

Wetlands and Riparian Areas Restoration, Enhancement and  
Awareness Initiatives for Flood and Drought Resiliency in the  
Vermilion River Watershed

# 2019-20 Annual Progress Report

Watershed Resiliency and Restoration Program

Project: # 15GRWRR08

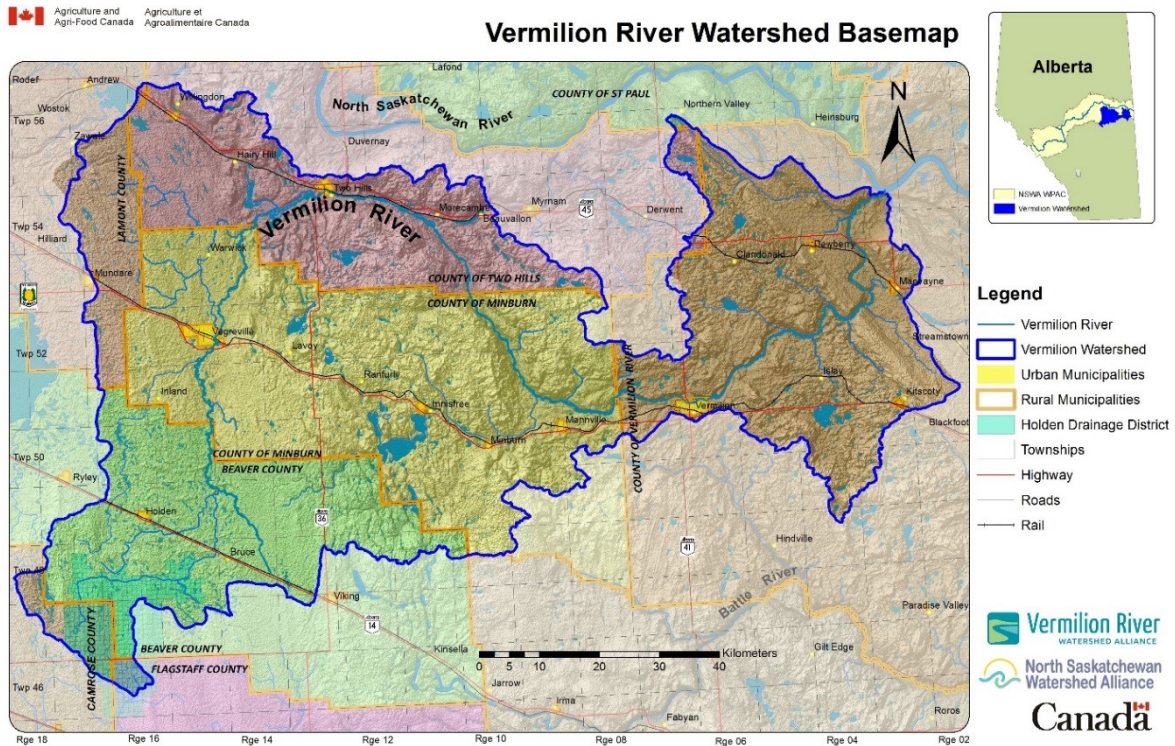
Submitted by:



April 2020

## Progress Report (Activities & Partnerships)

The North Saskatchewan Watershed Alliance (NSWA) is partnering with the Vermilion River Watershed Alliance (VRWA) and local landowners to restore and enhance wetlands and riparian areas in the Vermilion River Watershed (Figure 1). Collectively, these activities as well as associated communications materials and events comprise the Vermilion River Watershed Restoration & Enhancement Project (VRWREP).



