Cows and Fish

Alberta Riparian Habitat Management Society

2017-18 Final Program Delivery Report

Full Length Report

Overview

Cows and Fish program delivery, summarised in this report, is enabled by many diverse funding resources, many of which support specific work, but several of which are key to our larger, overall program delivery, because they support the broad scope of our work: Alberta Environment and Parks grant; Alberta Agriculture and Forestry grant; and financial support from Alberta Beef Producers. These three organisations also are critical to our in-kind support, providing office spaces and associated support. Rural municipalities and local watershed stewardship groups, and the landowners that make them up are central to our on-the-ground and local work and enable us to successfully deliver our program.

There continues to be a high demand for our involvement in educational and extension activities, as well as part of other initiatives. Collaboration and team-building are critical to our organisational success, as well as key to effecting landscape management change. We have worked extensively with partners on training, awareness building and collaborating to put on events to help landowners and land managers. Key collaborations included many non-government organisations as well as rural municipalities and our members: Alberta Beef Producers, Trout Unlimited Canada, Alberta Environment and Parks, Alberta Agriculture and Forestry, and Canadian Cattlemen's Association.

This year, we did many riparian health inventories (143 sites) with high demand from watershed groups, municipalities and numerous partnering organisations. Riparian health inventories continue to be an integral part of our work, both for project and baseline work for other conservation organisations, but also for rural municipalities, local groups and even for urban municipalities. Riparian monitoring has led to 2,803 riparian sites being included in our long-term summary, covering 2,245km.

This year was our 26th year, having started the Cows and Fish 'experiment' in 1992. We continue to recognise the need and importance of longevity, persistence and consistency. The cumulative impact of our work continues to grow, having worked on riparian tools and extension for more than 25 years. Our materials, expertise and requests for involvement have faced high demand: 16,150 riparian health field workbooks and more than 60,250 *Caring for the Green Zone* booklets have been provided since 1992. As part of our extensive education and awareness efforts, as well as hands-on learning, we have spoken to a cumulative total of about 98,771 people in over 3,859 activities. Our recently developed major booklet on beaver management flew off the shelves this year and needs to be reprinted. We continue to update and add to our website, and expect to launch a new website with updated features and a new design in 2018. Updated features, once launched, include a new mobile friendly version, for those using tablets or smart phones, improved user-friendly navigation, and online payment for publications.

Most importantly: our evaluations show we are having impact: people are learning new information and are making practice changes as a result of our efforts – from women's grazing schools, webinar and workshops, people are taking away and implementing changes as a result of our work. Thank you to our partners and landowners that are making that happen.

Our Vision: ***Healthy, functioning riparian areas for the benefit of all.***
Our Mission: ***To promote healthy landscapes by fostering riparian stewardship.***

Awareness

In 2017-18 we:

- **Spoke to at least 6,571 people in over 229 extension activities**. These events include agricultural producers, lakeshore residents, youth, conservation groups, natural resource managers, and the general public, including at least:
  - At least 558 agricultural producers
  - At least 1,370 youth reached through over 30 *Cows, Fish, Cattledogs and Kids!* games
- **Delivered at least 229 riparian related presentations/events on** riparian areas, their health, management, and community-led action. Of these:
  - We held **47 field-based activities** (hands-on field days-44 and tours-5) with about **909 people**, including 91 agricultural producers
  - Collaborated with numerous partners and volunteers in **9 riparian and upland restoration activities**, including live-willow planting and bioengineering events

Selected Examples of Awareness and Education Activities:

- In March, presented to a group of farmers in Bashaw, about the important role riparian areas and wetlands play in the health of their land and community, and in supporting more productive crops.
- Delivered our first ***Week of Webinars*** series, with 5 topics covered relating to riparian areas ecology, grazing management, wildlife and riparian zones, beaver ecology and case studies using beaver as a restoration tool, and riparian health to a total audience of 248 participants with a total of 454 registered participants who had access to the webinar online after the live event. Recordings of these webinars are accesible online, as many requests were received to make them available after live delivery. These were delivered with our core content, but based on advertising and promotion of them, were intended to reach the rural extension staff in agricultural and conservation as part of our train-the-trainer efforts – see further details, including evaluation highlights, below.
- In April, we presented to the annual Alberta Native Plant Council workshop, on collaborating with landowners and communities for healthy riparian areas and the importance of plants and plant identification, including urging them to share their skills

and passion about the role of plants with landowners, clients and other natural resource managers.
- Delivered "Beavers in our Landscape" workshop to rural and urban audiences (total of 132 participants) in Counties of Bonnyville, Barrhead, Athabasca, Vermilion River, Brazeau, and the City of Calgary.
- Presented information on riparian health for municipalities as part of the Bow River Phosphorus Management Plan Stakeholder Advisory Group's Municipal Workshop.
- Presented 2015-2017 riparian health results from the Ponoka Riparian Restoration Program to landowners, the local community and the Battle River Watershed Alliance.
- Presented Riparian 101 and information on riparian health to the general public, youth and agency staff as part of the Sustainability Resources workshops (total of 85 people)
- Presented to an audience of 80 community members regarding the role of beavers in our watershed as part of a Fish Creek Provincial Park Speaker Series.

Delivered Management Tools

Now over 15 years in, as part of extensive collaborative committees, we continue to help deliver grazing schools for women in three locations. Working with numerous other counties, municipal districts, forage associations, and government agencies, each school is customised for regional needs, interests and unique landscape characteristics. Two of the grazing school included indoor presentations from experts in a variety of fields, including Cows and Fish staff, followed by outdoor sessions. Hands-on, practical activities complement indoor presentation sessions, providing opportunities to learn management skills and practices that can be applied at each participant's own farm or ranch. One of the schools was delivered as a winter indoor workshop, and attracted just over 100 farm and ranch participants.

Working with long-time colleagues in range management, as well as new partners, we are working on the development of a provincial committee for a newt Rancher's Range Management Course (name yet to be finalised), rekindling of the former Stockman's Range Management Courses. By looking at past successes and work, the committee is developing a charter and determine core approaches and focus.

We also participated in and assisted at numerous tours and field days, designed to share and learn about management tools and techniques being used to improve riparian area health. These included tours across Alberta. A few additional examples of hands-on learning and tours:

- A group of landowners and organizations from east-central Alberta to launch the Buffalo Trail Restoration Program learned about riparian plant identification, health and management to maintain ecological health and function.
- As they do each year, women attending the Southern Grazing School for Women learned how to identify many grasses and other plants on the range and riparian portions of the school.
- Women attending the Original Grazing School for Women (northeast Alberta) learned how to identify riparian plants and complete a checklist for riparian health.

- In coordination with the Alberta Institute of Agrologists (NE Branch) and County of Vermilion River Alternative Land Use Services (ALUS) we toured and discussed several projects related to riparian and upland management including fencing, off-stream water, eco-buffer planting and shelterbelts, as well as the ecological monitoring of these projects.
- As part of the Heart River Restoration Plan Project Team, we help organise and deliver a field tour of projects in Northern Sunrise County including whole-farm water planning, culvert restoration for fish passage, riparian fencing and off-stream water, shelterbelt planting for wildlife and re-vegetation for cropping setback buffers.

Written Awareness and Management Tools

In addition to providing material in person, at events we speak at, we also provide materials through website, email, and in person requests. In 2017-18, we:

- Filled over 52 requests for written material, including to:
  - 4 government organisations
  - 3 municipalities
  - 4 non-governmental and conservation organisations
  - 7 post secondary institutions and schools
  - 6 environmental consulting companies and businesses
  - 21 private individuals
  - Reached 3 Canadian provinces and 1 State in USA
  - Reached 2 countries outside Canada (USA and Zimbabwe)

- Mailed 1,114 copies of written material, including a wide diversity of factsheets, health assessment field workbooks as well as our larger booklets, *Caring for the Green Zone-Riparian Areas and Grazing Management*; *Riparian Areas: A Users Guide to Health* and our newest booklet, *Beavers – Our Watershed Partners*.

Digital Storytelling

As part of sharing landowners' stewardship perspectives, management choices and commitment to caring for riparian areas, over the past decade we have helped build over 77 digital stories, short videos that are written by landowners themselves. We continue to showcase these stories, as part of our overall education and sharing of management tools, as well as make them available on our website. These stories enable personal, direct perspectives to be shared, creating immediate connection to the people telling these emotive, honest and straightforward messages.

In November 2017, in partnership with Red Deer County, Clearwater County and the Red Deer River Watershed Alliance, we collaborated with Storycentre (https://www.storycenter.org/) to create 7 new digital stories, including 4 from Red Deer County landowners, as part of the Red Deer County 2 Neighbours project.

Website

Traffic to our website remains high, with 9,496 sessions (6,098 users) with 84% of all visits being new traffic/visits and 16% returning visitors, and 22,527 page views (17,704 of these being unique). Average session time is 2:25 min, with 1:46 being the average time per page viewed, and the average pages viewed in a session being 2.37 pages. In addition to the home page, the top pages viewed are *What's New/Jobs, What is Riparian*?, *Contact Us, What's New/Events,* and *Publications.*

With our website being well over a decade old, the functionality is limited to static sizing and look, meaning it does not adjust to the size of the device accessing it, and some aspects, like viewing the digital stories (videos) do not function on mobile devices. Although 82% of access is via desktop computers, 14% is from mobile devices and 4% from tablets, meaning those non-desktop users do not have a very functional experience. This year we embarked on changing the website structure to create responsive abilities as well as to improve our ability to edit and change ourselves, by upgrading the software platform. For now, much of the content is the same, but the design, structure and functionality are improved and the new site will launch in spring/summer 2018.

As with the previous website, emphasis is placed on our *Upcoming Events* section, online publication ordering, subscribe features and links to social media. Updated features, once launched, include a new mobile friendly version, for those using tablets or smart phones, and improved user-friendly navigation.

We will continue to profile all upcoming events on our website, as well as Facebook and Twitter to advertise our workshops, speaking engagements and field tours. The *Subscribe* button will continue to enable users to receive our e-newsletter and be notified of upcoming volunteer opportunities. To date we have 423 subscribers to our newsletter.

Social Media

In order to maximise reach with minimal repetition and work, our Facebook and Twitter accounts are interconnected, allowing posts on one to be seen on the other. Similarly, our website home page has a feed for each of these social media sites.

Our Facebook page, developed in 2011, saw its greatest use since its creation. We continue to make a regular effort to utilise the site, particularly to share our upcoming events and opportunities for in-person interactions with our staff. In the year we reached over 211 new followers (www.facebook.com/cowsandfish), and by year end, had a total of 1,251 followers, with 1,238 total page likes by year end. This was our seventh year using the site, and we posted all public events and activities on Facebook, in addition to our *Upcoming Events* section on our

website. Below is the only review we've received so far, from April 2017:

In the final quarter of the year, our post reach was typically 200-500, with up to 6,000 reached. Popular post topics included riparian health, our 7th Annual Westslope Cutthroat Trout Workshop and the Week of Webinars we held in February.

Twitter is another tool we continue to use to share knowledge and bring awareness to our activities as an organization. This is our second year in which we have recorded some statistics for the year. In the final quarter of the year, we had about 940 engagements (total number of times a user interacted with a tweet). We gained quite a number of new followers, for a total of 1,251. Due to our own posts as well as mentions by other organizations, monthly Tweet Impression values were much higher than our "post reach" (the analogous metric reported by Facebook). Popular topics on both social media channels were similar.

- Monthly Tweet Impressions totals ranged from 8,081 – 18,600
- Most popular posts: riparian health, grassland conservation and sustainable beef

In the third week of March, in conjunction with World Water Day (March 22, 2018), we were invited to partner with Alberta Environment and Parks to develop and participate in a social media campaign to improve water literacy in Alberta. The World Water Day theme for 2018 was Nature for Water, which focussed on nature-based solutions to water challenges like floods, droughts, and water pollution. Our planned social media campaign included 8 unique tweets with the hashtags #ABWater and #WorldWaterDay and in total received 10,498 Impressions, 316 Engagements, and 41 retweets.
social media campaign can be viewed here:
https://twitter.com/CowsandFish/status/975793249922138112

Our most popular Tweet from World Water Week:
Name this #ABWater loving plant found commonly around lakes. It provides critical nesting habitat for marsh birds and refuge and foraging zones for fish. #CanadaWaterWeek

A new infographic was also created as part of the social media campaign: see it below, in our new Tools.

Consistency of Messages and Riparian Education

A key part of our work is educating people to create more aware, knowledgeable landowners, land managers and users. An integral part of this is to work with other organisations and agencies to provide, and help them provide, consistent messages, with respect to how riparian ecosystems function, management options and alternatives, and processes for successfully addressing riparian issue at the community scale. This increases our collective impact, reduces confusion or potentially conflicting information, and helps people be more knowledgeable and able to take action. We worked with a large number of organisations and individuals, including the following, to help **create greater consistency in riparian extension messages, providing education related to riparian areas**:

- Rural conservation agricultural extension staff across the province including:
  - Brazeau County
  - Clearwater County
  - County of Athabasca
  - County of Grande Prairie
  - County of Starland
  - Counties of Vermilion River and Minburn
  - Counties of Wetaskiwin & Leduc
  - Foothills Forage and Grazing Association
  - Grey Wooded Forage Association
  - Highway 2 Conservation (Counties of Barrhead, Westlock, Athabasca)
  - Lac Ste. Anne County
  - Lakeland Agricultural Research Association
  - Mountain View County
  - Northern Sunrise County
  - Parkland County
  - Peace Country Beef and Forage Association
  - Ponoka County
  - Red Deer County
  - Wheatland County
  - West Central Forage Association's Stewardship Alliance for Conservation Agriculture (formerly known as West Central Conservation Group)
  - M.D. of Bonnyville
  - MD of Foothills
  - M.D. of Pincher Creek

Education and awareness efforts also have involved many municipalities, government agencies and provincial organisations, including the following:

- Alberta Environment and Parks
- City of Calgary

We have worked with the local watershed groups, Watershed Planning and Advisory Councils (WPACs) and stewardship groups on awareness as well, including:

- Battle River Watershed Alliance
- Beaver River Watershed Alliance
- Red Deer River Watershed Alliance
- Bow River Basin Council
- Oldman Watershed Council
- Mighty Peace Watershed Alliance
- Lesser Slave Watershed Council

- Alberta Lake Management Society
- Clear Water Landcare
- Elbow River Watershed Partnership
- Friends of Fish Creek Provincial Park
- Iron Creek Watershed Improvement Society
- Jumpingpound Creek Watershed Partnership
- Land Stewardship Centre of Canada – Alberta Stewardship Network Program
- Lakeland College
- Paintearth County
- Pigeon Lake Watershed Association
- Piper Creek Restoration Agriculture Project
- Science Outreach Athabasca
- Sustainability Resources Ltd.
- Vermilion River Watershed Alliance
- West County Watershed Society
- Wizard Lake Watershed & Lake Stewardship Association

Team Building / Collaboration on Awareness

Bringing together partners and collaborating on awareness increases consistency in messaging. This includes joint planning of events and agendas, sharing our expertise on riparian ecosystems and management, working with communities, and providing technical input on awareness and extension development. The following summary provides examples of the team building work this past year:

Watershed Groups:

- Clearwater Landcare – active member of the board of directors and participate in community events
- Iron Creek Watershed Improvement Society – in conjunction with Battle River Watershed Alliance (BRWA) and Agroforestry and Woodlot Extension Society, and Flagstaff County, we worked together to find interested producers to address riparian health and watershed management, with a focus on drought-proofing and watershed resiliency, in part within the Watershed Resiliency and Restoration Program funding the BRWA and Environment Canada Environmental Damages Fund funding AWES received.
- West County Watershed Society – provided expertise and helped lead an educational day for high school students from regional schools around Beaverlodge. Our topic focused on riparian plant identification and how to build one of the components of a beaver pond water management device
- Vermilion River Watershed Alliance – continued to be a sounding board for implementation of the Vermilion River Watershed Restoration and Enhancement Project
- Heart River Watershed Restoration Project & Redwillow Watershed Restoration Project – continued to be part of each Project Team to provide guidance and expertise on watershed processes and program and encourage an approach for success; as well as deliver riparian awareness and monitoring where suitable. This work is funded in part by Alberta Ecotrust grant, with the awareness leading to management changes at several sites in 2017.
- Spitzee Riparian Stewardship Society – Cows and Fish developed a *Riparian Habitat Management Plan* for the newly created society to assist with the management of the new

Spitzee Riparian Area near High River. The Spitzee Riparian Area is an assemblage of twenty-four acreages upstream from High River that were obtained through the Government of Alberta Disaster Recovery Program following the catastrophic 2013 flood. Conservation Easements have been placed on these land parcels after transferal of ownership of land to the Municipal District (MD) of Foothills. The Conservation Easements are being managed by the Foothills Land Trust in partnership with the newly created Spitzee Riparian Stewardship Society. The intent of the Spitzee *Riparian Habitat Management Plan* is to provide direction for riparian stewardship, restoration and conservation aimed at promoting improved riparian health for flood mitigation, drought resiliency, water quality protection and fish and wildlife habitat protection. Cows and Fish is continuing to work closely with the Spitzee Riparian Stewardship Society, the MD of Foothills and the Foothills Land Trust to promote and create local community awareness about the Management Plan. Cows and Fish will continue to work to assist with stewardship and public awareness activities related to this initiative in the future.

