

Sheboygan River Area of Concern

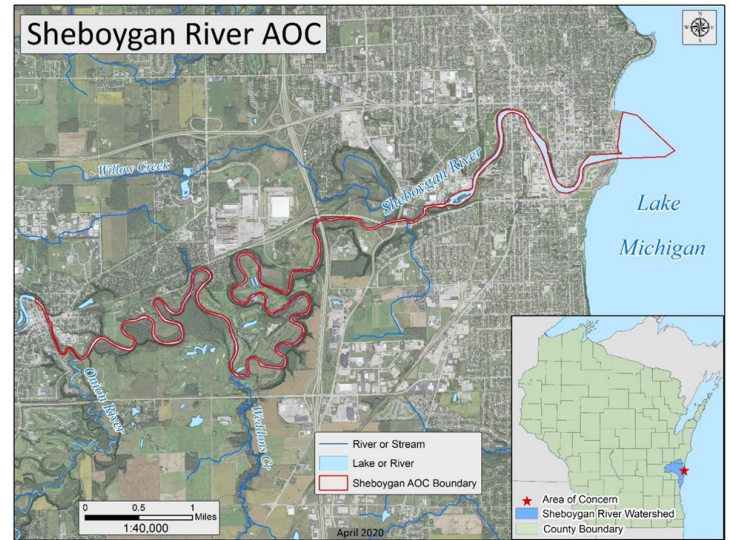
On the road to recovery

The Sheboygan River Area of Concern is healing

after nearly a decade of concerted efforts by partners to remediate pollution and restore the river's habitat. These efforts set a course for revitalization which continues today as others undertake additional habitat restoration projects and capitalize on economic development opportunities provided by a cleaner river.

The lower 14 miles of the Sheboygan River are designated as a Great Lakes Area of Concern, or AOC. AOCs are Great Lakes rivers and harbors that suffered the most severe environmental harm as a result of industrialization and land use changes in the first part of the twentieth century. The U.S. and Canada designated 43 AOCs under the 1987 update of the Great Lakes Water Quality Agreement, which is an agreement first established in 1972 between the two countries to clean up and restore the Great Lakes.

The river was designated an AOC due to pollution of river sediments by PCBs and PAHs – chemical compounds that were released to the environment from industries and do not break down in the environment. In addition to being designated in the international agreement, these pollutants also led to several areas on the river being designated federal “Superfund” sites. “Superfund” is the common name for the Comprehensive Environmental Response, Compensation and Liability Act of 1980, a federal law designed to clean up sites contaminated with hazardous substances.



Sheboygan River AOC boundaries include the lower 14 miles of river from the Sheboygan Falls dam to the Sheboygan Harbor. Interpretive exhibits placed along the Riverwalk provide the public with information about the river cleanup and restoration activities (below). Photo: DNR.



Contaminated sediments resulted in fish and waterfowl that are not safe to eat and impaired use of harbor areas due to dredging restrictions. Pollution and loss of habitat harmed wildlife, fish, bottom-dwelling aquatic life and plankton populations. The AOC designation was also due to high levels of runoff pollution and sedimentation which at one time caused nuisance algal blooms.

In Sheboygan, local companies stepped up beginning in 2006 to remediate the worst of the “legacy” pollution— i.e., pollution that existed before modern environmental laws were enacted. With leadership from Wisconsin DNR’s Office of Great Waters, state and local partners leveraged those cleanup activities to do a much larger and more holistic cleanup and restoration with Great Lakes Restoration Initiative funding provided by U.S. EPA.



A clamshell dredge scooped sediment from the river bottom and placed it on barges for later processing and treatment on land. In the background, a blue excavator removes sediment from the barges and transfers it to the land-based processing facility. Photo: Stacy Hron, DNR.

Thanks to strong partnerships among local, state and federal partners the remaining pollution was cleaned up. From 2011 to 2013, four major sediment projects were completed which removed PCBs, PAHs, heavy metals, and other contaminants while also deepening the channel in the harbor and lower river for boating. More than 400,000 cubic yards of contaminated sediment were removed in approximately 20,000 dump truck loads.

To improve habitat, five projects were implemented to restore native plants to approximately 34 acres along more than 18,000 feet of shoreline. A sixth project involved in-stream habitat restoration. Other pollution had been addressed over many years— and by many partners —through efforts including wastewater treatment plant upgrades, agricultural practices to reduce soil erosion and runoff, and reduced phosphorus content in detergents and lawn fertilizer.

Following these projects, the Wisconsin DNR and others are monitoring to verify that the ecosystem is recovering as hoped — and the signs so far are promising. Scientists studied fish, aquatic insects, nesting birds, waterfowl, tree swallows, bats, mussels, herptiles and mink. Results show that the system is overall doing better than before although fish tissue sampling has shown that more time is needed for the ecosystem to recover because of the persistence of PCBs in fish tissues.

Additional restoration activities are happening through the Natural Resource Damage Assessment (NRDA) process, which provides funding to compensate the public for the injury to natural resources from the pollution associated with Superfund sites. Projects will restore habitat and improve fish passage between Lake Michigan and spawning habitat; other projects will improve recreational access. NRDA funds provide an opportunity to go above and beyond the AOC restoration work.



Wildwood Island restoration site shown during construction (inset), and after the project was completed. This island complex is an important habitat in the Sheboygan River AOC restoration effort. Invasive plants were removed, soils were stabilized, habitat structures were added, a backwater wetland was created and native plants were established. Photos: Debbie Beyer, Stacy Hron (inset).

While the ecosystem continues to recover, economic revitalization is occurring as well. A [2018 case study](#), published by the Great Lakes Commission and the Council of Great Lakes Industries, documents how the city of Sheboygan and Sheboygan County are capitalizing on a cleaner river to bring new residential development and business to the river corridor. The study reported that “new housing developments have proliferated along Sheboygan’s waterfront, representing an investment of \$37 million¹.” Local officials also reported greater water-based recreation and increasing numbers of millennials residing in the city and county since the AOC projects were completed.

This study shows that people are reconnecting with the Sheboygan River and harbor now that the burden of toxic sediments has been cleaned up. Removing the historical pollution has improved water quality and is helping these waters and their inhabitants to heal. With continued restoration through NRDA projects, monitoring to assess if AOC goals have been achieved, and local leadership for continued revitalization of the waterfront, the Sheboygan River has a bright future.



Anglers enjoy fishing from the pier in Sheboygan Harbor. Photo: James E. Schultz.



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To learn more about Sheboygan River AOC projects and progress visit <http://dnr.wi.gov>, search “[Sheboygan AOC](#).”



Office of Great Waters

1. *Assessing the Investment: The Economic Impact of the Great Lakes Restoration Initiative; A Case Study of Sheboygan, Wisconsin*. September 2018. Publication of the Great Lakes Commission and the Council of Great Lakes Industries. <https://www.glc.org/wp-content/uploads/Sheboygan-092218.pdf>