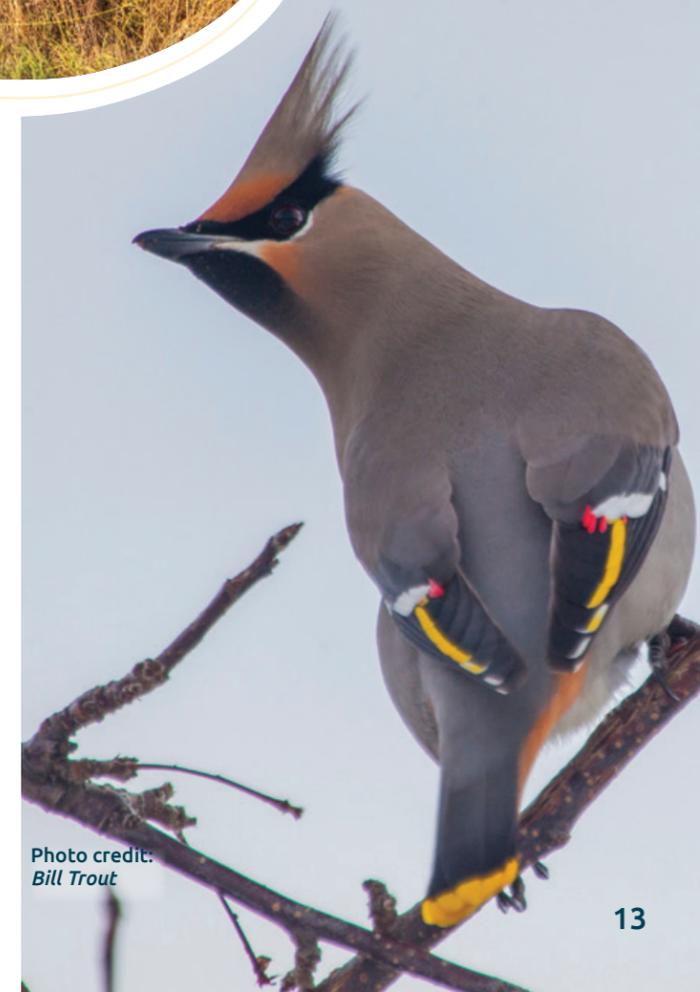


Photo credit: Bill Trout

8| Reliable water for all seasons

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

This site in the County of Minburn serves as late fall and early winter pasture for up to 75 head of cattle. The waterway that flows through the quarter section is the main water source for the herd, which has resulted in trampled banks, reduced riparian vegetation and poor water quality. In addition, cattle have frequently gotten stuck in the soft vegetated bottom of the wetland when water levels were low. Fencing off the waterway and installing a winter-proof off-stream watering system will help to restore the riparian vegetation, ensure fresh and reliable water for the cattle, and mitigate the risk of the cattle getting stuck in the wetland.



9| It's all connected

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

A stream running through a cultivated area directly to the Vermilion River was in need of some help. Although the area was vegetated with various grass species and small willows, it had been trampled and heavily browsed from years of livestock grazing. To restore the site, the landowner fenced off the stream and provided an alternative water source. By implementing these practices and alleviating constant livestock pressure, the existing vegetation will have the chance to recover and perform its natural ecosystem services.