- Ghost Watershed Alliance Society and Elbow River Watershed Partnership – we continue to work closely with both of groups to help inform updates to the GWAS State of the Watershed Report and to assist with site selection and partnership opportunities for volunteer riparian restoration field days.
- Ranchers of the Jumping Pound – we continue to work closely with this group and Palliser Environmental Services Ltd. to contribute to updates to the Jumpingpound Creek State of the Watershed Report and to facilitate landowner meetings and RHI re-visit work in the Jumpingpound Creek watershed.
- Friends of Fish Creek Provincial Park Society (FCPPS) – in 2017 we participated in hands-on riparian restoration activities in FCPP with community volunteers and with a field study of poplar regeneration in the park. We are also working with this group to coordinate riparian health training field days for volunteers in 2018.

Watershed Planning and Advisory Councils:

- Battle River Watershed Alliance – participate in their Communication and Education Committee and partnering on the Ponoka Riparian Restoration Program, Buffalo Trail Riparian Restoration Program and Iron Creek Riparian Restoration Project including riparian health monitoring and extension.
- Bow River Basin Council (BRBC) – Cows and Fish continues to actively participate in quarterly BRBC science forums that provide a venue for connecting with stewardship groups and other riparian landowners, municipality representatives and stakeholder groups in the Bow River Basin.
- Oldman Watershed Council (OWC) - participate on their Watershed Legacy Program, identifying and reviewing projects for support. Along with collaborating on a willow staking volunteer event along South Racehorse Creek and our broader work on riparian improvements for westslope cutthroat trout benefit.
- Red Deer River Watershed Alliance – participate in their Outreach Committee and as an invited participant in a Social Innovation Lab called *Project Blue Thumb*. Since the Spring of 2015, a diverse team of individuals from across sectors has been gathering regularly to design, test, and implement solutions to water challenges in Central Alberta through *Project Blue Thumb: Action on Water Quality Issues.* Project Blue Thumb is

about connecting people who care about water and helping them to make a meaningful difference in the watershed. The lab has brought together over 30 committed individuals from government, industry, the non-profit sector, and the public to explore solutions to shared water quality challenges (www.projectbluethumb.com).

- Mighty Peace Watershed Alliance – as part of the Heart River Restoration Project Team and Redwillow Restoration Project Team, we worked together along with other partners to create a demonstration site for livestock crossing and began the process for a stream channel restoration project; as well as educational opportunities for people to learn about the teams and the projects on the ground.

Municipalities (also see comments above):

- Red Deer County – With a select group of landowners and their neighbours, we have been delivering education and awareness on range and riparian health, discussing best management practices with landowners, monitoring riparian health and advising on practice changes for a project titled, Red Deer County 2 Neighbours Project. 2017 marked the final year of this project, with 37 riparian health inventory sites and 9 range health sites assessed.
- Working with the M.D. of Ranchland, they helped promote, encourage, and support the Stakeholder Workshop held to engage landowners, users and managers on riparian areas in remaining endangered westslope cutthroat trout populations.
- City of Calgary – as part of our beaver co-existence education we have been working with staff training, to help those from a diversity of departments and areas, better understand the role of beavers and the City's mandate to co-exist, as a top priority for their management. This has led to ongoing collaborations around demonstration sites in addition to working with staff on beaver education, for staff and the public.
- Collaborated with many municipalities and forage associations, as well as Alberta Environment and Parks, Alberta Conservation Association, Nature Conservancy of Canada, and Operation Grassland Community on delivery of each of the three grazing schools for women, to determine focus, intent, content and delivery.
- County of Vermilion River – Alternative Land Use Services: participate as a member of the Partnership Advisory Committee to help evaluate and approve projects and collect riparian health assessment and inventory data to set baselines for project sites and monitor health, and provide input on delivery of ALUS in County of Vermilion River
- Parkland County – Alternative Land Use Services: participate as a member of the Partnership Advisory Committee to help evaluate and approve projects and collect riparian health assessment and inventory data to set baselines for project sites and monitor health, and provide input on delivery of ALUS in Parkland County
- Brazeau County – Alternative Land Use Services: accepted invitation to participate as a member of the Partnership Advisory Committee to help provide input on delivery of ALUS in Brazeau County
- Lac Ste. Anne County – Alternative Land Use Services: accepted invitation to participate as a member of the Partnership Advisory Committee to help provide input on delivery of ALUS in Lac Ste. Anne County

- Worked extensively with M.D. of Bonnyville to develop and deliver riparian health monitoring and recommendations for their Crane Lake Riparian Restoration and Protection Project focussed on Environmental Reserves.

Government Agencies:

- Alberta Environment and Parks (AEP)– Rangeland Management staff – Collaborated with AEP on the Southern Alberta Grazing School for Women, including determining messages related to range health to be delivered using hands-on field range health and plant identification.
- AEP (fisheries staff, lands officers, and range agrologists) – Westslope Cutthroat Trout riparian health project - worked with AEP staff to help identify priority sites with remnant westslope cutthroat trout (WSCT) populations, for riparian health inventory work. Additional input on prioritising and selecting sites was provided by Oldman Watershed Council (OWC), Spray Lake Sawmills and Trout Unlimited Canada. We provided an update to our experts group (of AEP, Alberta Conservation Association, Trout Unlimited Canada (TUC), and OWC), in the winter. We developed and delivered our 7th Annual Stakeholder Workshop with AEP and Department of Fisheries and Oceans Canada support and input. As part of this work, we have participated in numerous formal and informal meetings with AEP fisheries staff related to planning and pilot watershed work, to ensure we are collectively working together to benefit WSCT.
- AEP (fisheries staff) – met with fisheries biologist and participated in open house events to provide feedback, general riparian health information, and educational materials as part of the North Central Native Trout Recovery Program.

Conservation and other Non-government Organisations:

- Working with Alberta Woodlot Extension Program (AWES), we collaborated on the development and delivery of numerous indoor and hands-on field sessions, focussed on riparian reforesting, riparian management and health.
- As a member of the Canadian Roundtable on Sustainable Beef (CRSB), we provide input on considerations to address challenges facing the beef sector to be sustainable. We have been providing input on indicator metrics and process for certifying the sustainability of beef.
- Supporting the Land Stewardship Centre's Alberta Stewardship Network (ASN) Program, we participate in the Watershed Stewardship Grant Review Committee to vet applications for funding from watershed stewardship groups.
- Alberta Ecotrust Foundation – as part of the Grant Review Committee, examined and reviewed grant applications, working with a diverse committee of conservation organisations and industry representatives, providing expertise and input on projects and activities, many of which are watershed stewardship groups and riparian related.
- Prairie Conservation Forum – sit as a board member, providing input on direction and guidance that complements the mandate to conserve grasslands, along with our mandate of sustainable riparian and watershed management.

Post-Secondary Institutions:

- Lakeland College, Vermilion – guest instructor on riparian health during field day
- Medicine Hat College – as a guest speaker, provided information on plant identification, riparian health assessment and hands on field training.
- Lethbridge College - presented as a guest lecturer for natural resource students, on the role of stewardship, Cows and Fish Process and riparian science needs. We also presented as an invited speaker at the career symposium for students in renewal resource programs.
- University of Calgary, ECOL 413 (Field Course in Ecology) – guest instructor on riparian heath during the Kananaskis Field School for biological science students. This entailed a 1-day intensive field training on lentic riparian health assessment and field methods.
- University of Calgary – presented as a guest lecturer to the Environmental Science 502 class about the City of Calgary's source water protection plan and the role that riparian areas play in source water protection.

Youth Education:

- "Walking with Moose" – partners delivered youth education on riparian areas, wetlands, and management using our Cows, Fish, Cattledogs & Kids! Gameboard for grade 5 students in Bonnyville and Cold Lake area.
- City Slickers (County of Barrhead) - delivered youth education on riparian areas, wetlands, and management (Cows, Fish, Cattledogs & Kids! Gameshow) for grade 4-6 students in Barrhead area.
- Family Lake Day Pigeon Lake - delivered youth education on riparian areas, wetlands, and management (Cows, Fish, Cattledogs & Kids! Gameboard) for kids ranging in age from 5-12 years

Other Collaborations:

- Alternative Land Use Services (ALUS) – as part of the Partnership Advisory Committees (PAC) for County of Vermilion River, Parkland County, Brazeau County, Lac Ste. Anne, Red Deer County (each includes landowners, and numerous other partners), we provide input on project selection, guidance on future planning and direction, and support to the group through technical expertise. Though not on the PAC for these additional ALUS communities we have been asked for input on their programs in Northern Sunrise County, Wetaskiwin/Leduc Counties, Flagstaff County.
- Ladies Livestock Lessons event organizing committee member as part of the Red Bow Regional Watershed Alliance group. This group of municipalities and non-government

organizations is also planning a November 2018 conference focussed on water, wetlands and agriculture.
- Original Grazing School for Women organising committee member
- Southern Alberta Grazing School for Women organizing committee member
- Collaborated with Alberta Low Impact Development Partnership (ALIDP) and Pigeon Lake Watershed Association on a two part project for lakefront riparian property. The project included installing a rain garden near the cottage roof drain spouts, converting a portion of the lawn to a native flowering plant bed, inter-seeding the lawn with native grass species and planting willow stem cuttings along the shoreline.
- Collaborated with the ALIDP, the City of Calgary and the City of Lethbridge for continued delivery of *Street-to-Stream* workshops in Calgary and Lethbridge. The "*Street-to-Stream*" initiative is co-funded by the Calgary Foundation and the RBC Bluewater Project. The workshops were targeted at Realtors, Builders, Green Practitioners, Community Leaders and Decision Makers. The *Street-to Stream* initiative is aimed at promoting low-impact development and riparian best management practices to improve water quality and watershed health. It creates awareness about land use impacts in uplands and riparian areas and the need for better stormwater management, water conservation and riparian stewardship.
- Collaborated with the ALIDP, the City of Calgary and the City of Airdrie in addition to private home-owners and community groups to lead, coordinate and deliver hands-on *Street-to-Stream* riparian restoration / rain garden demonstration projects in Calgary and Airdrie. This included completion of riparian restoration works along the Elbow River and Bow River in Calgary (described below). Videography footage captured from the Elbow River, City of Calgary project was used to create a demonstration riparian restoration video for public education purposes. For more details refer to ALIDP website.
- As in prior years, numerous individual landowners and natural resource conservation professionals that requested information on suitable species for planting in riparian restoration efforts

Train the Trainer

Helping increase expertise among resource management staff across Alberta

A core part of our mandate is to share our experiences and expertise to help others in the natural resource conservation and agriculture field. Cows and Fish is committed to '**train the trainer'**, increasing skills, and providing expertise to resource managers, both related to riparian ecology, riparian health monitoring, and riparian management as well as engaging more effectively with various audiences. As a result, we work extensively to provide training opportunities, in both technical and awareness topics, as well as in non-technical skills (eg. presentation skills). In addition to cost recovery with individual groups supporting our training sessions, our open training sessions are funded by our Alberta Agriculture and Forestry grant, with support from a Alberta Environment and Parks grant and financial support from Alberta Beef Producers.

The following training sessions were held this year:

8 In-Person Training Sessions and 9 On-line Training (webinars) Sessions Completed:

In-Person:

1&2. *Introduction to Riparian Health Assessment and Photographic Monitoring*: Stony Plain, June 27 and July 6, 2017 (9 in attendance each day). Partnered with Parkland County
3. *Riparian Health Assessment & Plant ID Training*: Pine Lake area, wetland (lentic site), August 15, 2017 – 8 attendees
4. *Riparian Health Assessment & Plant ID Training*: Wetaskiwin (lotic site), Wetaskiwin, August 22, 2017 – 22 attendees
5. *Beaver co-existence implementation techniques*, Lac Ste Anne County, Sept 13-14, 2017. Content led by Furbearers Alliance & partnered with Lac Ste Anne County - 17 attendees
6. *Beaver co-existence implementation techniques*, Michichi, Sept 15, 2017 Content led by Furbearers Alliance & Partnered with Starland County. 9 attendees
7. *Engaging and Communicating with Communities – Lessons Learned* (included Delivering Unpopular Messages), Airdrie, Alberta, December 13, 2017 - 27 attendees
8. *Grazing 101: Riparian Areas and Grazing Management with Google Earth as a Helpful Tool*, Calgary, March 8, 2018 - 14 attendees

On-Line - Webinars:

1. Beaver management and co-existence overview, Apr 6, 2017. Partnered with Furbearers Alliance – 32 attendees
2. *Beavers - basics & ecology and case studies* – delivered for Alberta Environment and Parks staff – 80 attendees, as part of the WRRP grant we have with Miistakis, to work on beaver education and co-existence
3. *Beaver management and co-existence technique case studies*, March 16, 2018 – 59 attendees

Cows and Fish Week of Webinars (general topic titles provided here)**:**
3. *Riparian Form and Function*, Feb 5, 2018 – 119 attendees
4. *Riparian and Wildlife*, Feb 6, 2018 – 57 attendees
5. *Beaver ecology and management case studies*, Feb 7, 2018 – 37 attendees
6. *Riparian health assessment basics*, Feb 8, 2018 – 45 attendees
7. *Grazing 101: Strategies for Sustainable Production* (focus on Riparian grazing management), Feb 9, 2018 – 34 attendees (including 6 producers)

A few more details are provided here, on select train-the-trainer sessions:

- Training Session for Parkland County staff and a few other individuals – presentations to staff on riparian importance and values, impacts to health, health assessment methods and

in the field sessions on riparian health assessment (survey/field workbook) for both lotic and lentic systems so they could start to do their own monitoring

a) *Plant Identification & Lentic Riparian Health Assessment Training, Pine Lake, Alberta, August 15, 2017.* 8 people attended, with 4 different counties and municipal districts, forage associations and related groups in attendance (rural extension staff); plus at least 3 other organizations were represented (Nature Conservancy of Canada, GOA, Alberta Conservation Association).
b) *Engaging and Communicating with Communities, Airdrie, Alberta, December 13, 2017.* 27 people attended, with many different counties and municipal districts, forage associations and related groups in attendance (rural extension staff); plus 3 other organizations were represented (watershed planning and advisory councils, conservation non-profits, etc). 1 agricultural producers was present.

