

# RESTORING ONONDAGA LAKE: HABITAT IMPROVEMENT

The Onondaga Lake Partnership (OLP) promotes cooperation among federal, state, and local governments, and other involved parties in the management of the environmental issues of Onondaga Lake and the Onondaga Lake watershed in Central New York.

Six Executive Partners comprise the OLP:

- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- New York State Department of Environmental Conservation
- New York State Attorney General's Office
- Onondaga County
- City of Syracuse

The Executive Committee establishes and maintains the mission of the partnership and the lake improvement effort.

The Project Committee serves as the partnership's technical center of expertise on specific projects.

The Resource Committee develops and maintains the funding strategy for projects.

The Outreach Committee works to enhance public knowledge and understanding of the partnership and the status of the lake improvement effort.

You can contact the Onondaga Lake Partnership at:

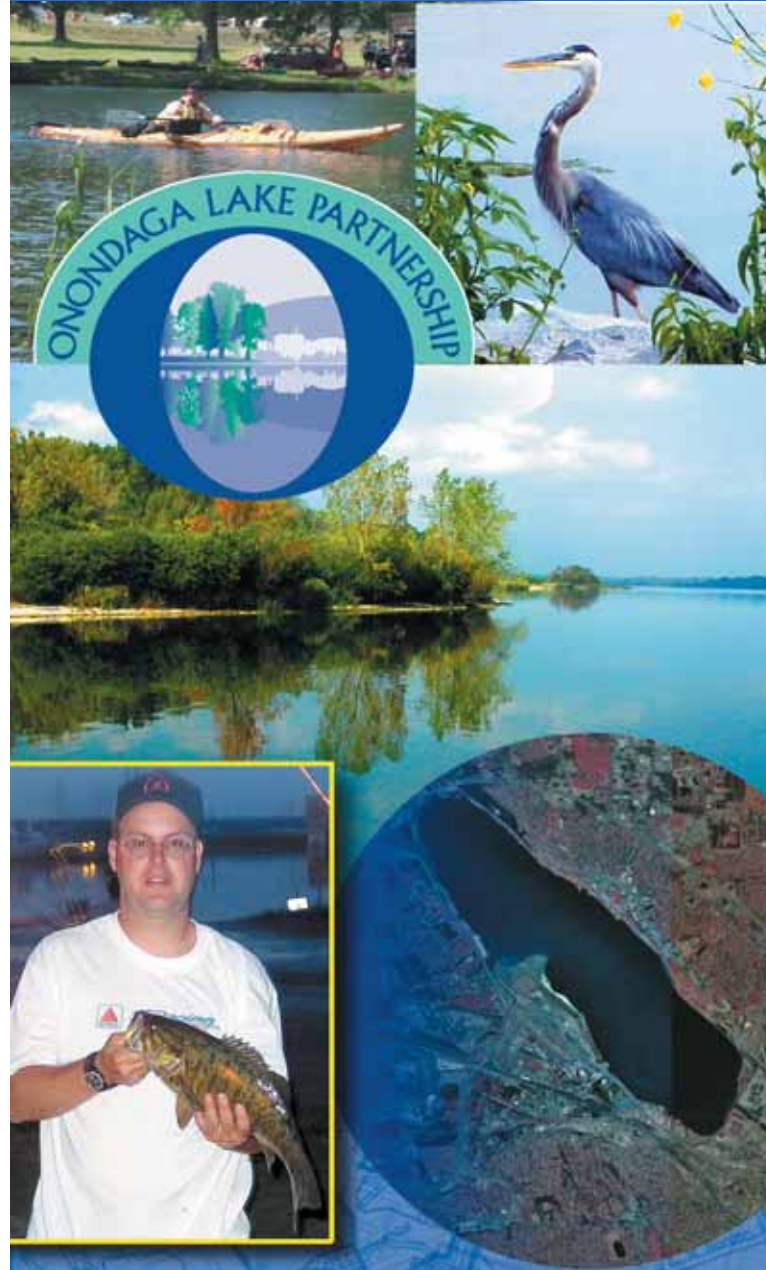
1-800-833-6390  
[www.onlakepartners.org](http://www.onlakepartners.org)  
 or write:  
 Onondaga Lake Partnership  
 1776 Niagara Street  
 Buffalo, New York 14207

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A clean lake reflects well on all of us.



# MAKING ONONDAGA LAKE A BETTER PLACE FOR ALL LIVING THINGS

Improving Onondaga Lake and its watershed will enhance the recreational opportunities both in and around the lake. But there's more to the story. Improving the lake will also make the lake a better place for animals and plants as the habitats they need are expanded and improved. The Onondaga Lake Partnership (OLP) is pursuing habitat improvements that are designed to make Onondaga Lake and its watershed a more healthy and thriving ecosystem.

## A LOOK BACK . . .

There once was a fish so prized that it became a delicacy in New York City restaurants during the early 1800s. Believe it or not, it came from Onondaga Lake. The cisco (known then as the Onondaga Lake whitefish) was a cold-water fish species. At that time, the lake and its tributaries supported a cold-water fishery that included migratory Atlantic salmon.

Fast-forward a century to 1928, when a survey identified only 10 fish species in the lake. Then by 1946, 93% of all fish caught in Onondaga Lake were just one species—carp.

What happened? A growing residential population, industrial and municipal pollution, and a century of agricultural activity affected the lake and severely disturbed the lake's water quality and ecosystem environment. Although fish population is perhaps the most talked about measurement of the lake's ecosystem

health, amphibians and reptiles, known as herpetofauna, are also important indicators of the area's eco-health.