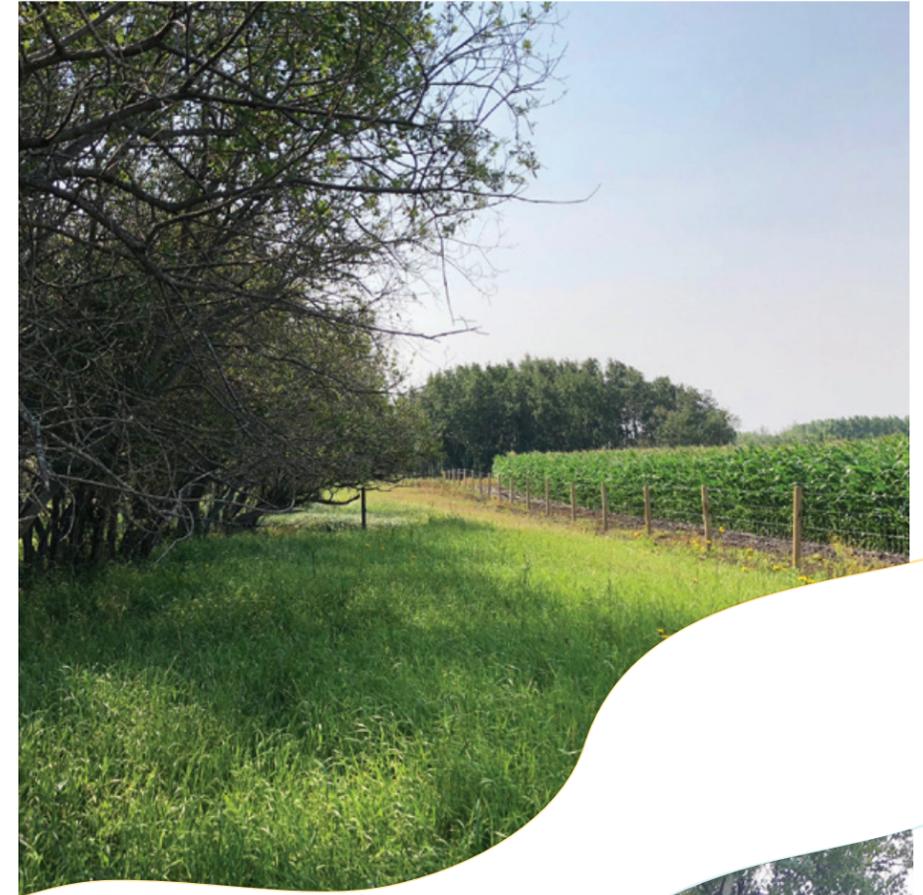


10| Watching over the willows

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

This landowner from the County of Minburn found that his cattle were damaging willow trees in his quarter's riparian areas while grazing during the winter. He was concerned about the impact this may have not only on the water quality on his own site, but also for other downstream users. Through funding assistance from the VRWREP, he installed fencing around the wetland and adjacent willow stands to protect the surrounding vegetation. An off-stream watering system now serves as the water source for the cattle and portable windbreaks provide wind and sun protection in lieu of the fenced trees.



11| Wildlife habitat for the win!

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

This Vegreville-area site is teeming with frogs, waterfowl, and other birds and wildlife. In the past, cattle had used the pasture's wetland area during calving season. Installing wildlife-friendly fencing will keep cows out of the wetland and the riparian area until after bird breeding season is over—to protect nesting waterfowl. New windbreaks will provide cattle with shelter in lieu of the trees that are fenced off to allow them to regrow.



12| Thinking outside the box

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

This wetland site in the County of Minburn has been in both crop and pasture (native and tame) and grazed by up to 150 cow-calf pairs on rotation. Cattle presence has created issues in the riparian area, however, through the trampling of banks and overgrazing of vegetation. A wildlife-friendly riparian fence was installed with a 30+ meter buffer to both keep cattle out for vegetation regrowth and then allow cattle in to provide vegetation management. The landowner noted that the VRWREP was an opportunity to “think outside the box” and see how these activities could benefit their operation while sustaining and protecting the environment.



13| Enhancing agricultural land

PROJECT ACTIVITIES

- ◆ Riparian fencing

The 2.4 hectare wetland on this County of Minburn quarter section is surrounded by 25 acres of bush, pasture and 125 acres of cropland. Surface water is present almost year-round, which provides a constant source of water to livestock. Unfortunately, allowing cattle to have continual access to the area lowered the water source's quality. A newly installed wildlife-friendly fence around the wetland will mitigate the negative effects of cattle pressure on the area, while still allowing wildlife to safely access the wetland.



