

Highland Park Dam Mitigation Project

The Highland Park Dam Mitigation Project was commissioned to mitigate the low-head dam on Swan Creek near the South Avenue Bridge, at Highland Park in Toledo, Ohio. The project was funded through a grant from The Joyce Foundation to the Partners for Clean Streams (PCS).

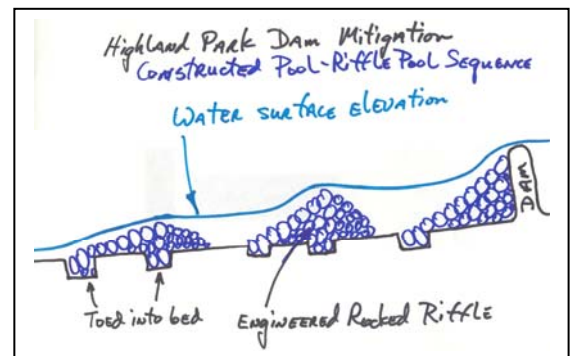
The project objectives were:

- Restore **floodplain function**
- Mitigate **the negative effects of a low head dam for aquatic species**
- **Provide an example of low head dam mitigation without removal**
- **Provide a learning experience for officials, consultants, academia, etc.**
- **Provide safe public access to the creek**
- **Improve the aquatic health and water quality**

The Highland Park Dam is located in the lower reach of the Swan Creek Watershed at river mile 4.4. This City of Toledo Park is surrounded by a high-density residential area. The Dam was constructed in 1926 and encases a 36" sewer main that cannot be removed. There was a 3 - 4 ft. drop in water surface during low stream flow. Highland Park Dam Decommission Project restored flow integrity to approximately 11 miles of the main channel of Swan Creek. By restoring the natural flow, fish are now able to fully utilize the lower 11 miles for food, spawning and nursery. Prior to this project, they could only use the lower 4.4 miles of the river.

The Project was designed based on on-site data collection, wetland delineation, and hydraulic and hydrologic modeling. Several construction design alternatives were explored with Engineered Rock Ramp Structures being selected. These structures:

- **"Lift" normal water level** by creating a backwater pool
- Create low-flow channel to **concentrate low-flow over structures**
- Optimize channel size to **provide sufficient depth to allow fish to swim upstream.**





Mussels were identified on-site requiring permission from the Ohio Department of Natural Resources and US Fish and Wildlife Service before construction could start. Partners for Clean Streams hired a mussel expert to conduct an official survey, relocate any mussels found and conduct a follow-up survivability survey in two years. Six species were found alive of which none were state or federally listed as threatened or endangered.

Local plant materials were harvested with the assistance of the Toledo ZooTeens. On August 12-13, 2008, locally native species of willow and dogwood were harvested and then soaked to facilitate growth. The materials were installed throughout the construction along the streambank and along the keys for the engineered rock riffles.



Rich Young and Mike Spyeahalski said, ". . . white bass and walleye never used to come here and now they do but the only fish we have seen come over the dam are the white suckers. Now everything can make it."

Actual construction began during the week of August 18, 2008 with site preparation. Six hundred tons of choke stone (3"-4" average diameter) and 1900 tons of type A rip-rap stone (18"-30" average diameter) was specifically produced for use by this project and delivered over the course of 3-4 days. Several loads of fines and gravel were first delivered to create the temporary haul roads leading from the parking lot to the two access points for rock ramp

construction. The haul roads were later reshaped to be walking paths between the sidewalk and the river. The second downstream structure was created in much the same way with material being placed from west to east; however more substantial keys were constructed.



In addition to the in-stream work, native plant demonstration gardens were planted on the west floodplain. Approximately 1800 plugs of twenty species were planted in the two gardens over the course of two days.

Mike Berry was excited to see the project. During the construction he said, "It's about time. I've fished here all my life." He's caught a steelhead and northern pike under the bridge, bluegill, catfish and white bass and largemouth bass. "I think the walleye may come up here and spawn."

An educational workshop was incorporated into this project so that it could serve as a learning tool/model for other areas with similar circumstances. The workshop was held August 25-27, 2008. The workshop included several presentations by team members (PCS, JFNew, US Army Corps of Engineers) as well as hands-on activities including live stake harvesting and planting, and native plant demonstration garden preparation and planting.



If you would like to learn more about this project or schedule a presentation for your organization, please visit the PCS web site at www.PartnersForCleanStreams.org or call PCS at 419-874-0727.