**Figure 1:** Vermilion River Watershed

## Events for Education and Outreach

The 2019-20 year of VRWREP activities has focused on celebrating Vermilion River Watershed stewardship successes through engagement of the larger community. In Spring 2019, the NSWA and VRWA partners attended several community events and workshops, including:

- Two Hills Trade Show (engaged ~20 people directly; ~1200 total): For the fourth year in a row, the NSWA/VRWA had a booth at this well-attended trade show in the watershed. In addition to highlighting restoration projects completed in the county, the alliances distributed wetland/riparian resiliency material to attendees.
- Lamont County “Living with Water” Beaver Workshop (~25 attendees): Co-hosted by Lamont County, Cows & Fish, and the NSWA/VRWA, this event educated attendees about the importance of beavers to watershed integrity and resilience, and informed concerned citizens about (non-lethal) methods of beaver management. Extension & Stewardship coordinator Mara Erickson presented on the VRWREP at the workshop.
- Lamont County Open House: Attended by the NSWA’s summer students, to increase the profile of both watershed alliances, and to inform Lamont County residents about the restoration and enhancement work that has been done in the watershed.
- Ryley Sports Days event: Attended by the NSWA’s summer students, to increase the profile of both watershed alliances, and to inform Sports Days attendees about the restoration and enhancement work that has been done in the watershed.



In May, Mara Erickson gave a presentation on VRWREP activities at the University of Alberta for the Edmonton Lifelong Learners Association (ELLA).

In June 2019, the NSWA and VRWA partnered with the Agroforestry Woodlot Extension Society (AWES), the Town of Vegreville, and the Vegreville Regional Museum to host a public “River Revival” event on the museum grounds. The goals of the event were three-fold:

- 1) Education: the NSWA and AWES presented information on riparian area health, opportunities for enhancement, and the role of an “eco-buffer” in establishing a healthy ecosystem.
- 2) Hands-on enhancement activity: Event participants took part in native seedling and wildflower planting on a pre-prepped area of the museum, adjacent to the Vermilion River. Kid’s crafts and activities were also offered.
- 3) Celebration of success: After planting, participants enjoyed a BBQ to cap off the event.



Approximately 25 people were present on the event day, which was a satisfactory number considering it snowed the day before! The Vegreville News Advertiser was on hand for photographs and to write an article about the event and purpose (see Appendix A from the 2019-20 interim report for communications materials). The WRRP was acknowledged as the funder on all NSWA-generated print materials and during the day's presentations.



*Participants at Vegreville River Revival Planting Day*





*Flowers, bumble bees, and trees. Pictures of Vegreville EcoBuffer in Fall 2019 after planting (credit: David Berry).*



## **Restoration and Enhancement**

In addition to the River Revival, individual riparian and wetland projects remained a core component of this summer's work. Existing projects implemented their enhancement/restoration activities and post-restoration assessments for 14 projects completed in 2018 were conducted this summer as well (Table 1).

**Within this fiscal year**, five projects have enhanced:

- **3.79 kilometers** of riparian areas along the Vermilion River, creeks and tributaries
- **2.90 hectares** of wetland areas

In total, from 1 June 2016 – 31 March 2020 (including the numbers above) the NSW in partnership with the VRWA and landowner partners—with grant funding from the WRRP—has restored or enhanced a **running total of:**

- **20.25 kilometers** of riparian areas along the Vermilion River, creeks and tributaries and
- **136 hectares** of wetlands.