14| Wetland restoration

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system
- ◆ Wetland Restoration

Historically in the Vermilion River Watershed, wetland drainage has been a common practice in order to maximize agricultural yield. The wetland on this County of Minburn site was ditched and partially drained, which compromised its function. Livestock use created bare patches of ground and overgrazed vegetation in the riparian areas. To restore the wetland, the landowner first filled in the ditch and installed an earthen ditch plug. He then fenced around the wetland to restrict livestock access and allow the riparian vegetation to recover. Finally, an off-stream watering system drawing from the wetland ensures that the cattle still have access to a healthy water supply.



15| Improving the banks of Akasu Lake

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

Two separate wetlands on this site were fenced to protect their riparian areas from overgrazing by cattle and horses. By incorporating a wide enough buffer between the fence line and waterbody, the landowner will be able to use these areas as riparian pastures in order to 1) manage vegetation growth during the non-sensitive vegetative growing period, and 2) have a pasture to use during drier seasons as part of a rotational grazing system. This project is another example of how riparian fencing is used not just to protect the ecosystem, but as a tool within a larger grazing management plan.





“I want to work in harmony with the assortment of plants and animals, moose, bear, deer, pelicans, geese, ducks and migrating bald eagles that frequent this land, while making the environment cleaner, safer and healthier for all life concerned.”

**— VRWREP participant,
County of Minburn**

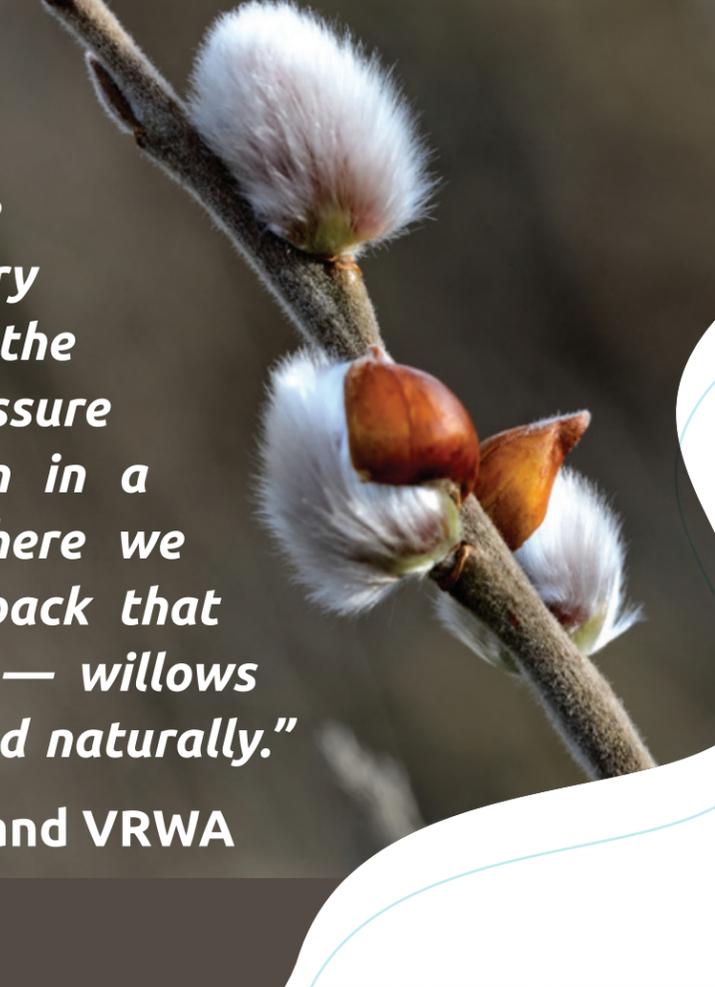
“The dedication shown by [the program team] towards the Vermilion River Watershed Restoration & Enhancement Project was very influential for me becoming interested in being a partner and improving the water quality in the Vermilion River.”