We have had very positive feedback, as well as evaluations are showing that we are influencing knowledge, skills and comfort in delivering riparian related programs. See the Evaluation section, below for results.

We work extensively with rural extension and conservation staff, providing one-on-one mentoring and program development and delivery coaching to help up individuals and groups learn more about program design, implementation and evaluation and performance monitoring including in our planning with them for future activitites, including extension events and community level program planning. This also includes technical expertise and advice, including:

a. Help emphasise the utility and value of riparian health monitoring;
b. Emphasise the role of thoughtful site selection and landowner involvement for success;
c. Showcase how and why program evaluation and social science monitoring is key and help develop recommended baseline monitoring metrics.

This mentoring, and program development work included working with the ALUS (Alternative Land User Services) programs and their Producer Advisory Committees, including extensive involvement with these ALUS programs: Vermilion, Parkland, Red Deer, Lac Ste. Anne and Brazeau. We also continued to help the Canadian Roundtable on Sustainable Beef understand the role of riparian health monitoring and helped Ladies Livestock Lessons and Southern Alberta Grazing School for Women to include the CRSB on their agenda, to discuss social license and sustainable beef.

Canadian Roundtable for Sustainable Beef – Certification Framework:

As a member of the Canadian Roundtable on Sustainable Beef (CRSB), we provide input on considerations to address challenges facing the beef sector to be sustainable. As part of that work we provided training to the first group of auditors, who were tasked with auditing initial pilot of the certification program. In addition, we helped build **new on-line web-based training tools for the natural resource indicators**, which will be used by the auditors that are required to review and determine if, and where, producers fit in the certification framework.

Supporting Riparian Health and Restoration Training:

We also regularly work with post-secondary institutions to assist them in training conservation, agriculture, and renewable resource students, both with indoor presentations and hands-on field skills development. Training opportunities included:

- Lakeland College Vermilion – Riparian health assessment field training for one class
- Medicine Hat College – Riparian health assessment and plant identification field training

- **Beaver Co-existence Project – creating a community of practitioners:**
    - Working with the Miistakis Institute and the Furbearers Alliance, we helped host 2 workshops on beaver co-existence management techniques, with training led by the Furbearers: pond-levellers and beaver exclusion cages around culverts. The workshop main workshop, in collaboration with Lac Ste Anne County, was used as a training workshop for 15 participants (plus Cows and Fish staff); participants were carefully selected and then invited based on their interest and agreement to make use of the skills in their own work. The second workshop in Starland County, with 9 participants (plus our staff) involved a pond-leveller as well. Each workshop included detailed specifications and hands-on learning. This work was primarily funded by in part by grants administered by Miistakis, but supporting both our efforts: a Watershed Resiliency and Restoration Program grant, a grant from The Calgary Foundation, as well as a grant to us from World Wildlife Fund Loblaws Water Fund.

Tours and Training

Sharing our experiences, connecting others to demonstration sites and applied, on-the-ground research and learning opportunities is another way in which we connect people, helping 'train-the-trainer'. This year, we delivered and participated in numerous tours with other agencies and landowners, including several that were beneficial to increasing the skill set and expertise of other conservation and agriculture staff. These tours of demonstration sites and projects to discuss ideas and share successes and challenges are also ways for us to connect and learn from other organisations and landowners, and to assess how management influences riparian health; tours included:

- ALUS (Alternative Land Use Services) County of Vermilion River and Alberta Institute of Agrologists. Cows and Fish staff delivered a short session on riparian health and our approach to monitoring ALUS project sites in the County.
- Helped organise and deliver outdoor presentations at 2 stops as part of the ALUS Northern Sunrise County and Heart River Restoration Project site tour.
- AAF Tindastoll Creek Watershed and Alberta Phosphorus Management Project Tour. Cows and Fish staff, in partnership with Red Deer County, provided information on our riparian health monitoring work on Red Deer County ALUS project sites as part of the Alberta Phosphorus Management Project.

- Prairie Conservation Forum (PCF) – Cows and Fish delivered outdoor presentations on riparian restoration techniques at 2 tour stops in the City of Calgary.

Programs Outside Alberta

Our efforts to continue to support others working in riparian and watershed initiatives continues, enabling investments and successes made in Cows and Fish to be shared broadly. In addition, our work outside of Alberta enables us to learn and expand our expertise, keep abreast of new information or tools, and learn about challenges faced in other jurisdictions. In the past year, we offered advice, input and content to numerous individuals and organisations; a few of those include:

- B.C. Wetland Institute – In September, we were invited to provide several hours of training to the wetland practitioners from across B.C., on beaver natural history, management, case studies and their role in watershed health.
- B.C. Farmland Advantage and B.C. Ministry of Agriculture, Food and Fisheries – many years ago, we helped provincial staff in B.C. learn about and then develop a B.C. riparian health assessment (RHA) component for their Environmental Farm Plans (EFPs). We are currently working to help them critically examine the more detailed riparian health inventory methods, with the intention, if the review proves successful, that they will begin to build the processes to monitor riparian health as part of their detailed ecosystem service-based monitoring work, in addition to support more in-depth monitoring for EFP related projects. This includes discussion on appropriate use and application of the protocol, identifying B.C. specific needs, and discussion about the intricacies and promoting consistency of the method beyond Alberta. Based on their interest, we are anticipating a future training staff opportunity.
- Ecological Solutions Group, LLP (United States) – this organisation was founded and is run by the same individuals that led the former Riparian and Wetland Research Program (Univ. of Montana), and they created the riparian health assessment and inventory methods we use today. We continue to work with them to critically evaluate, update and improve on the riparian health methods and field manuals used to collect riparian health information. They are instrumental in supporting the database that houses our riparian databases, providing ongoing technical expertise and support. As they often do, we were pleased to have one of their long-standing members, William (Bill) Thompson, to assist us in our annual spring riparian health training session for all our staff.
- Washington – as part of our collaborative to support existing tools and share expertise, we share information with natural resource colleagues in Washington about beaver ecology and management.
- In February, we were invited to present on our lessons learned and program evaluation results to the 2018 Transboundary Grasslands Workshop, in Montana, which included many U.S., Saskatchewan and Alberta attendees, who are working on natural resource management, particularly in areas with trans-boundary jurisdictions.

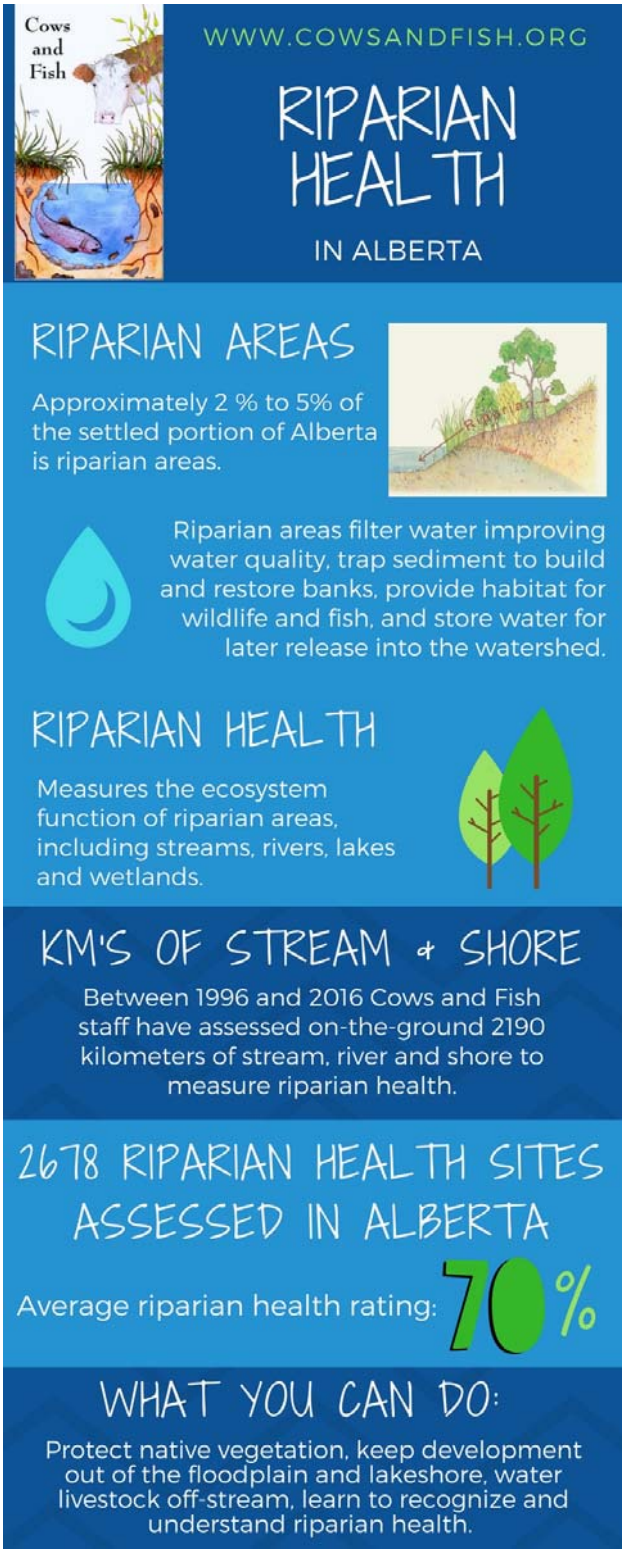
Tool Building

New Tools

- **Developed one new infographic (shown to the right)**, as part of the Week of Water Twitter campaign, helping people understand the value of riparian areas, as well as summarising the work we do.

- **Webinars: to reach a greater audience, from any location, we delivered our 7 webinar that are now recorded and available for future use**. These not only provided education and training at the time, but now, with these tools, we have the ability to use them at our needs, send or share, when we cannot attend an extension opportunity, and making available for ongoing review, online**.**

- **Beaver Project – beaver management techniques:**
  We are currently completing new videos on two beaver demonstration sites in Lac Ste Anne County, with a how-to focus, on building and installing beaver pond levellers and exclusion devices on culverts. The videos will be finalized in the coming months.
- Working with Miistakis, we supported a new factsheet on the interactions beavers have with fish. This new tool and all of our collaboratives' work can be found at Leave it to Beavers website: http://www.rockies.ca/beavers/index.php
- Working with the Furbearers, we co-hosted workshops on beaver co-existence management techniques: pond-levellers and beaver exclusion cages around culverts. These new demonstration



sites (2 in Lac Ste Anne County; 1 in Starland County), will serve as hands-on learning tools. This work was primarily funded by in part by grants administered by Miistakis, but supporting both our efforts: a Watershed Resiliency and Restoration Program grant, a grant from The Calgary Foundation, as well as a grant to us from World Wildlife Fund Loblaws Water Fund.

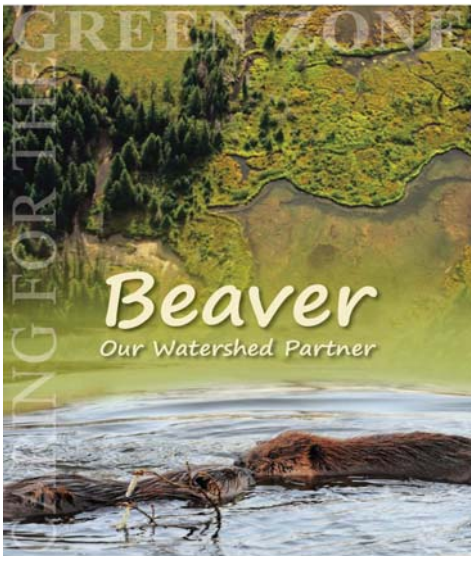
- **Street to Stream Initiative – riparian restoration techniques in urban areas:** Working with a videographer, we have developed two demonstration videos (1 lotic and 1 lentic) showcasing various riparian restoration techniques as well as the process involved with setting up a restoration and these videos will be available to the public shortly. In addition to the videos, a detailed description of all the steps involved with planning a riparian restoration project are detailed in an extensive document with photos and contact information. This document will help to support the videos by providing an additional reference for groups planning new projects. These on the ground demonstration sites were done in collaboration with ALIDP, and one each with Pigeon Lake Watershed Society and City of Calgary.
- **New Range Health Videos: Species at Risk Partnerships on Agricultural Landscapes (SARPAL):** SARPAL is a collaboration between MULTISAR, the Canadian Cattlemen's Association and Cows and Fish. The range health assessment video project, completed with input from AEP Rangeland staff, started last year was has resulted in the completion of several draft videos on the range health assessment process and will provide valuable tools for landowners, NGOs and AEP staff. Planning and scripting for similar riparian health assessment videos is now underway, led by Cows and Fish. We will also continue riparian forage sampling to build a long-term database for riparian grazing management recommendations.
- **AWES & Cows and Fish Riparian Management Course Workbook:** As part of a series of 1 and 2 day courses being developed and delivered in Alberta in partnership with municipalities we have worked with Alberta Woodlot Extension Society to develop a new workbook for us during the course. The overarching goal of the course is to help landowners manage their riparian areas in ways that maximize the environmental, social, and economic benefits to themselves, their community, and the greater watershed. The course general outcomes are:
  - A basic understanding of what riparian areas are, what they can do, and different strategies for managing them
  - The beginnings of a management plan for each landowners riparian area(s)
  - Tools, skills, and resources to continue to develop and implement a management plan

- **City of Calgary Riparian Monitoring Project -** Cows and Fish is part of a multi-consultant project team working with the City of Calgary to develop and implement a 5-year Riparian Monitoring Program (RMP) in Calgary, including detailed planning and monitoring tools. The consultant team is led by Kerr Wood Leidal Associates Ltd. (KWL) as prime consultant with Terra Erosion Control Ltd. (TEC), Cows and Fish and the National Research Institute of Science and Technology for Environment and Agriculture, Grenoble, France (Irstea) as sub-consultants. The RMP is aimed at monitoring the effectiveness of bioengineering and riparian restoration projects conducted in Calgary in recent years (mainly since 2014). A second component of the RMP is to continue to conduct trend monitoring for over 90 riparian health benchmark

sites established by Cows and Fish in Calgary since 2007. The RMP is being developed to assist the City in meeting riparian health improvement and restoration targets, objectives and outcomes outlined in its 2013 *Riparian Strategy* and its 2017 *Riparian Action Program.* The City has shown a strong commitment to moving forward with implementing these policy and program initiatives in support of riparian conservation, restoration and community-led stewardship. To inform the RMP development, a Citizen Science workshop co-led by Cows and Fish and the City of Calgary was held on December 4, 2017. The workshop was aimed at looking for opportunities to involve stewardship and community groups with aspects of the RMP to promote education and awareness about the City's riparian initiatives. A total of 34 participants attended the workshop, representing 15 different groups/organizations in Calgary. A component of the RMP entails development of a new digital tool for collection of riparian efficacy monitoring data and photography imagery. The tool is primarily intended for long-term continued monitoring of bioengineering and riparian restoration projects. An outcome of the RMP is to allow the City to better understand the success and limitations of ongoing restoration / bioengineering projects to inform improved procedures, designs, implementation and maintenance programs for these projects. Results of the RMP will be communicated with groups, consultants and regulators to allow for continued improvement in the future. The RMP is being conducted primarily in collaboration with the City of Calgary Water Resources and Parks departments. [Funding for this work is provided entirely through the City of Calgary, but this work informs our provincial mandate, including impacting riparian management and health in Calgary].

Updating or Re-issuing Existing Tools

- **Developed our Cows and Fish Newsletter:**
  - Initially sent to existing list of contacts we felt would be interested, by 2017, **423 people have subscribed,** an increase of 12% from previous year, with 65% or 275 people opening the newsletter link. The newsletter highlighted projects we are partnering on, provided interesting facts on riparian areas and described the past season's work.
    To subscribe, go to our home page: http://cowsandfish.org/



- **Beaver Ecology and Management:**

Delivery of *Living with Beavers Workshops.* Working with numerous local partners and counties, the workshop includes numerous of cohesive presentations, covering beaver natural history and ecology, management, case studies, and success and challenges. In the past year, we have delivered the workshop in numerous locations, particularly in central Alberta's Parkland Natural Region including Grande Prairie, Barrhead, Athabasca, Vermilion, Drayton Valley areas. We continue to update it based on the demonstration sites (pond-levellers and exclusion devices) as well as new research from Beaver County and University of Alberta researchers (led by Dr.