**Table 1:** Project details for all completed projects as of 31 March 2020. 2019-20 completed projects are in bold.

Project Number	Municipality	Legal Land Description	Project Type	Project Size <sup>1</sup>	Project Size Unit	General Project Activities	Application Year <sup>2</sup>	Year Reported <sup>3</sup>
VRW01	Beaver	SW-1-50-15-W4	Riparian	0.95	km	Exclusion fencing on south side of Vermilion River; off-stream watering system	2016	2016-17
VRW02	Minburn	NE-10-53-14-W4	Riparian	1	km	Exclusion fencing on both sides of Vermilion River; alternative watering system for year-round grazing of surrounding pasture.	2016	2016-17
VRW03	CVR	NE-3-52-3-W4	Riparian	3.09	km	Fencing along Stretton creek system on quarter; installed solar watering system. Fenced alley-way along draw to reduce cattle access in wet periods; allowed to graze later in season when dry.	2016	2016-17
VRW04	Minburn	SE-2-51-15-W4	Riparian	1	km	Repaired degraded/eroded waterway within crop field	2016	2016-17
<b>VRW05</b>	<b>Beaver</b>	<b>NE-30-49-14-W4</b>	<b>Riparian</b>	<b>2.17</b>	<b>km</b>	<b>Exclusion fencing of Vermilion River; off-stream watering system</b>	<b>2016</b>	<b>2019-20</b>
VRW06	Two Hills	NW-15-53-10-W4	Riparian	1.27	km	Fenced west side of Vermilion River to implement managed grazing in riparian area for invasive weed control; portable solar watering system	2016	2016-17
VRW07	CVR	SE-19-53-5-W4	Wetland	8.13	ha	Exclusion fencing around large wetland	2016	2016-17
VRW08	Minburn	NW-17-51-15-W4	Wetland	14.9	ha	Fence around extensive wetland complex on quarter for managed grazing during non-sensitive periods; install solar water	2016	2017-18
VRW09	Minburn	SE-31-50-10-W4	Riparian	0.35	km	Exclusion fencing along Birch creek; installed solar watering system	2016	2016-17
VRW10	Minburn	NW-5-53-13-W4	Wetland	4.11	ha	Exclusion fencing of wetland on quarter; installed solar watering system	2016	2016-17
VRW11	Two Hills	NE-14-53-13-W4	Wetland	10.9	ha	Exclusion fencing of wetland/riparian area	2016	2018-19
VRW12	Two Hills	NW-22-53-12-W4	Riparian	1	km	Repair/re-establish riparian vegetation on bare ground	2016	2018-19
VRW13	Minburn	SW-17-51-15-W4	Wetland	8.22	ha	Exclusion fencing of draw/wetland area on quarter; alternative watering system for summer grazing and winter swath grazing	2016	2016-17
VRW15	CVR	12-56-6-W4	Wetland	6.36	ha	Exclusion fencing around six wetlands throughout the project section; planted native tree and shrub species around large wetland	2017	2017-18
VRW17	CVR	NW-18-53-4-W4	Wetland	5.95	ha	Exclusion fencing around portion of wetland located on the project quarter; alternative watering system	2017	2018-19
VRW18	CVR	SW-18-53-4-W4	Wetland	8.79	ha	Exclusion fencing around entire two wetlands, the western wetland involving two quarters with different landowners.	2017	2017-18
VRW19	Minburn	NE-10-53-14-W4	Riparian	0.43	km	Exclusion fencing of draw/wetland area on quarter that drains directly into the Vermilion River; installed solar watering system	2017	2017-18
VRW22	Minburn	SW-11-51-10-W4	Wetland	1.22	ha	Exclusion fencing around 3 wetlands; solar watering system and wind breaks to compensate for fenced in willows	2017	2018-19