**— VRWREP participant,
Minburn County**



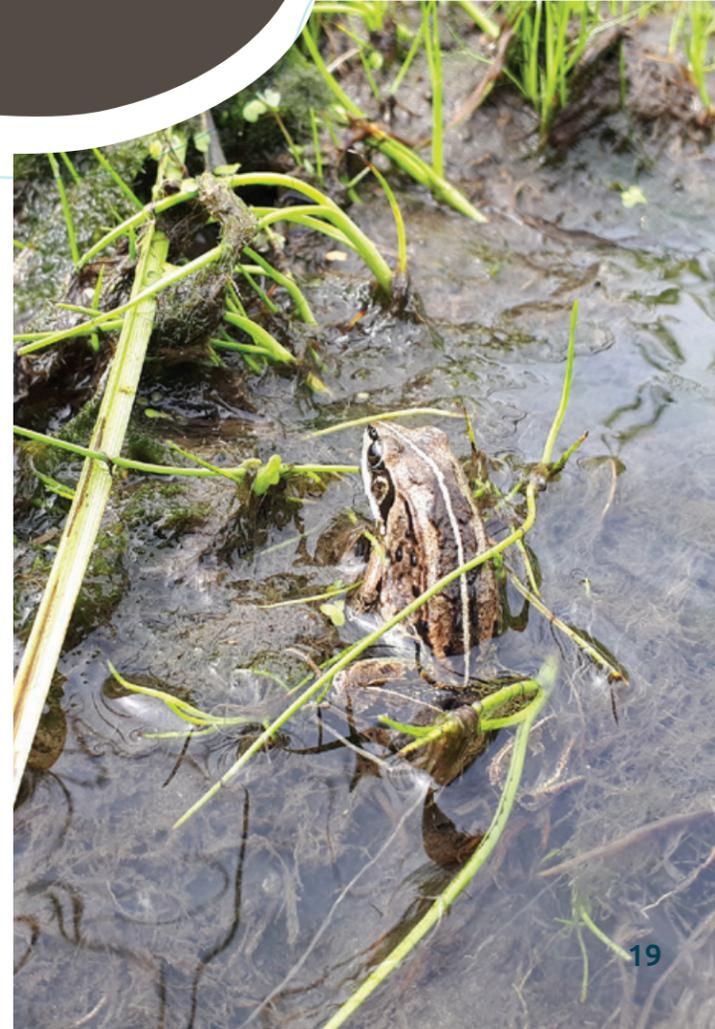
“We were able to go back a year later. We did see some pretty impressive recovery even in that first year. Seeing the effects of relieving the pressure on those riparian areas even in a year — several instances where we started to see things come back that hadn’t been there for awhile — willows and cattails that just recovered naturally.”