Glynnis Hood). In addition to core funding from AEP and ABP, this work is funded with support from WWF Loblaws Community Water Fund, Watershed Resiliency and Restoration Program, the Calgary Foundation and local municipal partners.

New Tools using Cows and Fish Materials

We worked with numerous other organisations from across Canada and Alberta, based on requests we receive, to help them incorporate awareness, management, images, and technical information within tools of their own. This year, this included the following uses of our information:

Photos and illustration were requested for the following uses:

- Elk River Valley Alliance: Fernie Wetland Interpretive Signs, highlighting and comparing / discussing beaver mitigation such as culvert care.

- Stewardship Centre for B.C.: for use within an updated 2018 Riparian Restoration and Enhancement guide called *Lands Near Water: riparian restoration and enhancement*

- Alberta Agriculture and Forestry Environmental Stewardship Branch: for use within the infographics project as images to support the Environmental Sustainable Agriculture Tracking Survey results summary pieces.

Landowner Visits

Although much of our work is with groups and communities, we also work to do as many individual landowner visits to help provide advice and expertise, many of which are part of riparian health work, or projects targeted to result in a practice changed. Some of these visits are based on a long history and established relationship, other times they are one of our first in-person interactions with the landowners. In all cases, we go where we have been invited. The following examples provide select highlights from landowner visits done to complete riparian health inventories (unless indicated otherwise), which are required to complete riparian health monitoring (see that section of this report).

- As part of the Ponoka Riparian Restoration Program (PRRP), in partnership with the Battle River Watershed Alliance, we completed landowner visits (in-person) with 2 agricultural landowners in 2017 who applied to participate in the PRRP and complete a riparian health inventory, and for some sites, a riparian management project, as part of the program. Since 2015, 11 landowners, including the Town of Ponoka, have participated in the PRRP with a total of 20.1 km of stream/riverbank and/or shoreline and 102.8 hectares of riparian area assessed. Riparian exclusion fencing and off-site water development for livestock use was completed by many agricultural landowners involved in the project.
- As part of the Red Deer County 2 Neighbours Project, we completed 11 landowner visits in 2017 and a total of 5 range and 8 riparian health assessment sites, for a total of 37 riparian health and 9 range health sites between 2015 and 2017. Over 21 kilometers of steam, river

and shore were assessed as part of this 3 year project, and approximately 124 hectares of riparian habitat. Twenty-five of the sites assessed were Agricultural Champion sites, and the remaining 12 were Neighbour sites, as classified for the purposes of this project.

- We collected grazing and riparian management summary information and riparian health inventory data with 9 landowners as part of our baseline riparian health monitoring work for the Red Deer County Alternative Land Use Services (ALUS) Project Site Monitoring Program.
- As part of the Iron Creek Riparian Restoration Program (ICRRP) we visited about a dozen sites in collaboration with 4 landowners interested in making riparian management improvements to improve or maintain riparian health. The majority of these were new sites but we also visited one past site to re-assess it 16 years after our initial visit. Five of the sites were upland range health sites to assist in developing grazing/riparian management plans with a few of these landowners.
- As part of the Watershed Resiliency Restoration Program (WRRP) we interacted with 8 landowners over the summer and fall who were interested in making riparian management improvements on their land. Several projects involved wanting to develop springs to then have better livestock distribution in their pastures, 1 project included creating a riparian pasture and using an off-site waterer, and others wanted to ensure the management they already had in place was sufficient to support riparian health.

Demonstration Sites

Demonstration sites provide an excellent opportunity for landowners to try out a management change, and enable Cows and Fish, other organisations and landowners to see the results of that change in action. They are useful management tools as well as opportunities for monitoring and research. The following provide some highlights of our interactions with demonstration sites.

- **Livestock Crossing Beaverlodge Watershed**. A bison producer on a small stream (Windsor Creek) had an old culvert crossing that washed out several years ago and since then the animals have been crossing through the riparian area to get between the home fields and pastures on the other side of the creek. We met him in 2009 as part of a riparian reforestation project with the Alberta Woodlot Extension Society (as it's now known). In 2017, with help from a grant to the Mighty Peace Watershed Association from Alberta Environment and Parks Watershed Resiliency and Restoration Program (WRRP), the Livestock Crossing Project Team (Cows and Fish is a member) assisted the producer in designing a rig mat, steel beam structure with panels in the fall of 2017. It was then installed by a local contractor and the producer. Bison had already been moved by the time the structure was installed so spring /summer 2018 will be the first chance for livestock to use it. We completed a riparian health inventory on the downstream pasture to provide health information for future monitoring.

Windsor Creek Livestock Crossing Before (May 2017). Left: location of planned new crossing. Right: culverts from old crossing washed downstream. Photos: Cows and Fish.

Windsor Creek Livestock Crossing Left: In Progress (Fall 2017) rig mat floor installed. Right: After installation (Winter 2018) complete with side panels. Photos: Adam Norris, MPWA.

- **Erosion Control Technique Demonstration Site.** On one large ranch north of Pincher Creek, we worked with the landowner and involved the expertise of Craig Sponholtz of Watershed Artisans to implement novel erosion control techniques where the erosion started as and spreads from headcuts. This workshop lead to the installation of a zuni bowl, a half-zuni bowl, and numerous multiple one rock and filter dams and a log step down over multiple sites on an ephemeral, dry drainage. This project was funded in part by WRRP funding, but also supported by numerous other funders, including our core funding from AEP and ABP, as it served as a training session for numerous staff from across the province. These techniques have been used extensively for over 15 years in SW United States, and have opportunity to provide new and innovate ways to address erosion, headcuts and similar features, by capturing the excess soil to speed the healing process, and at the same time stop the further expansion of the issue, while it heals. Two similar projects in the Peace Region are expanding our learning of these techniques in Alberta.

Installation of erosion control technique demo on July 20th and 21st, 2017 The left image (above) shows completion of the zuni bowl (on right, in back), half zuni bowl (on left side) and one rock dam (in foreground). The right image (above) shows the completion of a log step down. Both of these images show erosion control in severe headcut situations in an ephemeral system

- Working with the City of Calgary, Alberta Low Impact Development Partnership (ALIDP), and local homeowners we implemented the first stages of a riparian naturalisation/ restoration project at two riverfront properties in the City of Calgary. It is part of the City of Calgary's Riparian Strategy and our Street to Stream initiative. ALIDP led two additional upland sites (one in Calgary, one in Airdrie) and we assisted by providing on site labour, riparian & native species awareness as well as educational materials, using funding support in particular from our RBC Bluewater Fund and Calgary Foundation grants. At the two riparian sites a total of 25 willow stakes were planted, 55 native shrub plugs, 66 native

potted shrubs, 77 native forb plugs and 40 native grass plugs were planted after extensive weed removal. An additional 1.5 kg of native grass seed was also spread across one of the sites. The upland improvement involved different strategies for managing runoff from the building downspouts, and adding native plant species. All these changes were done in consultation with the landowner with the intent of keeping a view of the river and a lawn area for active recreation but improving the health and function of the site.

Inglewood Riparian Restoration Demo time series

City of Calgary Riparian Restoration Demo Installation Day (May 2017). Invasive shrub and other plants were removed prior to replacing with native species.

Community-Based Action: Management and Practice Change

Local community involvement is key to our program delivery, allowing us to reach out to a larger audience, build a cadre of keen, informed and motivated individuals. As in recent years, many of the communities we are working with are rural municipality-led initiatives, with few local watershed stewardship groups. The local watershed groups have dwindled, and in their place, some of the municipalities, often in partnership with other conservation and non-government organisations (including Watershed Planning and Advisory Councils, land trusts or others), are helping motivate and support change. Our role continues to be one of educational extension, technical expertise and riparian health monitoring, as well as championing good process and landowner-driven decision making in management changes. Community-based action underpins much of our approach and our activities—we endeavour to work at the local community, group level, letting the community determine interest, need and issues, and ultimately, set timelines for work and priorities, including inviting us to work with them. Whenever possible, our program aspects are delivered within this context. Direct work with landowners and rural community groups is a key part of the works funded by our Alberta Agriculture and Forestry and Alberta Environment and Parks grants and financial support from Alberta Beef Producers.

This year we worked with many community groups (many listed above as examples of awareness, extension, team or tool-building activities), but the following highlights provide a selection of examples to highlight the sort of work we completed that showcase community-based action aspects of Cows and Fish program delivery.

- Worked with the Iron Creek Watershed Improvement Society and other partners to engage and extend riparian awareness to new and existing landowners in the watershed. This also involved riparian health monitoring and management recommendations for improvement. Four landowners were involved in 2017 and for two of them we did additional upland range health monitoring to assist in further developing grazing plans for their operations.
- Red Deer County – With a select group of landowners and their neighbours, we have been delivering education and awareness on range and riparian health, best management practices, monitoring riparian health and advising and consulting on practice changes for the Red Deer County 2 Neighbours and Red Deer County Alternative Land Use Services (ALUS) Monitoring projects. Twenty landowners participated in the project in 2017-18.
- As part of our westslope cutthroat trout riparian habitat work, using funds from our Alberta Environment and Parks and Habitat Stewardship Program grants, we conducted a multi-stakeholder workshop at the M.D. of Ranchland Administrative Building in March, with 59 participants from various sectors including provincial and federal government agencies, industry representatives, non-government organisations, landowners, off-highway vehicle recreational users and grazing allotment holders. We collaborated

extensively with AEP fisheries staff to develop the agenda, allowing them to provide updates on planned work from the department and then gathering input in the workshop session, from participants, to help identify priorities and areas of interest to implement changes. The intent of this 7th annual workshop was to encourage community-based action and collaborative efforts aimed at riparian health improvements in priority Westslope Cutthroat Trout habitats. As in past years, showing their support and commitment, the MD of Ranchland provided the facility for that event.

- As part of our Street to Stream initiative with Alberta Low Impact Development Partnership (ALIDP), we collaborated on implementation of changes at three sites as well as learning opportunities. We collaborated with the ALIDP on planning two sites: a riparian restoration planting and low-impact development demonstration project on a City of Calgary owned riverfront property on the Elbow River, and a residential site, on the Bow River. Both these site plans were implemented in spring and summer 2017. We continue to support the Pigeon Lake Watershed Association on their efforts to reduce nutrient inputs to the lake, including sharing results of the third site, a lakeshore revegetation site, completed in 2016.
- In partnership with MULTISAR, we continue to support habitat conservation plans for ranches, by completing riparian health inventories and management recommendations that are integrated with wildlife and range health results (collected by MULTISAR). These includes sites primarily within the Milk River watershed, as well as those which are part of our SARPAL (Species and Risk Partnership on Agricultural Landscapes) funding (described below). These whole-ranch scale inventories (wildlife surveys with riparian and upland range data) are developed into detailed livestock management recommendations to benefit species at risk on large agricultural properties in southern Alberta.

Riparian Restoration and Bioengineering - Engaging the Volunteer Community

Cows and Fish has always relied upon the voluntary, stewardship efforts of landowners and private citizens, in addition to partnering with many organisations and groups to achieve our outcomes. In the past, we have relied upon the local community or group to do the majority of the gathering of local volunteers, which is still our primary means of volunteer labour in restoration activities.

Planting of live stakes is often in late autumn, leading to risk of snow covered conditions.

Cows and Fish

Alberta Riparian Habitat Management Society

Volunteers value the opportunity for hands-on involvement in restoration. We worked extensively with numerous partners and volunteers and co-led **3 riparian restoration activities, as well as participated at 3 others (total of 6 events).** These included live-willow harvesting, planting and bioengineering, and signage installation, involving over **31 people**. Community-based action with volunteers included working with these primary partners on sites:

- Oldman Watershed Council and Spray Lake Sawmills - Public volunteer events to plant live stakes along westslope cutthroat streams, (South Racehorse Creek volunteer site; live staking at North Lost Creek with just AEP staff)
- Elbow River Watershed Partnership (ERWP), Ghost River Watershed Partnership and Alberta Environment and Parks (Silvester Creek) and volunteers – restoration along decommissioned road and streambank
- City of Calgary, Alberta Low Impact Development Partnership– as described above, two riverbank improvement sites
- Sustainability Resources Ltd – riparian planting as part of training workshop (Sheep River, Okotoks and Turner Valley)

South Racehorse Creek restoration October 2017. This was a collaborative effort with the Oldman Watershed Council and Spray Lake Sawmills, and 8 volunteers.

In partnership with OWC and help from Junior Forest Rangers, we also completed signage at Green and Gold Creeks, encouraging vehicles to avoid fording the streams and use the off-highway vehicle bridges on site.

Green Creek signage installed August 2017. Oldman Watershed Council staff and Junior Forest Rangers helped with signage installation.

We were also extensively involved in planning for more sites, where implementation was anticipated for 2017:

- Friends of Fish Creek (Fish Creek): Fish Creek Provincial Park Restoration project – Completed an assessment and provided technical input and advice regarding the status of the cottonwood community within the park for future riparian planting project.
- Dutch Creek: using riparian health results from 2016, we developed a plan to reduce impacts from random camping and vehicle traffic at five sites along this westslope cutthroat trout stream, with plans to replant areas and block vehicular traffic. We were unable to implement the work, because of provincial uncertainty about designated Public Land Use Zone (PLUZ) and recreation management plans, but hope that once these policy and regulatory measures are in place, implementation will be possible, if funding is available. This work, along with all of our work related to westslope cutthroat trout, is supported primarily by our Habitat Stewardship Program and AEP grants.

On - the Ground Changes – Selected Examples

Management changes are happening as part of much of the work we do, on a voluntary, pro-active basis, and often, we are not directly involved in the final management changes, as we help provide the awareness, motivation and tools, so many more landowners can make change. In some cases, we are more directly involved in the management changes, and helping see that they happen, when we have funding to put to those results. The examples provided below highlight some of the on-the-ground changes we have been directly involved in.

Bearberry Creek Watershed Bioengineering Monitoring

- Between 2007 and 2011, Cows and Fish participated in an Alberta Conservation Association lead project called the Bearberry Creek Watershed Restoration Project. The project included the design and development of at least 4 demonstration bioengineering projects on riparian sites, primarily in areas used for pasture land. Cows and Fish collect riparian health inventory

data on at least 2 of these sites and collected background management information, participated in outreach with the local community and assisted with bioengineering work. Neither ACA nor Cows and Fish had monitored the success of the bioengineering sites since one or two years after the bioengineering work was completed. In October 2017, ACA and Cows and Fish staff re-visited the sites and completed some basic photo monitoring and general summary of success of the projects. Example monitoring photos from 2 of the 4 sites are below.

Site 1 (above) September 2009 – prior to bioengineering treatment

October 2009 – post bioengineering treatment including wattle fences & modified brush layers

September 2017 – overall vegetation cover is high, woody cover is still lacking, erosion and slumping are improved

Site 2 (above) October 2007 – post bioengineering treatment including wattle fences, modified brush layers and live staking

Summer 2008

September 2017 – overall vegetation cover is high, woody cover is excellent along stream bank, adjacent to water, erosion and slumping improved

Alberta Eco-Trust Funding: Heart River Watershed Restoration Project

Working with 4 private landowners, Northern Sunrise County and the Heart River Restoration Project Team we helped monitor and implement or plan changes (off-site watering, fencing in the Heart River watershed). This funding came to an end in March 2017. The following project summaries describe the management changes and situations:

Unnamed Wetland improved grazing management and woody re-vegetation for wildlife site. The purpose of this project was to re-design the cross fencing in an existing field to create a wider riparian buffer around a natural wetland and constructed dugout. As well as plant tree and shrub seedlings to add more forested habitat to the area. We assisted in a technical and extension role. The primary work for making the change was done by the producer and local partners like Northern Sunrise County Alternative Land Use Services Program.

