

Calgary River Valleys (CRV) is a non-profit organization that has operated in Calgary since 1991. In addition to annual field work projects, CRV works toward ensuring that the cumulative effects of urban development and recreational activities are anticipated and planned so as to protect, and where possible, restore natural processes and habitats. CRV is unique in Calgary in that we are the only organization that tracks large scale land use and development proposals across all of Calgary that impact watercourses and wetlands, so as to provide independent input regarding how best to protect the water assets that will be impacted. We consider our organization “the voice of our rivers.”

CRV also encourages the participation of volunteers in our field work projects. We organize an annual Brown Trout Redd Count each November to count and geo-locate the spawning nests of Brown Trout in the Elbow River. This data is one indicator of river ecosystem health and collecting it consistently each year allows analysis of spawning trends over time. We provide the data collected to several levels of government and like-minded organizations. CRV’s data was used to help determine suitable sites for the Government of Alberta’s Elbow River Spawning Habitat Restoration Pilot Project in 2019.

Recently Calgary River Valleys completed two phases (in 2018 & 2019) of a riparian restoration project: “The Elbow River Riverbank Makeover Project.” This project was completed with funding from the City of Calgary and other funding, as a demonstration project to show the kinds of techniques that can be used by river-adjacent homeowners to replant their riparian zone, and thereby provide flood and drought mitigation, as well as improve river water quality and wildlife habitat.

An important aspect of this project includes educational outreach to river-adjacent homeowners, river community associations, and the larger Calgary citizenship. We have conducted surveys on people’s riparian knowledge, site tours after each “riverbank makeover”, and provided educational information to the public via ongoing articles in Calgary Community Newsletters.

In early 2020 CRV received funding under the Government of Alberta Watershed Resiliency and Restoration Program (WRRP) for riparian restoration and educational work to be conducted until early 2022. While the start of some aspects of our project was delayed by the onset of COVID-19, we are now preparing to follow hygiene and physical distancing best practices for all 3 main components of our project: research, education and outreach, and riparian restoration field work. Below is an outline of what our project will entail.

1. Research

The WRRP project research component will build on the work we completed in 2018 and 2019 in partnership with the City of Calgary and allow us to broaden our survey research of both river adjacent landowners and the larger population of Calgary regarding their understanding of the functions and benefits of a healthy riparian zone for flood and drought mitigation, as well as maintaining river water quality and wildlife habitat. In the last two years we initiated direct door-to-door engagement with every homeowner whose property is adjacent to the Elbow River, as well as face-to-face surveys of citizens attending the Fish Creek Park Creekfest event. The surveys were designed to measure the respondents’ knowledge and understanding of the functions of riparian zones, and ways to support the environmental stewardship of these areas. For our WRRP funded project, we plan to complete additional surveys of landowners whose properties are adjacent to rivers and creeks in Calgary, as well as continue to gather data from the broader Calgary population regarding their knowledge of the importance of maintaining and restoring riparian zones to their full functionality.

We found from our research in 2018 and 2019 that many river-adjacent homeowners in Calgary are still traumatized from the effects and catastrophic damage done by both the 2005 and 2013 floods and they are motivated to do what they can to help mitigate the effects of the next flood in Calgary.

Unfortunately, we also found in our research that some homeowners believe the best solution for flood protection is to install a retaining wall or large boulders as was done shortly after the flood in many publicly owned areas. However, science shows that while rocks and retaining walls may help to prevent erosion in one area, they just rebound the river's energy so an area further downstream can be eroded or otherwise more negatively affected during flood events. A bio-engineering solution, with the riparian zone planted with a variety of sedges, rushes, shrubs, and trees can still achieve the desired goal of erosion protection while allowing the riparian zone to function normally and maintain wildlife habitat.

Over the course of our project, we plan to track changes, in response to the educational messaging that is delivered, in levels of knowledge of riparian functions and the role played by riparian zones in both flood and drought mitigation, as well as improving river water quality.

2. Education & Outreach

With WRRP grant funding, we intend to build on the education and outreach efforts Calgary River Valleys successfully made in 2018 and 2019 regarding our Elbow River Riverbank Makeover projects. Information about our project was delivered directly to hundreds of thousands of Calgarians in river-adjacent and other communities via community newsletters, as well as to multiple media and social media sources, including Global News TV and their website, and the MyCalgary.com site.

For our WRRP project we plan to build on these efforts to provide educational information to river-adjacent landowners, and to the broader citizenry via media, social media, and our website. The information will include advice about the benefits of re-planting riparian zones with native riparian adapted species:

- Stabilizing the riverbank, thereby limiting erosion during flood events, both at the site & downstream,
- Absorbing water during high water events (flooding) and releasing water during drought events,
- Reducing river energy and resulting water damage during flood events,
- Filtering contaminants from going into the river due to land run-off, thereby improving water quality,
- Trapping sediment from the river to improve water quality & aquatic habitat, and
- Creating habitat for wildlife, including shade for fish.

We also intend to continue our efforts to provide educational information to those involved in the planning and development process so as to encourage protection, wherever possible, of Calgary's river valleys, creeks, riparian areas and wetlands.

3. Riparian restoration field work

For the final component of our WRRP funded project, we intend to identify, assess, and restore to higher functionality at least two damaged riparian areas within Calgary. We plan to remove non-native

and invasive vegetation species from selected riparian zones, and re-plant them with native adapted vegetation species. We expect to complete a re-planting for at least 1 site in 2020 and at least 1 additional site in 2021. Pictures of the restoration site from 2018, before and after, are below.

(See attached files, Photo Credit CRV)

Pictures of the restoration site from 2019 before and after are below.

(See attached files, Photo Credit CRV)

The sites for the 2020 & 2021 WRRP project are still to be confirmed. Each site, in order to be selected, would require being identified as a site that would significantly benefit from restoration of the riparian zone, and would also require the co-operation of the landowner to do the restoration, and to allow monitoring of the site for at least 2 years after the site was restored.

We hope to provide you an update after year one of our newest project.