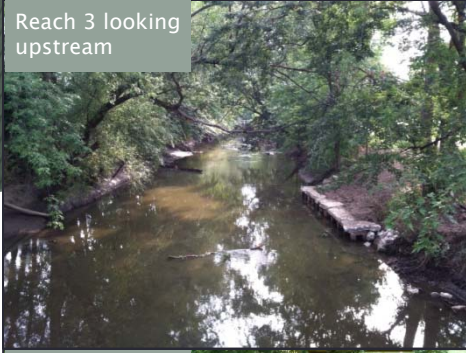# Ottawa River Restoration Project
At the University of Toledo

Phase 2 Fact Sheet

September 2013

Reach 3 looking upstream

LUNKERS & Vegetated Key

LPSTP & Bendway Weir

Locked Log & Vegetated Key

Bendway Weir, Locked Log and Hydraulic Cover Stones

The President's Commission on the River at the University of Toledo has undertaken a habitat restoration project for the 3,700 feet of the Ottawa River on the main campus. The overall intent of the project was to enhance the natural habitat within the Ottawa River on campus and contribute to overall improvement efforts underway along the river within our community.

During the initial development of the concept plans in 2011-2012 it was realized that the proposed in-stream restoration elements could have the potential of raising water levels upstream of the project area, which is not permitted by the Federal Emergency Management Agency (FEMA). As a result, the final design included the removal of all planned in-stream structures from Reach 1 (furthest upstream), reduction in the total number of structures, changes in the size and materials of structures, and construction of an engineered floodplain bench habitat area in Reach 1. This feature was installed in August/September 2012 (see Phase 1 fact sheet for details).

As noted above, Phase 2 of this project included in-stream and streambank structures in the remaining 4 reaches of campus. The reaches were determined by the numerous bridge crossing along the Ottawa River through UT's main campus. (see map on back)

Prior to in-stream construction on Phase 2, student workers from the Partners For Clean Streams Maumee Corps project (funded by NOAA) spent four weeks extensively clearing invasive plant species from the river banks, including tree of heaven, buckthorn, and honeysuckle.

The in-stream construction occurred in July/August 2013.   The in-stream and streambank structures installed included 88 foot of LUNKERS to provide a bank overhang for fish habitat, over 60 individual Hydraulic Cover Stones to provide diversity in flow, several Locked Logs and Bendway Weirs along the base of the bank providing shelter for aquatic species, and a vegetated 200 foot Longitudinal Peaked Stone Toe Protection (LPSTP) structure for erosion control and planting of a wetland shelf feature.

All of the structures were protected and/or reinforced by stone keys, base rock, and/or the backfilling of soil. Live stakes of willow, dogwood, and buttonbush were installed along with all of the stone structures and keys. These live materials were harvested from local sources by the Maumee Corps the week before construction and soaked on-site to optimize sprouting. All exposed soil was hydro-mulched and seeded with a native grass mix. With the placement of these structures, several access points were created, including a 400 foot pathway starting at the East Parking Garage, to allow people to experience the river up close.

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In the month following construction, over 700 native plants were planted along the top river bank including bur oaks, buttonbush, flowering dogwood, sumac, hazelnut, and sycamore. At the base of the bank and within the river, water willow was planted.

Public access for the students, faculty, staff and guests of The University of Toledo, and their education is an important element of this project. Permanent informational signs will be placed at selected locations providing explanation of the project and the restoration work completed.

This project involved a number of key partners from the local community along with federal and state agencies including TMACOG, EnviroScience, Partners for Clean Streams, Ohio EPA, U.S. Army Corps of Engineers Buffalo District, U.S. Army

The Partners For Clean Streams Maumee Corps project (funded by NOAA) spend four weeks extensively clearing invasive plant species from the river banks.

Corps of Engineers ERDC River Engineering Branch (Dave Derrick) and Duke Wheeler as well as several UT departments including Media & Communications and Facilities & Grounds. The lead contractor was Ecological Restoration, Inc.

A path was created along Reach 5 to allow access for people to be able to see some of the structures installed and enjoy the river.

The overall aim of the project reflects the mission of the UT Presidents Commission on the River to improve the Ottawa River on the main campus with a focus on addressing beautification, public access, environmental improvements, public education, student involvement, and community engagement. The restoration efforts at the University of Toledo are also contributing to the ongoing efforts within the local area to improve aquatic habitat conditions along the Ottawa River as evidenced by the many other recent projects undertaken with the same aim.

Post-construction monitoring will be undertaken over the next few years to monitor the in-stream restoration structures for their stability and role in improving fish habitat conditions and population, in addition to the overall aquatic health and quality of the river. Long-term maintenance of the native plants will be required along with a continued aggressive treatment of any returning invasive plants. For more information contact Dr. Patrick Lawrence, UT Presidents Commission on the River at patrick.lawrence@utoledo.edu or visit www.utoledo.edu/commissions/river.
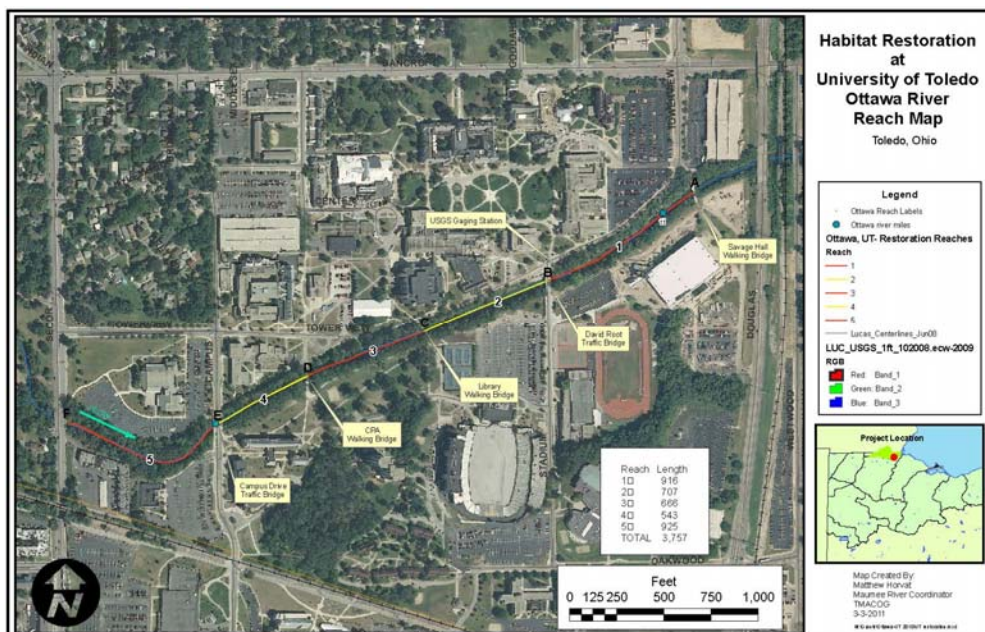
Thank you to the major project sponsors: Ohio EPA 319 Nonpoint Source Pollution Control Program ($235,195) and the U.S. Fish and Wildlife Service ($161,132).