— Chris Elder, ALUS-CVR and VRWA board member

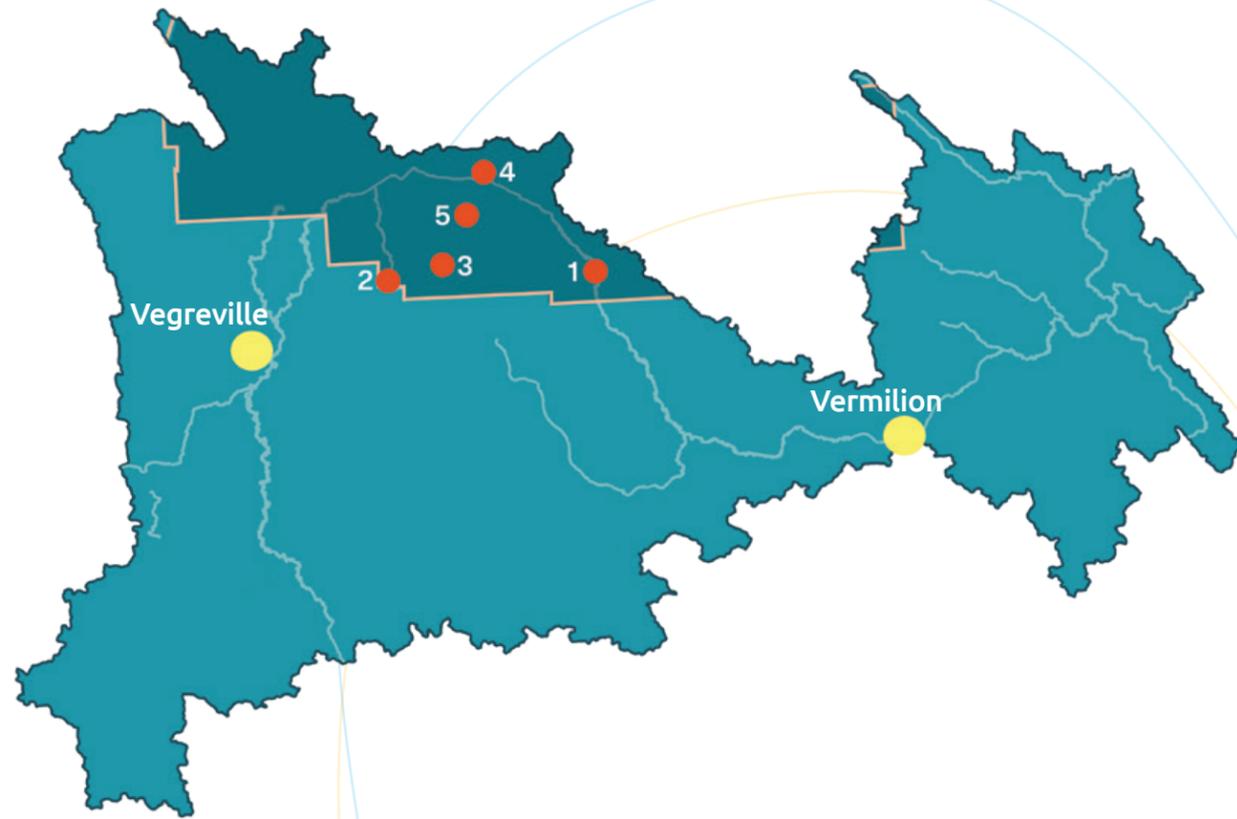


The VRWREP is “a very good program as it protects our waterways and helps us finance projects that otherwise we probably could not do.”

**— VRWREP participant,
County of Minburn**



PROJECTS FOR Two Hills County



1| Family traditions

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

Carrying on her family's legacy, this landowner knew that environmentally friendly agricultural practices were a win-win for both the environment and the business operation. Growing up, she witnessed positive ecological changes when her father used rotational grazing and off-stream watering systems, particularly during drought. She implemented similar practices on her own County of Two Hills quarter as well as riparian fencing to allow the shoreline vegetation to recover and also to create a riparian pasture that would strategically be grazed to manage invasive species. Through her example and experience with the VRWREP, she hoped "to encourage neighbours and successors to do the same."



2| The way it's supposed to work

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

When applying to install riparian fencing on this 11-hectare County of Two Hills wetland site, the landowner had more in mind than just improving the water supply for his cattle. "I want to work in harmony with the assortment of plants and animals that frequent this land, while making the environment cleaner, safer and healthier for all life concerned...it's important to have that symbiosis between all the different species; it's just the way it's supposed to work." By limiting livestock access to the sensitive riparian area while still providing water through an off-site watering system, he is ensuring just that.



3| Riparian rejuvenation along Plain Lake

PROJECT ACTIVITIES

- ◆ Revegetation

Fluctuating water levels and recreational vehicle activity had impacted the riparian vegetation on this County of Two Hills shoreline site. The landowner seeded a moisture and shade-tolerant perennial grass seed mix on various bare patches of ground on this site in order to re-establish vegetation and enhance the riparian area's natural ecosystem functions.



