

Riparian Restoration Citizen Science

At the end of October 2020, Calgary River Valleys (CRV) and small group of volunteers planted approximately 700 sandbar willow stakes along part of the Hanson Ranch stretch of West Nose Creek in Hidden Valley as our 2020 riparian rehabilitation project. We were happy to have some families including children from the nearby neighbourhood join us for the planting day. The riparian restoration was completed that day with the required Covid restrictions, limiting the number of people who could participate, ensuring physical distancing and hygiene protocols were followed.

This project was funded with a grant from the Watershed Resiliency and Restoration Program. We want to extend our thanks to City of Calgary Parks who provided permission to restore this area and facilitated the required permits.

Prior to the planting day, we took the opportunity to incorporate experimental study conditions into the project. The stakes were divided into six groups to compare treatments for rooting success as well as treatments for deterring browsing by animals.

The methods of treating the willows were:

- Approximately half were pre-soaked to promote root growth, and half were not.
- Of each of these halves, a portion were pre-painted with a diluted latex paint mixture on their tips to prevent drying and also deter browsing, and another portion were not.
- Finally, some of the willow stakes were painted after planting with a chili oil and yoghurt mixture to see if animals might be deterred from eating them, and some were left untreated for browsing.

Calgary River Valleys staff returned to the site in May 2021 to observe the conditions of the planted area. Although we had installed some temporary educational signage in the area to let people using the pathway know what was going on in the area, it seems those signs could not withstand our Chinook winds, as they were gone when we returned to the site in May. In addition, we noted that several of the willow stakes planted seemed to have been pushed into the ground by people stepping on them while walking next to the creek edge. It is unlikely that the stakes that were pushed quite far into the ground will sprout. However, we did observe that most of the remaining willows were beginning to bud out. We observed willow stakes budding in each of our treatment conditions. Some were sprouting through the paint itself!

However, we also encountered a number that had been enjoyed by rodents (beavers most likely). We had left some of the off-cuts (trimmed tops of the planted willow stakes) as a “snack” for the beaver in the area, which the beaver seemed to have appreciated. Some planted stakes were also nibbled clean of bark, up to the paint line, which suggests the paint does provide more protection from browsing. We will continue to monitor growth of the willow stakes as well as the comparable outcomes in each of the citizen science experimental conditions.

Also, in 2021 we plan to return to the site to plant approximately 70 pots of native shrubs such as wild rose, wolf willow, buckbrush, and saskatoon bushes. If you, or your family are interested in joining us, please contact us at CalgaryRiverValleys2@Outlook.com for more information.