Unnamed Wetland improved grazing management. The purpose of this project was to exclude livestock from a very large wetland with electric fence. The fencing was done in such a way that the producer could graze the riparian area in the future. An alternative watering system is also being developed and should be completed in 2018.

Benjamin Creek off-stream watering system project. The purpose of this project was to provide a portable solar off-stream watering system for cow/calf operation with public grazing lease lands and private lands managed together. The portable system is intended to help distribute livestock more evenly through the lease and take the pressure off surface water bodies as the water source.

Heart River tree planting and streambank stabilization site. One part of this project was to increase the forest buffer between cropland and the river. The implementation of the planting component of this project was delayed due to site conditions and sourcing the necessary native plant stock. Another component was to reduce soil erosion along a ditch in the crop field. A log step down structure was built at a headcut upstream of where the ditch enters the river mainstem by County staff with help from Cows and Fish staff in remote consultation with Craig Sponholtz (Watershed Artisans, NM, USA) In addition a modified zuni bowl was constructed along with willow silt fences and willow stem planting.

Before, looking upstream. Photo: Becky Devaleriola, Northern Sunrise County


During, looking upstream. Photo: Cows and Fish


After, looking downstream. Photo: Becky Devaleriola, Northern Sunrise County

Other projects in the Heart River Watershed. A culvert restoration project was also undertaken by the municipality to improve fish passage. Members of the Team and the county worked on a prioritisation of culverts that were a barrier to fish. The hanging culvert they replaced is now installed so that fish can pass through.

Environment and Climate Change Canada Environmental Damages Fund Funding: Fish habitat conservation through riparian habitat improvements in the Athabasca River watershed.

EDF funding covered most of our costs, but additional support from our AEP and ABP grants, along with partner funds (for implementation costs), made all the work possible. Working with 5 total landowners (4 private landowners and the Town of High Prairie) we helped monitor baseline riparian health and implement or plan management changes (off-site watering, fencing, beaver co-existence) at 6 sites. The total riparian area influenced by these management actions is 38 hectares. Other partners involved in these projects are the landowners, Lesser Slave Watershed Council (LSWC), Big Lakes County, Peace County Beef and Forage Association (PCBFA) and High Prairie Riparian Action Team (HPRAT) who donated time, materials, or cash. The following project summaries describe the management changes and situations:

West Prairie River off-stream watering project site. This project is with a landowner who has a grazing lease along the West Prairie River. They have purchased and will be implementing a portable solar off-stream watering system for cattle to provide an alternative to watering directly from the river. The portable solar watering system will provide off-stream watering for livestock away from the steep banks of the river in two locations and promote riparian health and water quality for this river that eventually flows through a Town downstream. They are also working with their local Rangeland Agrologist on a fencing plan to exclude livestock from portions of the riparian area and/or give them an option to rest or graze depending on range and river conditions giving them more control of livestock access to the riparian area. Future plans include an ATV friendly gate to still allow motorized recreational vehicle access but prevent fence cutting. We completed riparian health baseline monitoring for this project in 2016.

East Prairie River fencing and off-stream watering project site. This project is on private land and involved developing a well for a permanent water source and watering system to provide an alternative to livestock instead of watering directly from the river. They also will be constructing a fence along the near bank riparian area in two places to exclude livestock from the steep banks and sensitive riparian forest vegetation along this large river. We completed riparian health baseline monitoring for this project in 2016.

Ephemeral Creek electric fencing and beaver co-existence tools site. We have worked with this producer before and he is proactive and always thinking about new ways to better manage his lands, in this case fencing an ephemeral creek. The ephemeral creeks on this land flows through the middle of a field so when livestock were in the pasture they had full access to it. Also the creek has not been a secure source of water over the years and there is already an alternative watering system in place. His motivation for the fence is so he can rest the small

stream and get some more trees and willows growing to add shelter and habitat cover to the pasture. In future years he may plant native trees and shrubs to enhance the natural regrowth. We completed a riparian health inventory for a baseline of health so the progress of the riparian recovery can be measured over time.

The Boreal Forest is prime habitat for beavers and this landowner has several dams and even a lodge throughout property he owns and rents. To mitigate spring flooding of his wintering site from a downstream beaver dam, he built a pond levelling device that allowed the beavers to continue to live near and work on the dam but also to keep water flowing during the high water season. The lessons he learned from this pond leveller are that the intake and outflow end both need to be farther away from the dam as eventually the beavers buried the pipe but it was effective for an adequate period of time to meet the producer's needs. He also built and installed another pond leveller using the lessons learned on the first one. This one is upstream of a crossing that the beavers liked to dam and it was working well to keep water moving and beavers busy away from the crossing itself.

Tributary to South Heart River off-stream watering system project site. The small creek that flows through this land is intermittent and not a reliable source of water for livestock when they use this pasture. The nearest reliable water source is a half mile away from a permanent wetland but it is a muskeg landscape and livestock have difficulty getting there. By installing a solar powered, gravity fed, year round system, they are now able to pipe water from the wetland to a trough in the pasture with the creek, giving the animals a more easily accessible and more reliable drinking water source. This will help direct animals away from the riparian area. They intend to fence the creek as a future project so they can better control livestock access. We completed riparian health baseline monitoring for this project in 2016.

West Prairie River urban management site. We did a riparian health inventory for the Town of High Prairie as an awareness tool and to set a baseline for future management changes including changes to off-highway vehicle access and invasive plant management. The LSWC is working with the Town on volunteer invasive plant management activities and to design an "urban-friendly" fence to better manage off-highway vehicle access to the riparian area.

Monitoring

Monitoring and evaluation are in integral part of our organisational mandate, delivery and culture. Not only do we need to monitor ecological changes, through riparian health assessment and inventory, but we also need to understand the impacts of our program delivery. The following sections highlight some of the ecological and program evaluation results from this year.

Riparian Health Inventory

As part of our ongoing efforts to continually update and improve on the methods used to examine riparian health, we continued our long-time collaboration with Ecological Solutions

Group LLC, in Montana, to refine riparian health calculations and data management related to riparian health metrics

Gathering baseline data and monitoring changes in riparian health is a significant part of the work we do with community and watershed stewardship groups, conservation organisations and government agencies. This year we completed extensive community riparian health work with both conservation organisations, rural municipalities and small rural agricultural based stewardship groups.

Riparian health inventories and assessments are used to establish a baseline for management improvement or restoration work. These result from Team Building and collaborations with many landowners and organisations. One particular example of our collaborative efforts with other organisations includes working in partnership with MULTISAR to develop habitat conservation strategies for species at risk on agricultural properties. Cows and Fish conducted over 20 riparian inventory sites on several properties in southern Alberta, alongside detailed range and wildlife inventories conducted by MULTISAR. Funding for this project was provided by Environment Canada through the Species at Risk Partnerships on Agricultural Land program.

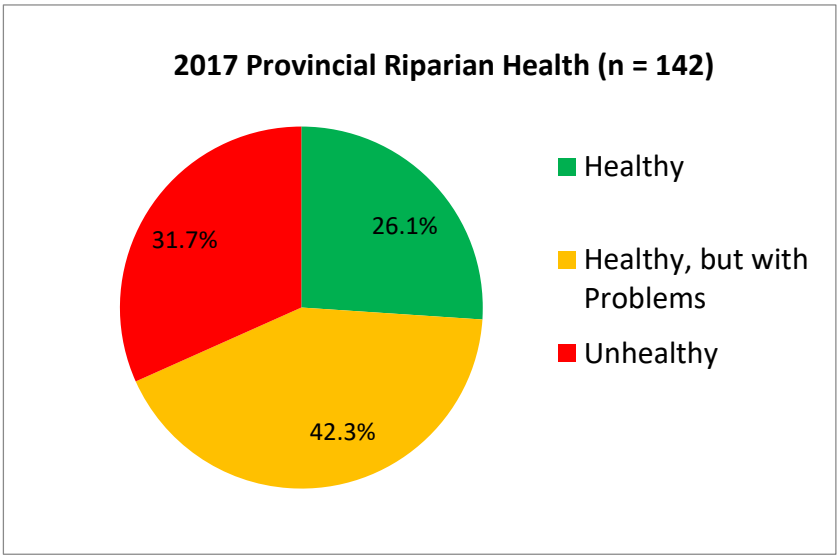
In 2017, we collected riparian health information on:

- **143 riparian health sites**, for a total of over 2,803 sites since 1996, including at least 728 unique waterbodies. This includes 71 km of bank or shore length in 2017. Just over forty percent of the 2017 sites are healthy, but with problems. Ten additional range health sites were also completed.
- **17 of the 2017 riparian health sites were revisits** from previous work with all of these being exact and comparable revisit sites.
- **Riparian health sites included sites in six major river basins.** These included the Athabasca, Missouri (Milk), South and North Saskatchewan, Peace River and Churchill (Beaver) River watersheds. The largest number of sites were examined in the South Saskatchewan River basin.
- **A diversity of waterbody types was examined for riparian health.** In 2017, we examined 65 sites on streams and small rivers, 15 sites on large rivers, and 62 sites were on lakes and wetlands.

As part of this work, **103 individual reports** on riparian health and over **10 community** or project area reports have been prepared, summarising riparian (and range) health results and highlighting areas for management consideration. This work is integral to our community based work, providing the current status of riparian health, and encouraging landowners and their communities to make management changes to improve riparian health. We also completed a small amount of range health work. Additional measures of stream channel width, bottom substrate cementedness and embeddedness were collected at westslope cutthroat trout riparian health sites.

A total of 143 riparian sites were examined, but 1 site was not included in the health summary. This site was an overall assessment of an area encompassing two smaller polygons reported on

as individual sites. As a result, a total of 142 sites are included in the 2017 summary of riparian health sites.



In total during 2017, 81 different waterbodies were assessed. In some years, both lotic and lentic surveys are conducted on the same waterbody, but this was not the case in 2017. The total length of channel or shore assessed was 71 km, based on 137 sites. In 2017, five sites were on reclaimed property lots within the floodplain but away from the riverbank, therefore channel length could not be calculated.

Waterbody Type	% of Total	No. of waterbodies
Lakes and Wetlands	35.8%	29
Large River	7.4%	6
Streams and Small Rivers	56.8%	46
TOTAL	**100.0%**	**81**

Major Watershed	Number of sites
Athabasca River Watershed	4
Missouri (Milk) River Watershed	2
North Saskatchewan River Watershed	21
Peace River Watershed	4
South Saskatchewan River Watershed	81
Churchill (Beaver) Watershed	30
Grand Total	**142**

Waterbody type	Sum of Length - km
Lakes and Wetlands	14.32
Large Rivers	8.81
Streams and Small Rivers	47.51
Total	**70.64**

Riparian Health – Revisit Site's Health Results

Riparian health changes can occur at the site level at both a fine and coarse scale. The broad scale change is determining **if the overall health category has changed, which is generally a significant change in the site.** At a finer level, we consider a health score change of at least 5% to be a meaningful change as well.

Fine Scale Riparian Health Changes

Although most sites change moderately, a few sites have shown remarkable improvement, with one site's score improving by 30%. In 2017, the average score improvement is 21%, although some sites had little improvement, and some had declines in riparian health. Riparian health scores that changed by greater than 5% are considered to have changed. Based on this criterion, of the revisit sites:

- **4 sites improved:** the average score improved by 21% (range 11%-30%)
- 3 declined: the score declined by 5%
- 10 showed no changes (<5% in changes)

Example of One Improved Site:

One of the revisited sites (WID1) was initially assessed in 2009 and had monitoring photos taken in between assessments. In eight years the health improved enough to move from the unhealthy category to the healthy category. Many of the physical alterations such as bare ground and altered streambanks have shown improvement since 2009 due to both human influence and natural causes. Management changes, prompted by the initial Cows and Fish report, have contributed to improving the health of this site. The landowner is using electric fencing and transitioning livestock through this pasture for a shorter period. In addition, soil deposition from flooding has led to the healing of altered areas and allowed for improved regeneration of riparian plants such as willows. This system is also highly influenced by the presence of beaver. Cows and Fish was the catalyst for the installation of the pond leveller upstream of this site. Additionally, a new stream crossing was also completed in 2017 on this property.

Regrowth of trees and shrubs is apparent:

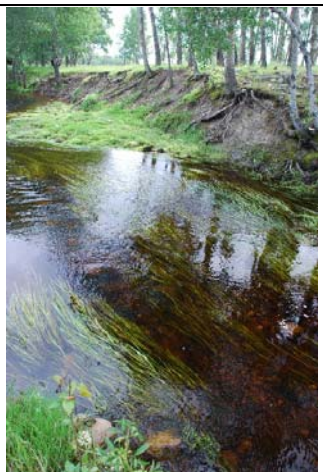
MONTWID005 (2011)

RHIP01WID021 (2017)

MONTWID015 (2011)

RHIP01WID032 (2017)

Bare ground is reduced considerably.



MONTWID009 (2011)

RHIP01WID023 (2017)

More deep-rooted plants

MONTWID024 (2011)

RHIP01WID040 (2017)

Bare ground has filled in and more deep-rooted plants are growing along the banks as well as in the overall riparian area.

Broad Scale Riparian Health Changes

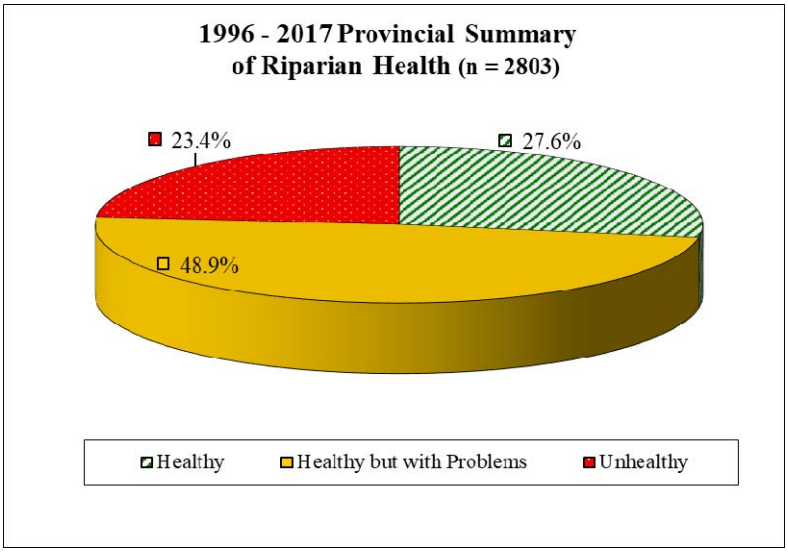
17 of the 2017 riparian health sites were revisits from previous work and all were considered a revisit of the exact same site. Eleven of 17 had been examined once before and 6 were examined twice before making this the 3rd assessment for these sites. The table below compares the **health category** of the initial (first) assessment to the 2017 assessment. This compares the ***BROAD*** scale change, moving from one riparian health category to another. **Four of the sites improved and changed a health category** (unhealthy, healthy but with problems, or healthy), with one of the four sites improving 2 categories from Unhealthy to Healthy.