4| Ahead of the game

PROJECT ACTIVITIES

- Riparian fencing
- Off-stream watering system

This County of Two Hills property had been grazed in the past, and the current landowners wanted to protect the existing wetland and riparian area before re-introducing cattle to the site. Installing wildlife-friendly fencing ensures the sensitive wetland area is protected from negative effects of livestock presence, while an off-stream watering system will allow cattle to use the wetland as a water source without directly accessing its banks.



“Maintaining a healthy riparian and aquatic system must be the highest priority for any land and water use planning, management, and use. Vermilion Provincial Park, and local farmers and ranchers who utilize effective riparian protection management tools are some of the unique aspects of the Vermilion River watershed landscape.”
— Stuart Heard, former Vermilion River watershed resident



Valley near Vegreville.
Photo: Bruce T. Smith

5| Giving back to nature

PROJECT ACTIVITIES

- Riparian fencing
- Revegetation

This County of Two Hills quarter has been used for agricultural production and livestock grazing for over a century. Tilling had taken a toll on the soil, and the landowner wanted to restore the natural wetland areas “to bring flora and fauna back to their original state.” He said they are nature lovers and birders and adds, “Giving back to nature by healing a piece of land gives us great satisfaction.” Planting native tree seedlings including fruiting varieties around several small wetlands on the quarter section will increase habitat for wildlife, provide food for pollinators, and improve the deep-binding root mass of the riparian area which mitigates soil erosion.



“The return of small saplings and tall grasses along the river’s edge was already evident this fall. It’s very nice to see the results of the completed fencing project.”
— VRWREP participant,
Beaver County



PROJECTS FOR THE County of Vermilion River



1| A case for revegetation

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Revegetation

In partnership with ALUS and AWES, this landowner decided to rehabilitate wetlands on his property in the County of Vermilion River. Five wetland locations across four quarter sections were selected for planting native trees and shrubs, to improve water quality and prevent soil erosion. On the largest wetland on the property, the family decided to re-establish the woody understory that had been trampled by cattle using a mix of buffaloberry, chokecherries, red osier dogwood and saskatoon shrubs. White spruce, lodgepole pine, balsam poplar and green alder were also planted to create long-term canopy cover and establish deep roots that help filter nutrients and contaminants before reaching the nearby wetland.



2| Stretton Creek stewardship

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

Rotationally grazed cattle spend about half of their summer in an area with creek access, according to this County of Vermilion River landowner. His herd has kept the willow growth stunted along the shoreline and compacted the soil in the sensitive riparian area. Installing riparian fencing on this particular quarter has reduced livestock pressure on the creek which allows woody vegetation to establish. This project is one of a handful along adjacent quarters that partners with different landowners and local non-profit groups. Each project is a piece of a larger puzzle to improve a continuous reach of Stretton Creek.

