



Wetlands, Lake, and In-stream Habitat Improvements at Camp Miakonda

Partners for Clean Streams (PCS), the non-profit supporting the Maumee RAP, was awarded a \$1.36 million Great Lakes Restoration Initiative (GLRI) grant in 2010 to restore stream habitat, reduce erosion, enhance wetlands, and to improve upland habitat along the upper Ottawa River.

After years of planning and preparation, including surveying, modeling and design in cooperation with the Army Corps of Engineers, the project was constructed in the fall of 2012. PCS and the Boy Scouts of America were thrilled with the way the project progressed over the two months of construction and the natural response to the features installed. GeoGradel Co. and Ecological Restoration, our contractors, were creative and flexible while working in an active Boy Scout Camp.

Nearly 10,000 cubic yards of sediment was slated to be taken off-site once excavated from Lake Sawyer. However, with a little creativity, much of it was able to be used on-site to shape banks, create new wetland shelves, and contour the bottom of the Lake. Sloping back the excavated areas in Lake Sawyer helped to prevent future erosion, as well as provide a gradual transition between deeper and shallow areas, perfect for aquatic habitat and recreational activities.

Along the edges of Lake Sawyer are several built-up sections that were designed to be wetland shelves. These shelves allow water to filter from the tributaries through the wetland shelves to the Lake. The wetlands help to settle out sediment and potential pollutants before the water reaches the deeper portions of the Lake. These wetland shelves will remain underwater, yet are shallow enough to become a unique educational opportunity for Boy Scouts and the public to learn about wetland plants and their benefits.

Existing wetlands north of the Lake, and pocketed throughout the project area, were also improved. Nearly 5 acres of wetlands were restored and enhanced by both invasive species treatment/removal and the planting of over 26,000 new, beneficial native plants.

Flowing into Lake Sawyer are two tributaries, Cunningham and Hartman Ditches. Cunningham Ditch entered the Lake through a pipe under an old BB range and camp road. The pipe was removed and riffle/pool structures were created to reduce erosion and encourage fish and aquatic insects.

Hartman was redirected into the Lake, using the installation of an open bottom culvert to protect aquatic life.





Having two tributaries flowing into the Lake provides more water movement through the Lake and helps to provide oxygen to the deepened waters, benefiting wildlife. Both tributaries received stone work to help direct the water and lock-in new native plants added for sediment control.

The steep banks of the Ottawa River also received some much needed attention. Within the river, numerous in-stream structures, such as Bendway Weirs, were installed to push the highest velocity current of the river into the center of its existing channel. This reduced the stress on the river bank and the subsequent erosion. Near the river and the Lake's closest point, a longitudinal peaked stone toe protection (LPSTP) was built along more than 650 feet of the banks to help prevent erosion from occurring at high-flow events. This erosion was degrading water quality, destroying streamside vegetation, and threatening to breach the Lake.



Although major habitat improvement is complete, PCS and the Boy Scouts of America are not done. We engage Scouts with activities like macro-invertebrate testing and water quality workshops. Educational signs help tell the story of this project and its benefits to the thousands of Scouts and their families that use this camp yearly. The educational benefits of this habitat restoration will benefit future generations.

While the water quality and aquatic benefits of this project are still being measured, PCS expects that long-term outcomes will bring the Maumee Area of Concern closer to removing the Loss of Fish and Wildlife Habitat Beneficial Use Impairment (BUI) (BUI #14), and to a lesser extent improve the Degradation of Benthos (BUI #6), and Degradation of Fish and Wildlife Populations (BUI #3) in the Ottawa River watershed.

Partners for Clean Streams is proud to have partnered with the Boy Scouts of America on this Great Lakes Restoration Initiative project and looks forward to continuing to collaborate on meaningful hands-on education at Camp Miakonda. If you would like to learn more about this project, schedule a presentation for your organization, or donate online to support future projects, please visit the PCS website at www.PartnersForCleanStreams.org or call PCS at 419-874-0727.

Your support for future projects like this would be greatly appreciated. Your donation allows PCS to continue our mission of ensuring clear, clean and safe waters for future generations and supports our hands-on projects motivating people of all ages to take local ownership of and to care for our natural resources.