VRW23	Minburn	SE-28-51-14-W4	Riparian	0.63	km	Exclusion fencing around SW creek/ wetland; solar watering system and wind breaks to compensate for fenced in willows	2017	2018-19
VRW24	Beaver	SE-9-49-16-W4	Wetland	3	ha	Exclusion fencing around wetland; solar watering system	2017	2017-18
VRW25	Beaver	SW-9-49-16-W4	Wetland	2.28	ha	Exclusion fencing around wetland	2017	2017-18
<b>VRW26</b>	<b>Two Hills</b>	<b>NW-12-54-12-W4</b>	<b>Wetland</b>	<b>0.65</b>	<b>ha</b>	<b>Exclusion fencing around two distinct sections: one around the most northern three wetlands and one around the larger wetland; planted trees around wetlands to create buffer</b>	<b>2017</b>	<b>2019-20</b>
VRW27	Two Hills	SE-31-54-11-W4	Wetland	15.18	ha	Exclusion fencing around 2 wetlands: one around large southern wetland, one around smaller western wetland; alternative watering system	2017	2018-19
VRW28	CVR	SW-25-50-5-W4	Wetland	0.99	ha	Exclusion fencing around two small wetlands	2017	2018-19
VRW29	CVR	SW-25-50-5-W4	Wetland	5.6	ha	exclusion fencing along both sides of a creek/draw; alternative watering system; seeded bare ground to native grass	2017	2018-19
VRW30	CVR	NW-21-52-6-W4	Wetland	1.5	ha	Exclusion fencing around wetland and treed drainage on quarter	2017	2018-19
VRW31	CVR	N-18-51-5-W4	Riparian	1.86	km	Exclusion fencing on south side of Vermilion River; installed upland water pump to draw cattle away from waterbody	2017	2017-18
VRW32	Minburn	SE-17-53-13-W4	Wetland	0.8	ha	Ditch plug to restore drained wetland	2017	2017-18
VRW33	Minburn	NE-35-52-13-W4	Wetland	3.11	ha	Exclusion fencing around wetland area and drainage; off-stream watering system	2017	2018-19
VRW34	Minburn	SE-35-52-13-W4	Riparian	0.65	km	Exclusion fencing along Akasu lake	2017	2018-19
VRW36	Minburn	SW/NE-9-52-9-W4	Wetland	24.2	ha	Exclusion fencing around wetland; solar watering system	2018	2018-19
VRW37	Minburn	SW-8-53-13-W4	Wetland	2.4	ha	Exclusion fencing around wetland area	2018	2018-19
VRW38.1	Minburn	N1/2-15-51-14-W4	Riparian	2.28	km	Exclusion fencing along creek across 2 quarters; watering system	2018	2018-19
VRW38.2	Minburn	N1/2-15-51-14-W4	Wetland	5.46	ha	Manage/reduce livestock wetland access via fencing; watering system	2018	2018-19
<b>VRW40</b>	<b>CVR</b>	<b>N1/2-33-50-7-W4</b>	<b>Riparian</b>	<b>2.15</b>	<b>km</b>	<b>Joint project between co-owners of half section. Fence 1.95km creek across 2 quarters; 2 watering systems (1/landowner); additional fencing in 2019-20 for 0.20km of riparian area</b>	<b>2018</b>	<b>2019-20</b>
<b>VRW42</b>	<b>CVR</b>	<b>S1/2-13-52-6-W4</b>	<b>Riparian</b>	<b>1.42</b>	<b>km</b>	<b>Seeding of grass buffer within draw area adjacent to crop; exclusion fencing along draw; complete fencing area for horses on south pasture so can be removed from wash and draw area</b>	<b>2018</b>	<b>2019-20</b>
<b>VRW43</b>	<b>CVR</b>	<b>NW-19-50-6-W4</b>	<b>Wetland</b>	<b>2.25</b>	<b>ha</b>	<b>Exclusion fencing on north (metal fencing) and south (wood post fencing) wetlands. Off-site watering system</b>	<b>2018</b>	<b>2019-20</b>

<sup>1</sup> Length (km) of river/creek enhanced or area (ha) of wetland enhanced/restored. Note: Project size is an approximation pending a field ground-truthing assessment after project completion. Size estimates may be updated subsequent to post-project ground-truthing. <sup>2</sup> Fiscal year in which a project application was approved for that project <sup>3</sup> Fiscal year in which a project was fully completed and details were (or will be) reported upon in the annual report to WRRP.



## Communications

Communicating success was one of our main goals this year. In addition to the events mentioned above, we also developed some key communication deliverables, including a VRWREP project booklet (see attached), highlighting all of the landowner projects in the basin, and an esri StoryMap (<https://storymaps.arcgis.com/stories/87f9d8acf48441c7af1f3b3c5dabd14e>), to provide an online, interactive web tool to share the message about our VRWREP activities more broadly, provide some educational components, and include some resources for people interested in learning more. The online StoryMap will be available and hosted on the VRWA and NSW websites shortly. The printed booklet will be printed and distributed to the landowners in April 2020. Extra copies of the printed booklet will be available to hand out at events planned for this year, and an online version will be made available and hosted on the VRWA and NSW websites. In all communications materials, we acknowledge WRRP funding.