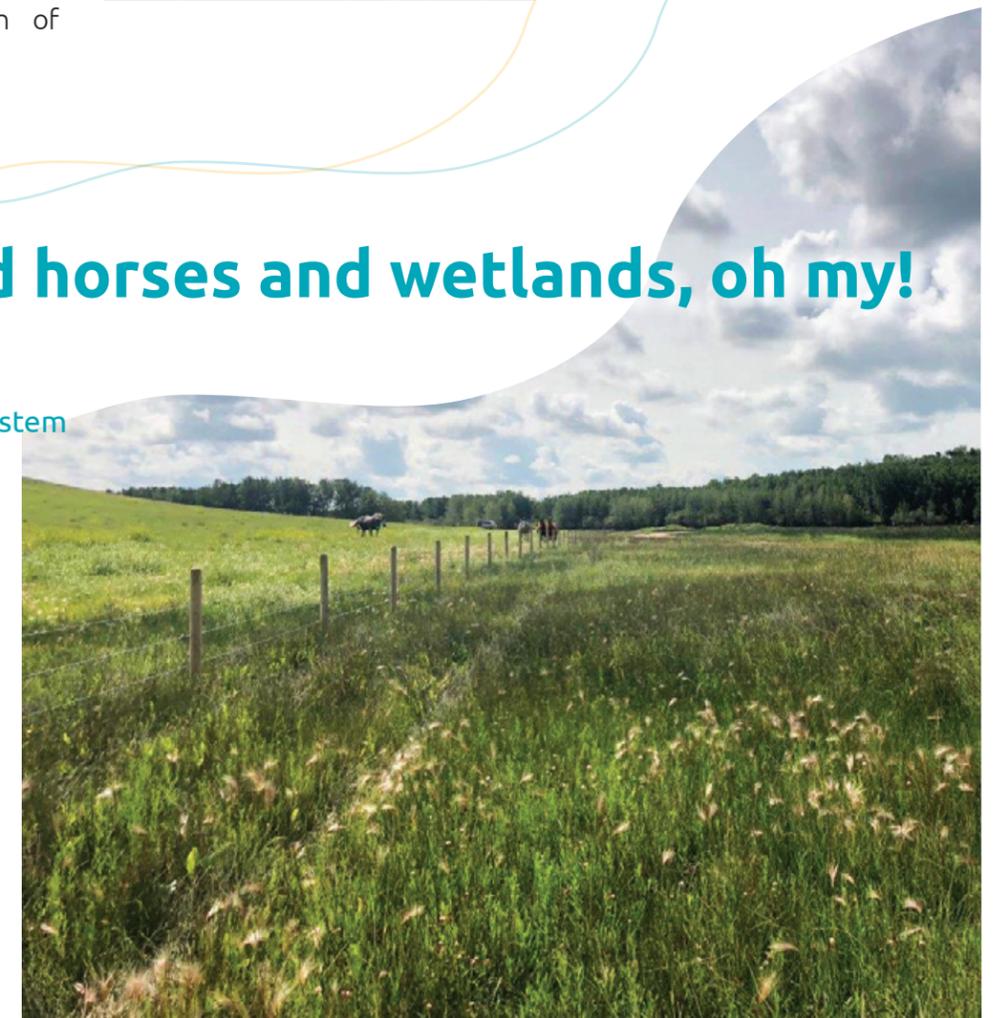


3| Cattle and horses and wetlands, oh my!

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

Cattle and horses use this County of Vermilion River pasture for spring and fall grazing, and used to have direct access to a large wetland on site for water. The wetland connects to Deer Creek which eventually flows into the Vermilion River. The landowner wanted to install wildlife-friendly fencing and use an off-stream watering system both to increase water reliability for livestock, and well as wanting "improved habitat for ducks and wildlife."



4| It's all part of the plan

PROJECT ACTIVITIES

—◆ Riparian fencing

This quarter section has been used as livestock pasture for many years and is bisected by a seasonal wetland in which water is present for most of the summer. Livestock pressure had limited woody vegetation growth and the landowner wanted to reverse this trend by managing grazing access to the wetland area. By installing a wildlife-friendly fence around the wetland, the cattle have ample pasture to graze during the wetter periods of the summer, and the landowner now has a riparian pasture to use during drier times within a rotational grazing plan.



5| Vermilion River protection

PROJECT ACTIVITIES

—◆ Riparian fencing

—◆ Off-stream watering system

Steep banks on this Vermilion River site posed a danger for grazing cattle as well as for the ecological integrity of the riparian area since overgrazing can compromise the deep-binding vegetation's ability to mitigate soil erosion. Curbing livestock access through the installation of a riparian fence means a safer pasture for the cattle, and the chance for the streambank vegetation to recover.



