

The Ashtabula River Remedial Action Plan

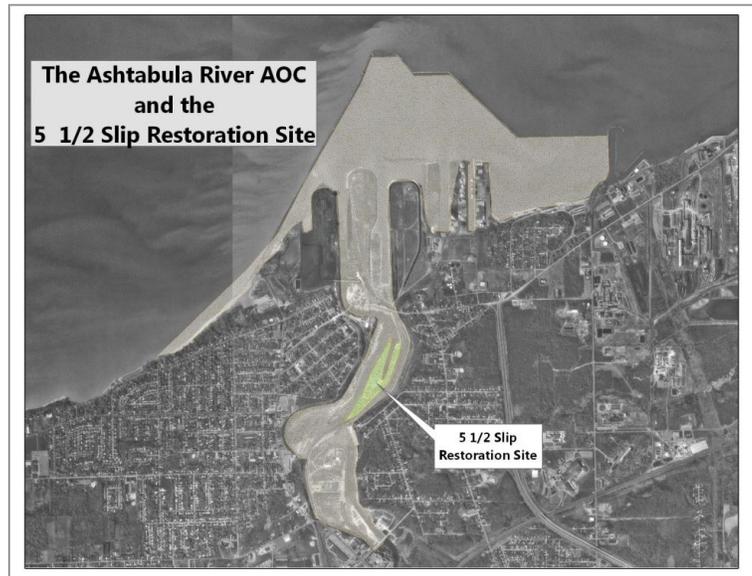
The Ashtabula River 5 ½ Slip Restoration Effort, in a Nutshell



The Ashtabula River Area of Concern Advisory Council has listed six beneficial use impairments (BUIs) in the Area of Concern. They are:

- Restrictions on Fish Consumption
- Degradation of Fish Populations
- Fish Tumors and Other Deformities
- Degradation of Benthos
- Restrictions on Dredging Activities
- Loss of Fish Habitat

At barely over two miles in length, the Ashtabula River main stem in the AOC is small but its problems have been large in both effort and money needed for restoration. Over \$70 million was recently spent to remove over 600,000 cubic yards of contaminated sediments



from the main stem. Eventually, the river will recover from the effects of chemical contamination, but the historic alterations to the river channel will need to be addressed in order for the complete restoration of the AOC to be realized. The largest problem facing the RAP Advisory Council is the loss of quality fish habitat.

The Problem with Habitat

In the Ashtabula AOC, the problems with fish habitat are channel and stream bank modifications made over time to facilitate industry, shipping and rail service. While fish communities in the upper reaches of the AOC are near the delisting criteria in Ohio's *Delisting Targets for Ohio Areas of Concern* document, no spot in the AOC meets the delisting criteria for fish habitat. This suggests that a loss of quality aquatic habitat may be a limiting factor in the AOC's ability to sustain healthy fish communities. According to the Ohio delisting guidance document, the applicable criteria needed to delist the Fish Habitat portion of BUI #14, Loss of Fish and Wildlife Habitat and the status in the Ashtabula River AOC are:

Criteria	Required for Delisting	Current Status in the AOC
QHEI	QHEI scores in free-flowing sections average QHEI scores ≥ 60	Average < 60 ; no single site in AOC ≥ 60
Lake Erie QHEI	LE QHEI indicate impairment (LE QHEI average ≥ 55 for AOC)	Average < 55 ; One site upstream of 5 ½ Slip = 55

The 5 ½ Slip Plan, in a Nutshell

Located at River Mile 1.1, exactly in the middle of the Ashtabula River AOC, is the 5 ½ Slip site. The 10 acre project site represents more than a half mile of river bank in a two-mile AOC. As this site is centrally located and represents a large portion of the Ashtabula River AOC, a more comprehensive restoration effort will provide a unique opportunity to help restore the entire AOC by providing fish habitat, by creating more wetlands and by providing a hydrological connection to a small bay that is often stagnant. The 5 ½ Slip project site is the only site in the small AOC where any substantial habitat restoration work can be offered. Some of the remedial actions at the site will be provided by GLLA mitigation and an NRDA-required effort, but with additional funding by the Great Lakes Restoration Initiative, a more comprehensive restoration is possible. By use of both funding sources, the comprehensive restoration plan will provide:

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- Four acres of wetlands and 2700 linear feet of fish habitat shelf providing spawning habitat for native fish species like northern pike and the Great Lakes muskellunge and refuge for larval fish
- An increase in mammal, bird and rare fish populations including the bigeye chub, present in the Ashtabula River but declining elsewhere in Ohio
- Needed staging areas for seasonal runs of steelhead trout
- Removal of concrete and other hard material providing an additional 1700 feet of natural shoreline
- Reconnection of the slip area to river flow. The slip is a six acre historic tributary mouth left as a backwater area when the stream was rerouted for past industrial development. It suffers from low oxygen and lack of current flow.

RAP Expectations on the Completion of the Full Restoration Plan

The expectation is the ability to delist three impairments: Degradation of Fish Habitat, Degradation of Fish Populations and Degradation of Benthos.

Currently, no single site within the AOC provides sufficient fish habitat for the QHEI score of 60 or the LE QHEI score of 55 required for delisting the Fish Habitat impairment. Along the main stem, the construction of fish habitat shelves is expected to yield LE QHEI scores exceeding 70. With the AOC being about 2 miles in length, such a significant improvement to this half-mile stretch may raise the average LE QHEI for the AOC above 55 which would allow for the delisting of the fish habitat portion of Beneficial Use 14, Loss of Fish and Wildlife Habitat.

Prior to the GLLA dredging, fish population scores, as measured by IBI and MIwb, were approaching state water quality criteria and AOC delisting targets. It is expected that the completion of a comprehensive restoration plan at the 5 ½ Slip site will increase the number of favorable fish species, especially in the backwater slip area, and will likely raise the fish community indices to meet the state's criteria and AOC delisting targets. This will allow for the delisting of the fish population portion of Beneficial Use 3, Degradation of Fish and Wildlife Populations.

Although little can be reasonably accomplished for benthic communities in maintained deep draft commercial shipping channels, benthic scores at the shallow water fish habitat shelves, the connecting channel to the slip and the naturalization of 1700 feet of concreted shorelines will increase. The improvement should be sufficient for delisting the Degradation of Benthos use impairment in the AOC. Benthic populations are the first fauna to recover and the AOC has the benefit of having a state designated Scenic River as its upper watershed source.

RAP Support

The Ashtabula River RAP Advisory Council fully supports the complete the comprehensive restoration plan and sees a complete restoration as the only reasonable opportunity to delist the three mentioned beneficial uses in the AOC.

The Ashtabula River RAP Advisory Council believes it will be nearly impossible to delist the Ashtabula River AOC without a comprehensive habitat restoration at the 5 ½ Slip project site.