### 2019-20 Expenditures:

In the 2019-2020 fiscal year, WRRP funds primarily were spent on restoration/enhancement projects and site post-assessments, the salary for the Extension & Stewardship Coordinator, and the River Revival event (Table 2). WRRP funds also were used for summer students to assist with both field work and event planning. Other expenditures included VRWREP-associated meeting costs and travel costs not associated with the site assessments, as well as the incorporating VRW information into the online riparian health portal.

**Table 2:** Budget categories and associated WRRP-funded expenditures for the 2019-2020 fiscal year:

Budget Item	2019-20 Expenditures	Comments
Salaries	\$90,120.65	Extension and Stewardship Coordinator, 1 April 2019 to 31 March 2020; summer student partial pay; Graphic designer partial pay.
Wetland enhancement/restoration	\$42,617.28	Project costs reimbursed to landowners
Riparian enhancement/restoration	\$8,614.18	Project costs reimbursed to landowners
Pre- and post restoration assessment	\$32,905.42	Field work supplies, travel, associated costs for site assessments.
Web portal	\$13,220.00	Integration of Vermilion hydrology data
Communications	\$9,213.72	Communications materials, events, advertisements
Meeting costs	\$2,454.98	Venue, catering, associated costs.
Travel	\$2,347.04	Travel to general events, general site visits (those not associated with assessments)
<b>TOTAL 2019-20</b>	<b>\$201,493.27</b>	

In addition to the WRRP-funded items above, the NSWA contributed **\$397.92** cash and **\$35,185.65** in in-kind administrative support, while the VRWA contributed **\$56,627** in in-kind administrative, technical, and field support to VRWREP related activities.

## **2020-21 Work Plan**

For the final year of this grant, we will be focusing on wetland restoration and enhancement projects through a new partnership with Lamont County (the most recent municipality to join the VRWA), completing post-enhancement assessments of previous VRWREP sites, communicating our successes, and involving the greater community.

### **Restoration and Enhancement Activities**

A new partnership with Lamont County is capitalizing on VRW-project success to implement additional watershed resiliency projects in the western part of the VRW and immediate surrounding area starting in this fiscal year and continuing through the end of the grant term in 2020-21. So far, Lamont County, in partnership with the NSWA, VRWA, and Cows & Fish, is in the planning and recruiting phase for VRWREP activities that will be occurring summer 2020. Cows & Fish will be completing post-project assessments at approximately 9 previous (2016) VRWREP sites over the Summer months. Partnerships with Cows & Fish and the ALUS program will be maintained in order to continue watershed resiliency work in the basin.

### **Events and Communications**

A similar event to the Vegreville River Revival is planned for the Town of Two Hills in late May 2020, with site and event preparations currently underway. Partners in this event will be the County of Two Hills, the Town of Two Hills, the VRWA, and AWES. The current plan is to include local, Grade 6 school kids from Two Hills and New Myrnam School to assist with the planting, and students from the Career Training Education Centre (CTEC) in Myrnam will be designing a temporary pump system to draw water from the Vermilion River to an on-site storage tank for watering the plants. Of course, considering that schools have ended early this year, we are currently discussing contingency plans, with the uncertainty of when/if community gathering will be allowed during this time. The plants and seedlings have already been ordered and mulch has been sourced, so at the very least a small group of us will still create the EcoBuffer as a demonstration site that can be used for events in the future.

On March 27th, 2020, we had planned to hold a “Stories of Stewardship” public event that featured storytelling style talks by four landowners who participated in VRWREP activities. Landowners were going to speak about their experience and being stewards of the land. The event was also going to feature information and discussion tables with participation of our partners of non-profit and educational agencies who are engaged in stewardship activities in the basin, including Cows & Fish, ALUS, AWES, Land Stewardship Centre, Lakeland College, and New Myrnam School/CTEC.

The goals of the event were to:

- Celebrate stewardship activities in the basin
- Education

- Create awareness
- Share success

Unfortunately, because Health Canada was recommending all events and gatherings be cancelled due to COVID-19, we had to postpone the event. We plan to reschedule it for later this year, likely early November, if it is safe to do so.

*Thank you for this opportunity to restore & enhance the Vermilion River Watershed!*