HEALTH CATEGORY CHANGE from 1st assessment to 2017	
Number of Sites	**Health Category Changes Summary**
11	No change in Health Category
2	Health Category Declined
4	Health Category Improved
17	TOTAL
Health Category Improvement Summary	
2	From HwP to HEALTHY
1	from UNHEALTHY to HwP
1	from UNHEALTHY to HEALTHY
4	Improved in Health Category
Health Category Decline Summary	
2	from HEALTHY to HwP
0	from HwP to UNHEALTHY
2	Declined in Health Category
Health Categories: H= Healthy (80-100%); HwP= Healthy but with problems (60-79%); UH=Unhealthy (<60%)	

We continue to work with landowners and other organisations to provide summaries of existing data and reports where new activities have lead to a need to incorporate and understand riparian health conditions. These include requests from Alberta Environment and Parks for data collected on public lands and provincial parks, as well as landowners participating with other conservation organisations and initiatives such as MULTISAR (Multiple Species at Risk), Alternative Land Use Services (ALUS) and Alberta Conservation Association (ACA).

Provincial Riparian Health Summary: 1996-2017

Cows and Fish is recognised as the leader in riparian health – both in the tool development, application and long-term storage of riparian health monitoring data. As part of our ongoing examination of riparian health, each year we create a summary of the current state of riparian health, using all available data. This year offered the opportunity to showcase the largest number of sites ever, with **2,803** sites included in our data analysis, involving approximately 728 unique waterbodies.



This includes more than 2,245 km of length (based on the 2,803 sites with data). Although revisit sites are included, only the most recent visit of a site is included, and only sites without overlapping area are included in this analysis. As in the past, about one quarter of riparian areas are healthy, with another quarter unhealthy, leaving the remaining have at risk, and in the healthy but with problems category of health, but there are more healthy than unhealthy sites. In 2015 we had seen a slight increase in healthy sites (to over 27%) and reduction in unhealthy sites (to just under 23%) and this has remained relatively consistent into 2017. The overall average score of all sites is 70%, or healthy but with problems. We have been collecting riparian health information for 22 years, and although the number of sites has fluctuated, with a high of 244 riparian sites per year in both 2000 and 2009, it is an integral and significant component of our program work. See summary table by year.

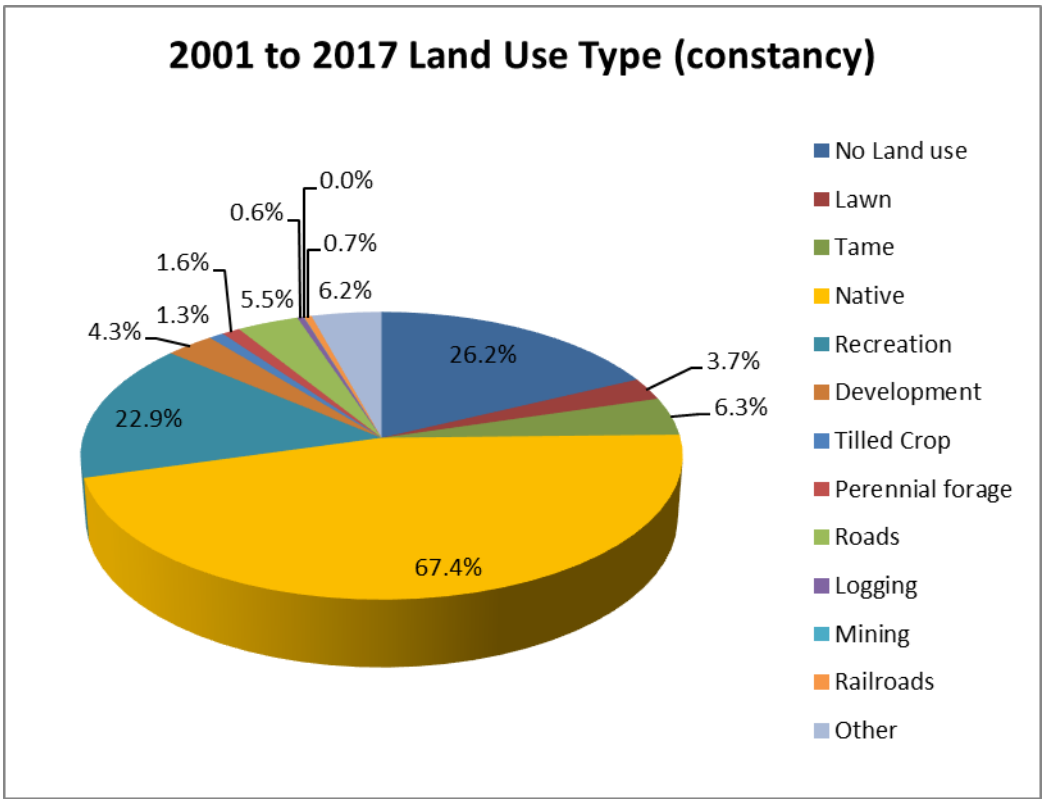
Year	Number of sites (in current health summary)	Sum of Length (km)
1996	1	
1997	8	
1998	49	43.92
1999	149	167.91
2000	180	125.94
2001	137	109.1
2002	175	142.54
2003	163	264.12
2004	170	160.13
2005	105	73.26
2006	90	57.76
2007	113	92.47
2008	93	93.57
2009	229	86.11
2010	124	98.35
2011	106	85.26
2012	118	100.6
2013	90	67.34
2014	179	149.21
2015	189	135.76
2016	194	121.32
2017	142	70.55
Grand Total	**2803**	**2245.01**

Note: The total for riparian assessment records includes 59 Wetland Classification records/form types. Our Wetland Classification data collection form also included a Lentic Health Survey. Therefore, these forms have the same record ID number and are included in the riparian assessment total. In the Summary of all forms, 'Range' refers to range health assessments.

Year	Count of Records included in current Provincial Roll-up (only includes most recent data for sites assessed more than once)	Total Riparian Sites (includes Wetland Classification as these included Lentic HA)	Other Database Forms - HOTSPOT	Other Database Forms - RANGE
1995	0	17	NC	NC
1996	1	26	NC	NC
1997	8	9	NC	NC
1998	49	87	NC	NC
1999	149	211	NC	NC
2000	180	244	NC	NC
2001	137	213	NC	NC
2002	175	235	NC	NC
2003	163	180	NC	NC
2004	170	193	NC	NC
2005	105	156	NC	NC
2006	90	112	NC	NC
2007	113	159	NC	NC
2008	93	154	NC	NC
2009	229	244	NC	NC
2010	124	152	460	30
2011	106	121	NC	10
2012	118	135	4	55
2013	90	93	NC	NC
2014	179	185	NC	2
2015	189	196	NC	6
2016	194	197	NC	4
2017	141	143	NC	10
Grand Total	**2803**	**3462**	**464**	**117**

Land Use

Although our older data does not have information on land use type, all recent data is collected with this descriptive information. Of 2,332 sites with land use data, many have multiple uses. The most common land use type is native pasture, with 67% of the sites we have examined for riparian health having native pasture. The next most common land use type is designated no land use, with 26% of sites have some area identified as no apparent land use, which when this is indicated, a high proportion of the site falls into this category. The next highest land use is recreational use with 23% of sites have some recreational use.



River Basins

Our work has been done across Alberta, with representation in most of the main river basins in the province. Although over half of the sites have been completed in the South Saskatchewan River basin, a larger number of sites have also been done in the North Saskatchewan River basin, as well as the Athabasca and Milk River basins. A limited number of sites have been done in the Churchill (Beaver) and Peace River basins. Of the basins with a greater number of sites, the South Saskatchewan River basin has the highest proportion of healthy sites (28%), while the Missouri (Milk) River has the lowest percentage of healthy sites (18%).

The following maps show the location of Riparian Health Inventory and Assessment Sites.

Riparian Sites in Alberta by Major Watershed

1996 - 2017 (n = 2769)

N

KAKISA RIVER
TALTSON RIVER
PETITOT RIVER
BUFFALO RIVER
SLAVE RIVER
HAY RIVER
LAKE ATHABASCA
FONTAS RIVER
PEACE RIVER
ATHABASCA RIVER
CHURCHILL RIVER
NORTH SASKATCHEWAN RIVER
SOUTH SASKATCHEWAN RIVER
MISSOURI RIVER

Legend

Riparian Assessment Site Health Category:

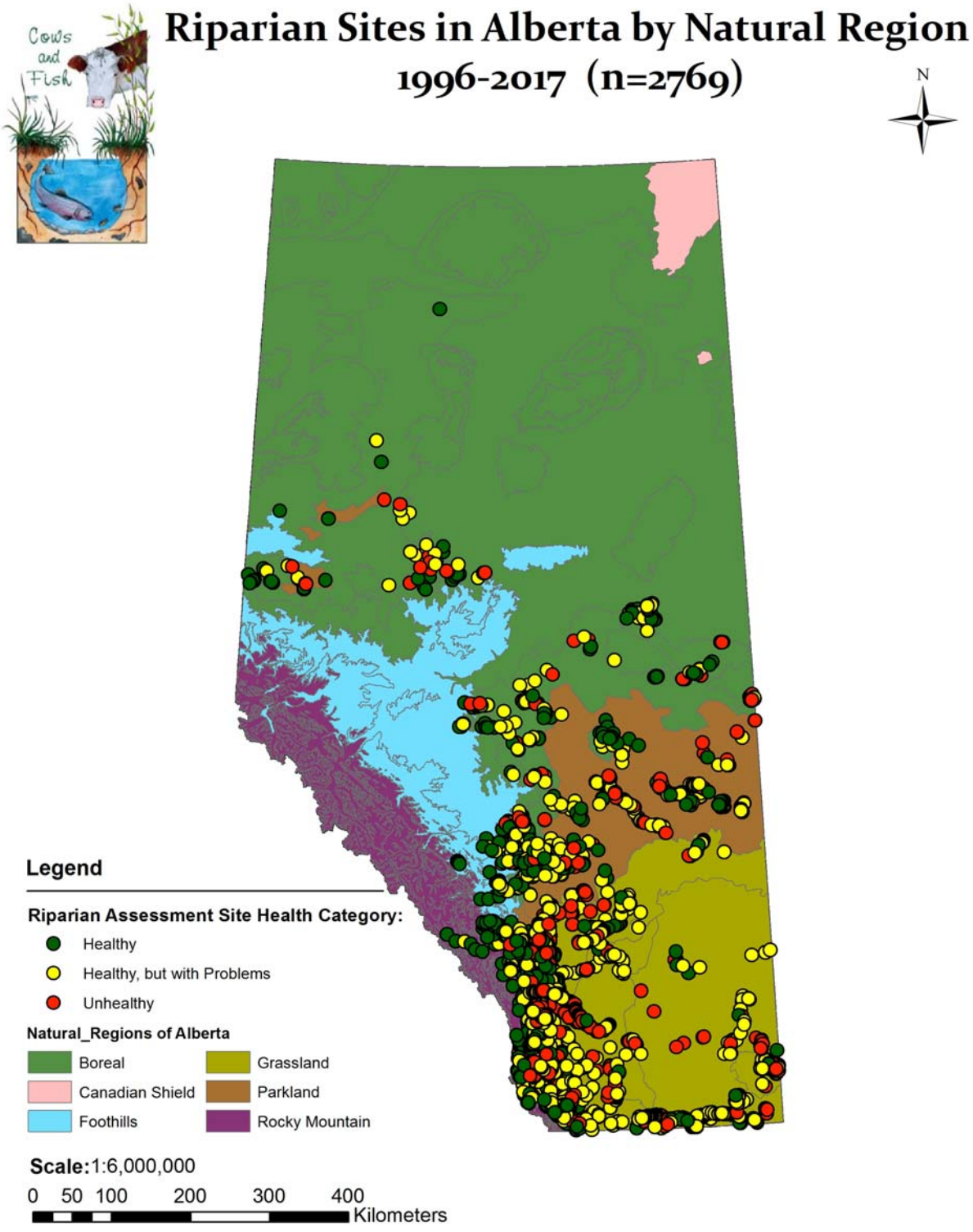
- Healthy
- Healthy, but with Problems
- Unhealthy

Watersheds of Alberta

Map sources: HUC2 Watersheds of AB
& AB Watersheds_2011 shapefiles
CF Data initially collected using basins outlined by PFRA
Note: Provincial Health (n=2803) & Provincial Health Mapped (n=2769) due to insufficient waypoint data

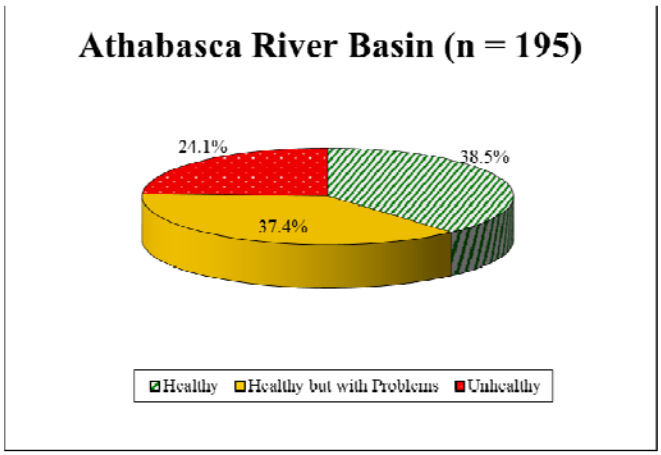
Scale: 1:4,859,764

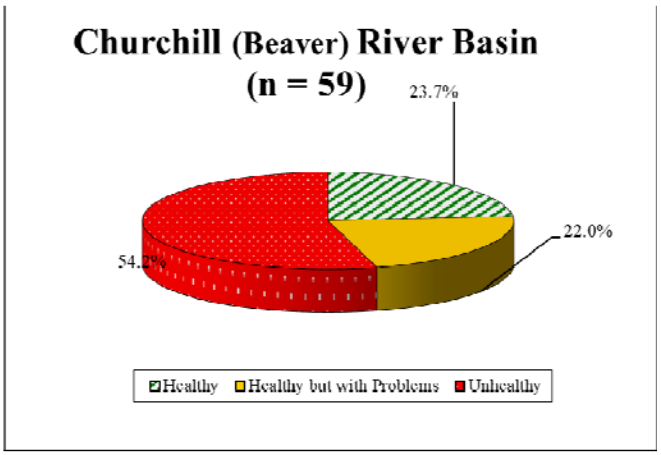
0 50 100 200 Kilometers

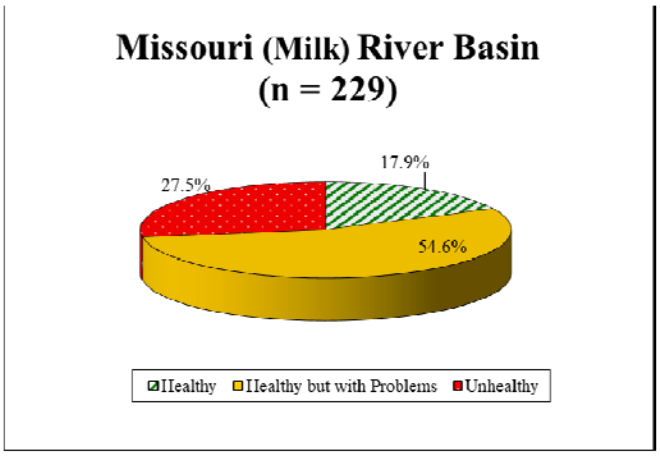


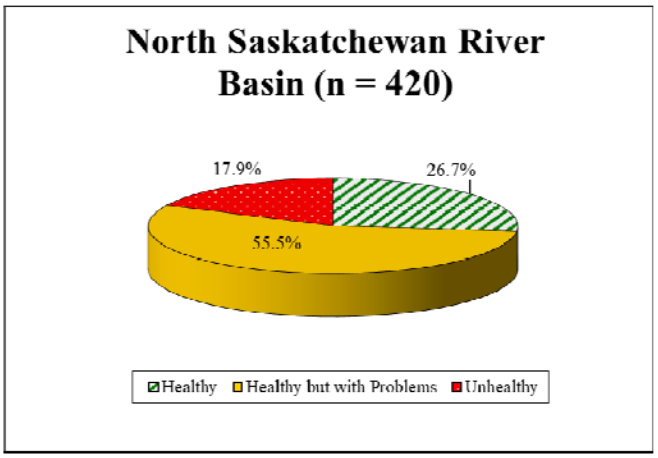
Note: Provincial Health (n=2803) & Provincial Health mapped (n=2769) due to insufficient waypoint data
Base mapping data provided by AltaLis & Agriculture and Agri-Food Canada

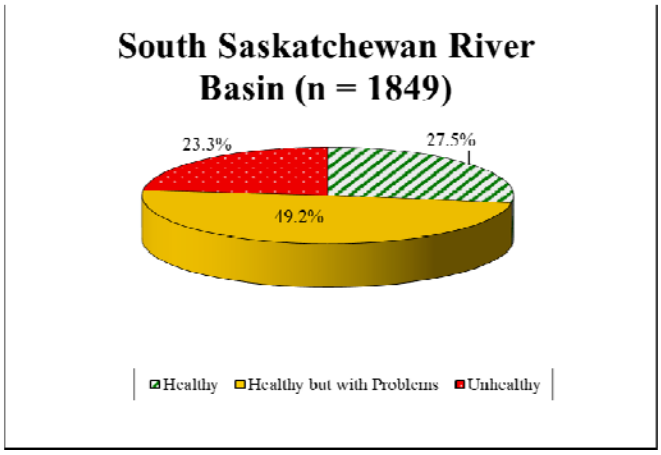
Refer to figures below outlining riparian health, by category, for the major river basins, including sites from 1996 to the present.

