

Project Follow-Up: Reconnecting Piper Creek

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Piper Creek is a small parkland stream that originates southeast of the city of Red Deer, meandering through agricultural land before entering the city. The waters from the Piper Creek watershed flow into Wascasoo Creek and subsequently the Red Deer River. The parkland region of Alberta, where Piper Creek is found, represents a unique transition ecosystem separating the boreal and grasslands regions.

Piper Creek is home to various non-sport fish species such as Fathead Minnows, White Suckers, Brook Stickleback, Northern Redbelly Dace, Lake Chub and invasive Prussian Carp. While these fish species may not present a popular angling opportunity outside the micro-fishing community, they still play an extremely important and crucial role in the overall aquatic ecosystem.



Piper Creek before restoration *Photo by Trout Unlimited Canada*

Following several decades of agricultural land use, water quality, riparian health and fish habitat had been significantly altered in Piper Creek. An improperly installed crossing of Piper Creek had resulted in several problems. Fish passage was likely impaired at most times of the year due to the culverts being perched (that is, sitting above the water they flow into), crushed, and/or blocked by debris. Following years of this obstruction, increased sediment load upstream of the crossing had led to the widening and shallowing of the stream channel.

In order to improve the overall quality of the Piper Creek watershed and significantly benefit downstream aquatic ecosystems, a project was initiated. This project was a part of Trout Unlimited Canada's (TUC) national Reconnecting Canada initiative, wherein TUC works with partners to collaboratively improve conditions at stream crossings where barriers or other environmental issues may exist. The approach taken to remediate the crossing issue in this case was to remove the structure completely as the crossing was no longer necessary.

In the fall of 2016, TUC and other partners worked with a contractor to isolate the crossing from the watercourse, remove the crossing using an excavator, and then remove the isolation, allowing the stream to flow unimpeded again for the first time in decades.

Following the initial heavy machinery work, TUC again worked in collaboration with partners to revegetate the banks and surrounding areas with live native willow and tree stakes. The success of the project is evident as the planted shrubs and trees have begun to grow and stabilize the

banks, and the creek has begun the process of redistributing sediment, allowing it to return to a natural narrow and meandering channel. Willows planted at the crossing are now more than six feet tall, and a number of additional riparian and wetland species have recolonized the former crossing site including cattails, sedges, and pickerel-weed. Two years after the project was completed, it is clear that recovery of the local habitat is underway.

During the restoration process and following the initial work, the Piper Creek Fish Habitat Enhancement Project has and will continue to serve as an important form of education about the importance of healthy riparian habitats. The project can also function as a flagship project for inspiring future riparian restoration projects in the area. The project site serves as an important area for green initiatives in the community as it also includes a community garden, food forest and pollinator garden on the surrounding land.



Piper Creek after restoration *Photo by Trout Unlimited Canada*

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