Previous studies of amphibians and reptiles in and around Onondaga Lake showed a major impact on their number, diversity and location. Most were found only in those land and water habitats that were isolated from direct contact with the waters of Onondaga Lake.



Snow Goose visits lake



This "Aquatic Habitat Improvement Structure" helps promote aquatic vegetation and an improved habitat for fish in Onondaga Lake.



Redhead and American Wigeon waterfowl



## PLANS AND PROJECTS UNDERWAY

The Onondaga Lake Partnership is involved in a variety of projects designed to monitor existing water quality conditions and improve lake habitat.

### Ambient Monitoring

Through Onondaga County's Ambient Monitoring Program (AMP) the status of certain chemical, physical, and biological elements of the watershed are monitored. The program assesses a number of the lake's biological indicators, tracking fish species and other organisms, including:



Smallmouth Bass tagged for monitoring program

- phytoplankton—tiny plants suspended in the water
- zooplankton—microscopic aquatic animals
- macroinvertebrates— insects and worms living in the bottom sediments of lakes and streams that are closely linked to water quality and habitat conditions
- aquatic plants—important to stabilizing the lake bottom and providing food and shelter for young fish

### Aquatic Habitat Improvement

Onondaga Lake has almost no rooted green plants along its shore because of the cloudy water and the abundance of light-weight

calcium carbonate pebbles, called oncolites. The high density of oncolites is believed to have resulted from years of salt waste discharges from the Allied-Signal's soda ash operation. The OLP continues to investigate ways to improve shoreline habitat and increase needed shoreline plants.

One habitat project of the OLP consists of a long pile of rocks extending out into the lake. It resembles a pier but is called a jetty, and it's actually an aquatic habitat improvement structure. OLP scientists refer to it as a permanent habitat module. Its purpose is to reduce the shifting and resuspension of bottom sediments in the shallow water caused by waves on the lake. This resuspension limits the growth of aquatic vegetation—which, in turn, limits fish spawning areas. The structure is the first of its kind in the lake, and will give the OLP a measure of what may be needed to revitalize the Onondaga Lake

biological community.

### Other Habitat Improvements

Enhancing habitat in the Lake as well as in its tributaries is a priority for the OLP. One such tributary project funded by the OLP is designed to initiate a revitalization planning process for the Onondaga Creek watershed based on community input and technical information. In addition to a working group made up of representatives of area residents and organizations from the length of the creek, the project's technical team is from the City of Syracuse, Cornell Cooperative Extension, Atlantic States Legal Foundation, SUNY ESF Canopy and the Onondaga Lake Cleanup Corporation. When the 2 1/2 year project is completed, the revitalization plan may include suggestions for specific habitat improvement projects in Onondaga Creek.

The OLP also funded construction of two culverts under the lake's west shore trail to provide a direct connection between the lake and previously isolated wetlands. These habitat improvements are being monitored by lake scientists to evaluate their effectiveness. Some additional small projects to improve habitat have been funded through the OLP's mini-grants program. Mini-grants have funded the construction and placement of bird houses in the lake's watershed by local boy scouts, a habitat survey on Beartrap Creek, a landscape demonstration project at the Rosamond Gifford Zoo, an education program on rain gardens and other educational efforts to inform and involve the public in lake-related habitat improvement projects.

### THE LAKE TODAY

Progress is being made. In recent years, over 50 varieties of fish have been identified in Onondaga Lake—some are year-round residents and some only migrate through. Among the fish found in the lake are largemouth and smallmouth bass, walleye, northern pike, bluegills and pumpkinseed sunfish. Most of the year, cold-water fish species can't survive in the lake's deeper, colder waters due to low oxygen levels. In the spring and fall, however, when the lake's upper waters are cold, some cold-water fish—like brown and rainbow trout—may enter the lake from its tributaries.



Great Egret

Onondaga Lake is also a good place to see a variety of birds, especially waterfowl and shorebirds. Over the years, the December bird counts, conducted by the local Audubon Society, have recorded 26 species of waterfowl on Onondaga Lake. The 2003 count included two wintering bald eagles. The numbers and varieties of birds are expected to continue to improve as water quality initiatives and

habitat revitalization plans are implemented

### GETTING INVOLVED

There are a couple ways you can get involved in habitat monitoring and rehabilitation. Onondaga County has tagged hundreds of fish to monitor the lake's fishery. The tags are yellow and have the county name and a number on them. If you catch a tagged fish, record where and when you caught it, the species, and the tag number, then release it. Then call the County at (315) 435-2260, ext. 360, and report your catch.



Child gets close-up view of fish from the Lake in a holding tank at the annual OLP Lake Day event

People can also become part of the Angler Diary program. This program requests detailed record keeping and is appropriate for those who fish in any of the following four zones: Seneca River upstream of the lake, Onondaga Lake, Seneca River downstream of the lake, and Oneida River to Caughdenoy Dam and Lock 23.

For more information on these programs, call the County at (315) 435-2260.

For more ways you can help, obtain the OLP's companion brochure on nonpoint source pollution.

### YOU CAN LEARN MORE

Habitat improvement is an ongoing process and significant progress is being made by the OLP. If you'd like to track the progress, please visit our website at [www.onlakepartners.org](http://www.onlakepartners.org) and for more information on the County's ambient monitoring program, go to [www.ongov.net](http://www.ongov.net).