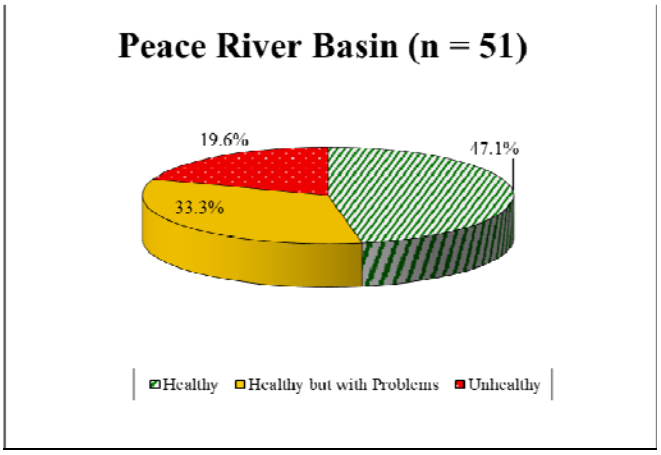












Waterbody Types

We work on many types of waterbodies, including streams, rivers, lakes, wetlands, seeps and springs. However, because much of our work is done at the request of watershed groups or others interested in understanding the health of a waterbody, most are done on larger waterbodies, with relatively few on wetlands, seeps and springs. Because waterbodies have hydrologic and physical characteristics that differ from other waterbody types, we examine some characteristics that are waterbody-type dependent. Looking at the overall health of each waterbody type, lakes and wetlands (combined) have the highest proportion of healthy sites (33%) compared to 13% of seeps and springs, which is the lowest proportion of healthy sites of all waterbody types. We have done more riparian health assessments and inventories on streams and small rivers than other waterbody types, with 1,599 of 2,803 (57%) sites being in this group. See the table below which outlines the riparian health of the different waterbody types.

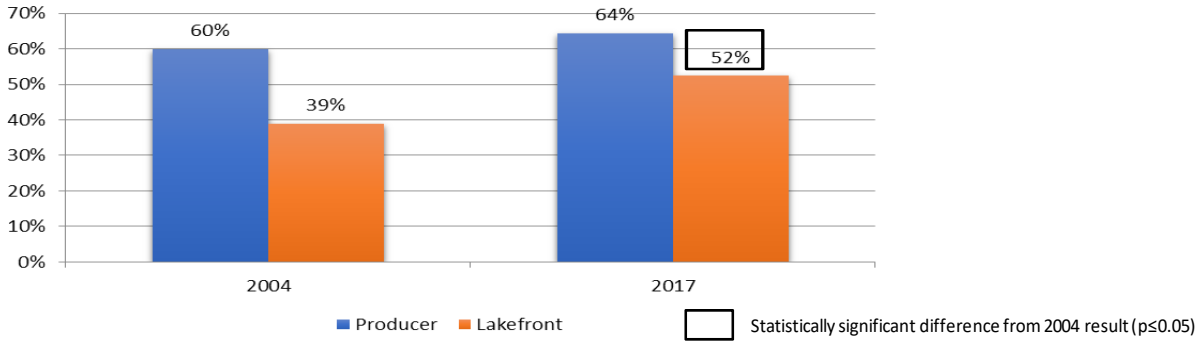
Waterbody Type	% of Sites	# of Sites
Lakes and Wetlands		
Healthy	32.8%	167
Healthy but with Problems	40.5%	206
Unhealthy	26.7%	136
Total		**509**
Large Rivers		
Healthy	26.5%	182
Healthy but with Problems	51.6%	351
Unhealthy	21.6%	147
Total		**680**
Springs and Seeps		
Healthy	13.3%	2
Healthy but with Problems	66.7%	10
Unhealthy	20.0%	3
Total		**15**
Streams and Small Rivers		
Healthy	26.5%	424
Healthy but with Problems	50.3%	804
Unhealthy	23.2%	371
Total		**1599**
Grand Total =		**2803**

Program Evaluation

Evaluating the effectiveness of our program delivery is key to ensuring our work is having an impact and achieving our goals. In 2016-17 we initiated an external program review of all individuals that had been part of our riparian health work (meaning that had riparian health collected on their land or land they were involved in managing) as well as additional quantitative interviews with many agency or organisational staff we have worked with. The following highlights provide selected results. The full results are in a separate report: Cows and Fish Evaluation 2017. Aspects of these results were shared numerous times throughout the year, in helping other groups and individuals better understand program design and delivery implications, using lessons learned from our work. As described in our 2016-17 final report, the key findings are shown below from this program evaluation.

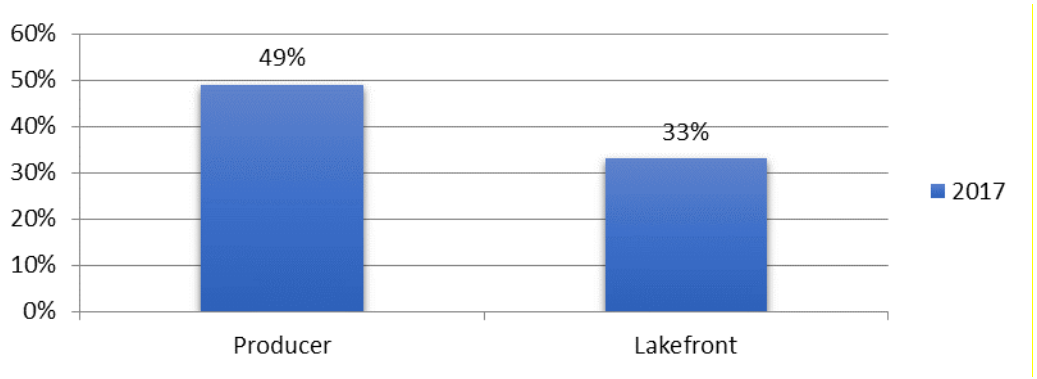
Cows and Fish has a long and successful track record in our work. In 2004, and again in 2017, we had an large independent evaluation of our work which showed we had raised knowledge and impacted the management by many individuals:

Have you made a practice change as a direct result of contact with Cows and Fish? [% Yes] (Producer: 2004; n=144, 2017; n=194, Lakefront: 2004; n=45, 2017; n=21)

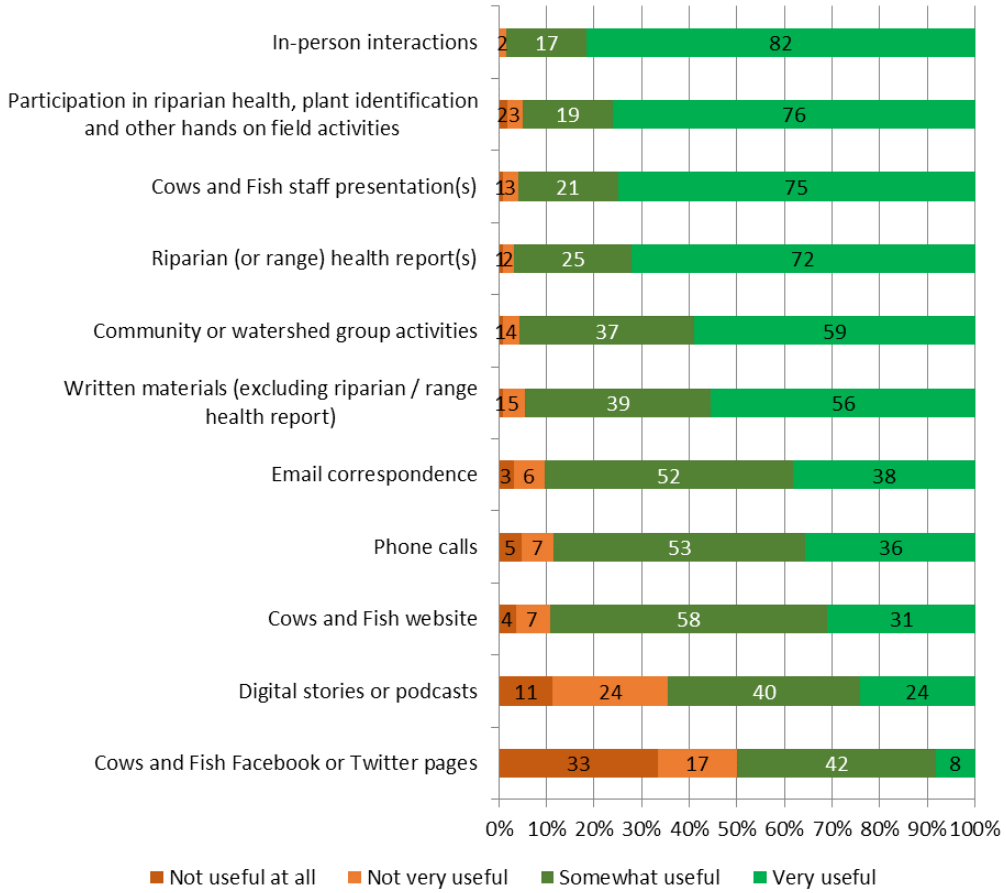


We need to be work with people directly, to have greater impact, as the results from our 2017 show – receiving personalised riparian health reports, in-person interactions, and hands-on field days were the most important ways to change management and working with us sped up a practice change happening:

Implemented Changes Sooner as a Result of Cows and Fish (Producer; n=129, Lakefront; n=12)



Usefulness in making a decision to make practice changes (n varies by statement – base = 144)



Cows and Fish Training Workshop Evaluations:

A significant portion of our train-the-trainer work is funded by our Alberta Agriculture and Forestry grant, in addition to our Alberta Environment and Parks grant.

Selected Evaluation Highlights are provided below the list of sessions. Due to the large number of diverse events, we have not provided evaluations from all events. **The overwhelming results show that attendees do learn new information, find the sessions valuable and the majority change their knowledge category by the end of the session.**

Engaging and Communicating with Communities – Lessons Learned (included Delivering Unpopular Messages)

There was a single communications-based workshop during the 2017-2018 year. Of those in attendance at the Airdrie-based workshop, 93% of the 27 participants returned workshop evaluations.

When asked if as a result of attending the workshop participants had learned new information about riparian restoration, improvement or grazing management strategies that they would apply to their work, land management, or in helping others learn more, 100% expressed that they learned something they could apply: 84% said '*Definitely*', and 16% said '*Somewhat*'.

One quote highlighting this included: "The information and format was great! I thought this was a very valuable workshop."

When asked if after the workshop they are more comfortable developing and/or implementing riparian restoration, improvement or grazing management strategies, everyone indicated they would be more comfortable: 60% said '*Definitely*' and 40% said '*Somewhat*'.

Some of the comments that indicated where more information would have been desirable included: "Additional case studies and real situational examples would help me to solidify some of these concepts. The information and format was great! I thought this was a very valuable workshop.", "Small group discussions would have been helpful, this would help to share stories. Working in rural communities is difficult, they are all so different. Would be interesting to have group discussions around community engagement events. Otherwise, awesome! Thanks so much., "Working in communities section was interesting - would be interested in learning more. Also interested in learning more about how to engage/partner in various stakeholders/agencies (i.e. Stewardship groups, municipalities, citizens) to create change. This was great, thanks!".

A few of the comments that demonstrated how the workshop was helpful included: "Great workshop! Lots of practical info/advice. As a very 'green' person, just starting my environmental career, this workshop has helped build my confidence and preparation for my future endeavors. Thank you!", "This was a great and varied workshop. A lot of the value was hearing other

people's experience and perspectives. I found it balanced, especially with having the messenger be sensitive to their audience. The idea of preparation is something I will work on more.", "Discussion around example conversations from past experiences was helpful. What the hard questions were and how they were deflected or addressed.", "Well done. I learned a magnitude more than I hoped for. Please post notifications for upcoming training workshops in the future. I think there is high demand if you have the capacity.".

Prior to starting the workshop, participants were asked to "Rate your understanding of engaging and communicating with communities or public, prior to the workshop." and again at the end of the workshop. Almost half (48%) of the participants had increased their understanding while slightly over half (52%) had the same understanding 'category' rating after the workshop as they did prior. In our experience, based on the questions we get at the workshop, and the responses to the more specific evaluation questions described above, people also generally often over-rate themselves in terms of actual knowledge, and they 'don't know what they don't know', when they first arrive resulting in a strong number of participants feeling like they have not learned anything enough to change a knowledge category – this is explained by the fact that all of them learned new information, yet not all rate their overall category of knowledge higher.

Grazing 101: Riparian Areas and Grazing Management with Google Earth as a Helpful Tool – March 8, 2018

There was a single 'Google Earth grazing workshop' during the 2017-2018 year. Of those in attendance at the Calgary-based workshop, all of the 15 participants returned workshop evaluations.

Prior to the workshop, participants were asked to answer "*How familiar are you with Google Earth Pro?*" and again at the end of the workshop. We then compared how they rated themselves on a scale of understanding (Excellent, Good, Moderate or Poor). Interestingly, we found that these self-evaluations did not necessarily match what they responded to in the other questions, since only 31% had increased their understanding (rating themselves in a higher category after the workshop) while 69% had rated themselves in the same knowledge category (suggesting no change in their understanding). We sometimes see this in workshops and that is why we ask both specific questions, since people may not feel that their overall knowledge of an entire subject has changed by a major category (although often it does).

When asked of their knowledge regarding grazing principles and practices after attending the workshop, most participants rated their knowledge as '*Excellent*', 13%, or '*Good*' 80%, with a single participant rating their knowledge as '*Moderate'* 7%.

When participants were asked whether they were more knowledgeable regarding stocking rates and carrying capacity after the workshop, a majority of folks indicated they were better informed afterward, with 80% increasing their5 knowledge category. 7% said their knowledge was now at an '*Excellent*' level, 80% said '*Good*', and 13% rated their knowledge as *'Moderate'*.

When asked of their understanding of Google Earth after the workshop, all but one participant showed a growth in learning, with 93% improving a category. 33% rated their understanding as 'Excellent', 53% said it was 'Good', and just 2 people (13%) said their Google Earth knowledge was 'Moderate' after participating in the workshop.

Some of the comments that indicated more information would have been desirable included: "Excellent, do more of these and also cover more about plant communities and management strategies.", another suggesting to "Improve bandwidth by possibly doing this course in a computer lab.", and "A print-out 'follow-along' of the Google Earth steps (at least at a high level--for the specific example we mapped) would be helpful. Overall, this was a great workshop!".