6| Wetland protection in Clandonald

PROJECT ACTIVITIES

—◆ Riparian fencing

Installing riparian fencing around this eight hectare County of Vermilion River wetland will restrict the once unfettered livestock access to the riparian area, and allow for natural rehabilitation of shoreline vegetation and enhancement of natural wetland functions such as water filtration and storage. After a period of livestock exclusion, carefully planned rotational grazing will manage riparian growth not only for the benefit of the livestock, but also wildlife like Sprague's pipit — a provincially threatened bird species detected in this area.



7| A multitude of benefits

PROJECT ACTIVITIES

—◆ Riparian fencing

—◆ Off-stream watering system

—◆ Revegetation

The County of Vermilion River landowner wanted to protect two wetlands and a waterway that flows seasonally through the site. In the past, cattle grazed freely in both areas which resulted in stunted willow growth, bare ground patches, and compacted soil. Wildlife-friendly fencing controls cattle access out while allowing wildlife to safely access wetlands. An off-stream watering system ensures the cattle have a healthy water supply. The landowner noted that these changes will not only save on operational costs but put important nutrients back into the soil.



8| The power of partnership

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system
- ◆ Revegetation

A positive aspect of the VRWREP is its ability to dovetail into other existing initiatives. The project on this County of Vermilion site is an example of such a partnership between the landowner, ALUS, AWES, the NSWA and the VRWA. The site had been used for a watering and wintering site for 125 head of cattle, which had damaged the wetland banks and killed trees over time. Through the expertise of the partners, the landowner planted appropriate tree species seedlings to re-establish the riparian vegetation, installed a wildlife-friendly fence around the wetland area, and installed an off-stream watering system for livestock.



9| Ecosystem enhancement

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Revegetation

In partnership with ALUS-CVR, this landowner wanted to restore and enhance the functionality of a creek and a seasonal vegetated marsh area on her property. In an effort to control foxtail barley (a less desirable species), the marsh area was seeded to a mix of perennial grass species which can be hayed. Electric fencing was installed along the creek in order to keep horses out of both the marsh itself and the creek's riparian areas.



10| Fences make good neighbours

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

This wetland extends across two adjacent quarter sections, creating a partnership opportunity between two landowners in the County of Vermilion River. Through agreements with both, the VRWREP helped to fund wildlife-friendly fencing around the entirety of the wetland, as well as off-stream watering systems to ensure both landowners were able to provide fresh water to their livestock while preserving the ecological integrity of the wetland and its riparian areas.



11| Stewardship in action

PROJECT ACTIVITIES

- ◆ Riparian fencing
- ◆ Off-stream watering system

Two adjacent landowners partnered to improve the riparian condition and water quality on their land. The half-section in the County of Vermilion River contains a creek that runs the length of the site and drains into the Vermilion River. Several springs feed the creek, and the landowners noted erosion where trees and grass had washed away, due in part to livestock activity. A wildlife-friendly fence was installed along both sides of the creek to manage livestock access, while a perennial grass buffer was seeded between the fence and cultivated area to restore and enhance riparian functionality.



Outcomes of the Project

DELIVERABLES



- Improved aquatic ecosystem health
- Improved riparian health
- 20+ kilometres enhanced or restored riparian areas
- 150+ hectares enhanced or restored wetlands

OPPORTUNITIES



- Stronger community partnerships
- Multi-year funding ensured a variety of projects were completed
- Watershed health awareness

CHALLENGES



- Creating visibility in the community
- Gaining community trust for a new and unknown program
- Wetland restoration buy-in

Thank you to the funders who made the Vermilion River Watershed Restoration & Enhancement Project a reality

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The NSWA and the VRWA are collaborative alliances made up of local municipalities, non-profit organizations, local landowners, provincial and federal governments, and other watershed stakeholders. Please visit nswa.ab.ca and vrwa.ca for a full list of our partners who were instrumental in making the VRWREP a success.

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Get in touch:

587.525.6820

Vermilion River Watershed Alliance

202, 9440-49 Street NW

Edmonton, AB T6B 2M9