A few of the comments that demonstrated how the workshop was useful included: "Very informative and well structured.", "Great course, the AUM calculations were a great refresher. "Thanks—very helpful!", and "Great workshop—great attendance allowing for a dynamic discussion time".

Grazing 101: Strategies for Sustainable Production – Webinar

This webinar focused on riparian grazing management, and was delivered to 34 attendees (including 6 producers), on Feb 9, 2018. The intent of the workshop was to use it as primarily a 'Train-the-Trainer' event, not to reach agricultural producers. 23 participants filled in the evaluation questions.

When asked if the webinar met their expectations, 96% said it had (26% said it was '*over and above*' what they expected while 70% said it was '*good'*). One comment that showed the value of the webinar: "Excellent presentation!! It has provided me with more information and design ideas when working in the riparian zone."

When asked to rate their understanding of riparian grazing management after the workshop (compared to the 'before' rating they provided), we found that 52% of participants indicated they were better informed afterward, while 35% stayed the same and 9% declined. We sometimes see these declines in evaluations, and it seems that they are really about people realizing how little they know and likely, how they rated themselves too highly in the 'before' rating.

One of the respondents, who was likely a livestock producer, said "We'll be challenged to put some more of these practices to use. We look forward to communicating with you re evaluation of our riparian grazing areas."

Wildlife and Riparian Zones - Fish, Fur and Feathers - Webinar

This webinar focused on riparian areas and their link to wildlife, including how management choices impact wildlife and fish and was delivered to 34 attendees, on Feb 6, 2018. The intent of the workshop was to use it as primarily a 'Train-the-Trainer' event. 15 participants filled in the evaluation questions.

When asked if the webinar met their expectations, 96% said it had (20% said it was '*over and above*' what they expected while 73% said it was '*good'*) and the remaining 7% said '*somewhat'*.

When asked if, after attending the webinar, they would be more comfortable discussing riparian areas and wildlife, 53% of participants indicated "*Definitely*" while 47% indicated they would be "*Somewhat*" more comfortable.

One comment that showed the value of the webinar: "I enjoyed it - short sweet and simple terms - but logical and not unfairly bashing the cow - just letting the learning community know that cattle use in riparian areas can be managed effectively and share the community – thanks."

Grazing Schools for Women – Evaluating Impact

Funding for the schools comes from a variety of sources (cash and in-kind); those cash contributions from Cows and Fish include our grants from Alberta Environment and Parks and Alberta Beef Producers. The Grazing School for Women (GSW) and Southern Alberta Grazing School for Women evaluations are summarised here – 69 attendees participated.

All attendees learned new information, including practices and management that they will apply, based on comments and our observations. In the SABGSW as another example of new information learned, when we did a plant identification quiz, the ladies were very keen and spent a lot of time working with their notes, looking in their plant books (which we provided) and trying to get the correct answers (which very many of them did for most plants). This skill set is invaluable for them at home, to better understand and manager their pasture and range resources.

Specifically, from the evaluation completed at the end of the schools:

When asked what they had learned at the school, all respondents listed 1 or more items, including things like:

- How to maintain pastures for efficient grazing
- How to do a range health assessment
- Plant identification
- Amount of carbon sequestration in native pastures
- Benefits of beavers / beaver management
- Good, medium and bad pasture
- Pasture health and AUM (animal unit month) assessment
- Grass and weed identification

85% of respondents indicated the schools will influence their grazing management.

Practices that registrants hope to incorporate:

- Rangeland health assessment

- Range management changes
- Riparian health assessment
- Weed management
- Grazing principles
- Rotational grazing
- Long-term monitoring
- Leave more grass in the pasture
- Assessing pasture health so we do not over graze

At SAGSW we asked 'will you incorporate practices you learned at the school, at home?" and 96% said they would, and went on to list many practices. At GSW, the question was asked a little differently, so it cannot be tallied as a 'yes/no' question, but 11 ladies listed practices they hope to incorporate.

In addition, we asked the ladies attending if they had attended in the past, and if they had implemented changes since attending previously and of the 31 that had attended previously, 87% had implemented changes! This is very positive – not only do they say they will make changes, but changes have been occurring.

When asked what changes they had implemented (for previous attendees), many practices were listed but some include:

- Riparian assessment or management
- Rotational grazing
- Salt block/ mineral lick placement
- Exclusion fencing
- Off-site watering

Additionally, the committees and other speakers learn a lot from the collaborative nature of developing and delivering the schools, and well as attending the sessions themselves. This makes future work, beyond the schools, more effective and valuable as well.

These findings clearly demonstrate that we are influencing knowledge, skills and practices, and that investing in these opportunities has positive outcomes for landscape and habitat management.

Living with Beavers Workshop Evaluations

People are still learning and needing additional information and familiarisation with beaver natural history, impact on watershed resiliency, and also on potential management considerations to address challenges that beavers pose, and they are continuing to look for more economic information, Alberta examples and research. We continue to collaborate and gather input from partners, but these pieces of information require time and investment—a role we and our partners are working to support. Funding for this work includes our core funding support as well as targeted funding from Alberta Environment and Parks (Watershed Resiliency and Restoration

Program, via Miistakis Institute), the Calgary Foundation and the WWF Loblaws Community Water Fund.

For the year, there were six *Living with Beavers* workshops put on by Cows and Fish. Locations included Bonnyville, Calgary (evaluation information is not included for this event), Barrhead, and Vermilion, Athabasca and Brazeau County. There was a total of 70 attendees in 2017 and 62 in 2018. Of the persons attending, 84% returned completed workshop evaluations in 2017 and 60% in 2018.

When asked if they had learned new information about beavers or beaver management that they would apply to their work, land management, or in helping others learn more, a large majority of participants said they learned something they could apply: 69% said '*Definitely*', and 29% said '*Somewhat*'.

When asked if they are more comfortable discussing beaver related topics with others, at the end of the workshop, the majority of participants indicated they would be more comfortable in doing so as a result of the workshop, since 72% said '*Definitely*' and 28% said '*Somewhat*'.

When asked if the workshop met their expectations, overall, majority of participants rated it highly: 30 % said it was 'Over and Above' their expectations, 65% said it was 'Good' and just 4 people (5%) said it 'Somewhat' met their expectations.

One of the comments that indicated where more information would have been desirable was "Ecology Section informative - more detailed references would be helpful.", "Would love more focus on the case studies that deal with beaver 'challenges' rather than as much on the 'restoration' pieces (just considering the average interests in the room).", and "More exploration of management of beavers where they are relatively abundant at the forest fringe.".

A few of the comments that expressed how the workshop was useful included: "Very useful discussion and contacts regarding dam level control devices.", "Case studies on solutions - Great studies in place to learn from.", "I came without expectations, but I have learned a lot about beavers influence on a landscape both positive and negative side. As well I increased my knowledge about beavers' biology.", "I was looking for alternate ways to manage water levels to prevent flooding without removing the beaver. The concept of the pond leveler met my expectation. Also, repellent techniques to preserve certain trees. I wanted to know more about to deal with the beavers and that expectation was met. More in depth conversations about the tools out there that can be used instead of always just blasting a beaver dam.", and "Thank you. I was hoping to better understand the value of having beaver and how-to co-habit.".

Prior to starting, participants were asked to "Rate your understanding of beaver ecology, management and role or influence on the landscape, prior to the workshop" and then at the end of the workshop, they were asked this same question, following the workshop, then we compared what they rated themselves in those same categories (Excellent, Good, Moderate or Poor). These answers changed after the workshop, with 50% of the participants having a growth in understanding and 50% remaining the same level of understanding prior to the workshop. All the participants that had a "Poor" understanding had a growth and most of the "Moderate" ratings

increased to a Good or Excellent rating. The participants that had a "Good" understanding prior to the workshop remained in that rating even after going through the workshop.

Additional Selected Detailed Activities and Collaborations

Westslope Cutthroat Trout Riparian Habitat Management Improvement - Highlights

The goal of this work, funding extensively by Habitat Stewardship Program (HSP) funds, matched with partner funding (including Oldman Watershed Council (OWC) and some funds from Alberta Conservation Association (ACA)), along with our Alberta Environment and Parks grant, is to improve overall riparian habitat for threatened westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) populations, by enhancing habitat through site specific improvements. In the Westslope Cutthroat Trout Recovery Plan and Strategy, it is clear that a combination of impacts have led to habitat degradation and loss and cumulative impacts, particularly to riparian areas and streambank structure. Specifically, sedimentation, habitat loss and degradation from off-highway vehicles (OHVs), linear disturbance and grazing are threats, all identified in the Recovery Strategy, that can be reduced by working with relevant stakeholders.

This project promoted stewardship and supported site-specific enhancements to improve overall riparian habitat and sport-fishery habitat, focused on areas with westslope cutthroat trout populations. In Alberta, westslope cutthroat trout (WSCT) are listed as threatened, and we are working to address impacts to this important sport species which are identified in the Recovery Plan. By working as we have, with the relevant stakeholders, we help support changes that match Recovery Plan priorities: minimize stream bank erosion and sedimentation; manage grazing timing and use; reduce OHV use of non-designated trails; maintain riparian vegetation; and generally address habitat loss through improved management of human activities and land uses. This included identifying priority areas with expert and stakeholder input and developing site specific plans to address riparian habitat issues and threats. As part of our hands-on volunteer involvement, Stakeholder Workshop, online education and in-person interactions, we have helped engender more knowledgeable stakeholders and encourage stewardship efforts. Finally, our objective to implement changes that improve riparian areas and westslope cutthroat trout habitat has been met, under budget, with improvements implemented at five sites.

We have completed review of sites and riparian health inventories have been completed at 2 sites plus revisits work completed of 7 other sites. We identified 5 sites that need riparian improvements along Dutch Creek, a very high use recreational area (random camping areas). We identified 3 sites for signage installation along popular off-highway vehicle trails. A final plan to address riparian issues in random camping areas has been completed for the 5 sites along Dutch Creek. Partners (including AEP, Ghost Watershed Alliance and Elbow River Watershed Partners) completed plans for restoration efforts at other restoration sites (tributary to North Lost, South Racehorse, and Silvester Creeks) and we made more simplified plans with AEP and Oldman Watershed Council related to the signage installations.

Working with the Oldman Watershed Council and Junior Forest Rangers, we have installed 3 signs in the Gold and Green Creek areas near historic site of Lille. 2 of these are 'Steer Clear of

Creeks and Wetlands" and 1 of these is a 'Thank You for Using the Bridge" sign. These signs are located adjacent to existing stream fords and bridges for off-highway vehicles. We know from signage testing at various locations by the Oldman Watershed Council that these signs should have a considerable impact on how many people use the bridge compared to fording the stream.

After extensive input and discussion which suggested the proposed Dutch Creek work was a good fit (including from AEP staff), our proposal for exclusion fence installation along Dutch Creek random camping sites was not approved by Alberta Environment and Park, due to the uncertainty of pending Public Land Use Zone (PLUZ) regulations and Recreation Management Plans not yet being in place. Instead, we partnered with Spray Lake Sawmills and Oldman Watershed Council and completed a volunteer willow staking event along South Racehorse Creek to help bring back willows along a previously used logging road bridge site.

We also worked with other partners (AEP, Ghost Watershed Alliance, Elbow River Watershed Partners) to do live willow staking in two other areas, along lower Silvester Creek (live staking and live silt fences) and a tributary to North Lost Creek contributing to contractor costs to implement 'rough and loose' techniques, to reduce compaction and increase likelihood of site recovery, prior to planting. Combined, we impacted 5 stream project areas with habitat improvements and human impact mitigation techniques.

Species at Risk Partnerships on Agricultural Lands (SARPAL)

This project is a partnership between Cows and Fish, MULTISAR, and the Canadian Cattleman's Association, and is funded by Environment Canada. The major objective is to work with producers to promote voluntary stewardship on agricultural landscapes to benefit species at risk and their habitat. Over 50,000 acres of ranch land was accepted into this year's SARPAL program, with all the field work, reporting and habitat enhancement planning made possible by a collaboration between MULTISAR, the Canadian Cattlemen's Association and Cows and Fish. Dozens of Grassland Natural Region species at risk are benefitting from this work.

In 2017, Cows and Fish and MULTISAR conducted detailed riparian (26 riparian health inventories on 7 properties), range, and wildlife inventories on 2 properties in southern Alberta. Resource inventory results were used to develop habitat conservation strategies to improve species at risk habitat on the enrolled ranches. As a result of our work, we directly supported numerous habitat and management tools and enhancements:

- Approved spring development for off-site watering
- Supplies for permanent exclusion fences around dugouts and streams
- Hose for pumping out of newly fenced off water features
- New troughs at alternate water sites
- Various temporary electric fence supplies including posts and high-visibility, wildlife friendly wire
- Power and Razer Grazers for efficient electric fence installation on large ranches
- Tree and shrub bare root stock for riparian revegetation
- Off-stream waterers

Funding Acknowledgements

Cows and Fish relies primarily on grant funding, which supports both our overall broad, diverse work, or which supports specific or selected aspects of our work. This report provides an overview of our total work, without focussing on any specific funder - most funding sources receive reporting specific to their own needs.

The following funders provided core funding that allows us to support a broad suite of activities and outcomes, providing us with considerable flexibility and opportunity, allow us to often match their funds to a diversity of other more specific funds:

Alberta Environment and Parks

Alberta Agriculture and Forestry

SINCE 1969 Alberta Beef Producers

Some of our funding sources provide targeted, specific funding, and helped support project or location specific work, particularly those related to on-the-ground implementation, including:

Canada

[2 funds from Environment and Climate Change Canada: Habitat Stewardship Project related to Westslope Cutthroat Trout; Environmental Damages Fund for riparian habitat improvement work in the Athabasca River basin] This project was undertaken

WWF LOBLAW WATER FUND

alberta ecotrust

Alberta Environment and Parks

Alberta Conservation Association

S.M. Blair Family Foundation

Samuel Hanen Society for Resource Conservation

Cows and Fish

Alberta Riparian Habitat Management Society

Much of our work is done with cost recovery or partial support, in combination with our other funders, from municipalities, local watershed or stewardship groups, particularly our riparian health inventory work. We have identified our many partners throughout this report - we appreciate them for working with us and helping foster healthy riparian areas. These partnering organizations sometimes help us cover our travel costs or provide honorariums. These contributions range from small to considerable, but are too numerous to mention here. Some of our partners identify and secure considerable funding for our use - we want to acknowledge a few that have been particularly instrumental in supporting our work:

MIISTAKIS INSTITUTE

OLDMAN WATERSHED COUNCIL
oldmanwatershed.ca

Red Deer County

AWES
Agroforestry & Woodlot Extension Society

CRSB
CANADIAN ROUNDTABLE FOR SUSTAINABLE BEEF

CCA
CANADIAN CATTLEMEN'S ASSOCIATION

MULTISAR

Cows and Fish relies on a membership and Board of diverse organizations and individuals – we greatly appreciate their commitment. In addition to numerous individuals, the member organizations on our Board include:

SINCE 1969
Alberta Beef Producers

Trout Unlimited Canada

CCA
CANADIAN CATTLEMEN'S ASSOCIATION

Alberta Government

Alberta Environment and Parks
Alberta Agriculture and Forestry

Cows and Fish

Alberta Riparian Habitat Management Society

One of our main strengths is having such committed, passionate staff – thank you to our staff in achieving this work. Thank you to all our partners, landowners and agricultural producers for working with us and making the stewardship efforts that are benefiting riparian areas.

Cows and Fish staff
Riparian Health Inventory Training

Our Vision: ***Healthy, functioning riparian areas for the benefit of all.***
Our Mission: ***To promote healthy landscapes by fostering riparian stewardship.***

Thank you to our all diverse funders and supporters (cash and in-kind) listed throughout!

Thank you for being involved in Cows and Fish!