



# New York's Great Lakes Action Agenda Highlights

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## Special points of interest:

- **Great Lakes Action Agenda**
- **2010—2012 Achievements**
- **Outlook for 2013**

## 2010—2012 Action Agenda Achievements

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## Restoring the Greatness to the Great Lakes Great Lakes Programs Coordinator, Donald Zelazny

Like waves along the coast, sometimes rolling up rhythmically upon shore, other times crashing down upon it violently, so do New York's Great Lakes natural resources and coastal communities continually change. Some change is slow and good, creating iconic landmarks, like Niagara Falls and the Chimney Bluffs; some change is unintended, like the Love Canal hazardous chemical site or the loss of Lake Ontario's sand beaches. Responding accordingly to these changes is a great challenge. We must continue to protect native biodiversity, conserve our remaining natural ecosystems, restore damaged water resources and habitats like coastal wetlands, improve polluted lakes and rivers, create opportunities to enjoy the beaches, and continually learn about the complexity of these ecosystems and how

they will react to new threats or stimuli. Success in responding to this challenge requires effective planning, cooperative partnerships, continual

### *New York's Great Lakes Basin—the largest watershed in New York State*



*Donald Zelazny is the Great Lakes Programs Coordinator for the New York State Department of Environmental Conservation's (DEC) Great Lakes Watershed Program. With support from a team of 12 staff, the program uses a watershed approach to support and implement programs, federal treaties, and binational management plans to advance NYS priorities for the conservation, restoration, and protection of New York's Great Lakes basin.*

research and vigilance, and a commitment to progress. The vision and plan to accomplish such progress is outlined in New York's *Great Lakes Action Agenda*. The specific challenges facing us and the small successes that many dedicated citizens across the state's Great Lakes watershed—the largest in New York—are achieving in meeting the Action Agenda's goals are described in this new report. I hope you will read this report, learn from it and ask yourself, "What can I do in my community to help restore the greatness to the Great Lakes?"

## Great Lakes Action Agenda

The Great Lakes Action Agenda (GLAA) is New York's draft action plan to guide restoration, conservation, and sustainable development activities in our portion of the Great Lakes basin. The Great Lakes Action Agenda:

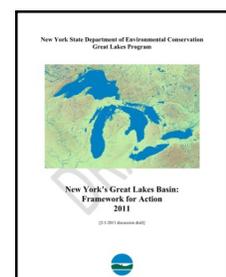
- ◆ Is an all-inclusive, multi-agency action plan to restore New York's Great Lakes basin.
- ◆ Highlights the most urgent actions needed to achieve environmental restoration and sustainable economic development.
- ◆ Promotes coordination and

collaboration among stakeholders and organizations working in NY's Great Lakes basin.

- ◆ Seeks to leverage expertise, human capital, and financial resources needed for effective action.
- ◆ Emphasizes an ecosystem-based management approach that considers how people depend on the environment.

Achievements highlighted in this report are organized under the ten goals of the 2011 draft Great Lakes Action Agenda. Although much has

been achieved, much more remains to be done. DEC will be working with stakeholders throughout the basin in 2013 to finalize this plan so that we may achieve even more in the years to come!



## Goal 1: Virtually Eliminate Discharge of Persistent Toxic Substances

To protect biological and human health, Goal 1 includes actions meant to reduce, remediate, and regulate a variety of toxic substances, including legacy contaminants from past industrial activity and chemicals of emerging concern such as pharmaceuticals and new industrial compounds. Several recent efforts have advanced this goal:

- ◆ **Buffalo River Restoration Project** (USEPA, DEC, USACE, Erie Co., City of Buffalo, Honeywell, Buffalo Niagara Riverkeeper)

This public-private partnership is working to address multiple environmental challenges in the Buffalo River Area of Concern (AOC), including contaminated river sediments, poor water quality, a lack of safe public access, and insufficient fish and wildlife habitat. The first phase of dredging activities has been completed and

resulted in the removal of 550,000 cubic yards of contaminated sediment. The second phase of the project, which is scheduled to begin in 2013, will carry out additional dredging and habitat restoration activities. When completed, this project will result in cleaner water and a healthier urban environment, moving us one step closer to restoring this AOC.

- ◆ **Be Green in the Great Lakes** (DEC)

This project encourages homeowners and land care providers to adopt organic land care practices that reduce water use and avoid the use of synthetic pesticides and fertilizers. This education and outreach initiative will create and distribute brochures and web content, hold training sessions, and introduce NYSDEC's "Be Green Organic Yards NY" program

to hundreds of basin residents.

- ◆ **Niagara River Toxics Management Plan** (EPA, Env. Canada, Ontario Min. of Env., DEC)

The NRTMP is a U.S./Canadian effort to reduce 18 priority toxic pollutants in the Niagara River, ten of which were believed to have significant sources along the river. Overall, the NRTMP met its goal for 50% reduction of these ten toxics by 1996 by bringing wastewater discharges into compliance with SPDES permit requirements, and by completing remedial actions at all but five of the NRTMP priority hazardous waste sites. However, monitoring data indicate that concentrations of mirex, hexachlorobenzene, PCBs, and PAHs continue to exceed water quality criteria, and sources of these persistent toxics along the river need further assessment.



DEC

*"If we placed all the material [from Buffalo River dredging] on a football field, including the end zones, it would be a pile 300 feet high"*

-Mike Asquith, Army Corps of Engineers, as quoted by NPR WBFO on August 14, 2012.

## Goal 2: Control Sediment, Nutrient and Pathogen Releases

Lakes Erie and Ontario both suffer from microbial and chemical contamination and algal blooms. Goal 2 aims to control these inputs to our waters so that drinking water quality is protected, desired aquatic biotic communities flourish, and humans and wildlife are protected from coastline health hazards.

- ◆ **Sanitary Surveys at State Park Beaches** (OPRHP)

The New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) has conducted sanitary surveys at 16 beaches located on Lake

Erie, Lake Ontario, the Niagara River, and the St. Lawrence River to identify primary pollutants and their source locations. This information will be used to inform beach clean-up activities, ultimately making beaches safer for swimming and other recreational uses.

- ◆ **Rochester City Hall Green Roof** (City of Rochester)

The City of Rochester has 'paved' the way for green infrastructure in their city by constructing an 8,700-square-foot green roof on the City Hall "B" building. The green roof collects and holds rainwater, keeping it from running into the

sewer system, and eventually into the Genesee River and Lake Ontario. The green roof should also reduce City Hall energy costs. Rochester received over \$2 million for this and other green infrastructure projects in a grant from DEC's Water Quality Improvement Program.

*Rochester City Hall's new green roof saves water and money*



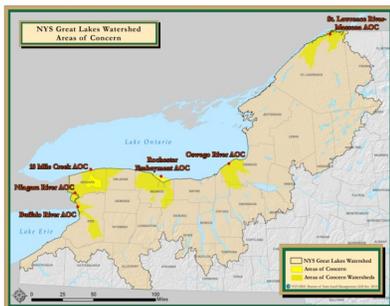
www.cityofrochester.gov

Fair Haven Beach State Park reported no advisories or closings in 2011



NYS Parks/ J. Rozell

## Goal 3: Accelerate the Delisting of New York's Areas of Concern



New York State has five Areas of Concern

**Areas of Concern (AOCs)** are locations that have experienced the worst environmental degradation, chemical contamination, and other pollution, preventing the public's use and enjoyment of an area's natural resources. Although New York State has already cleaned up or 'delisted,' the Oswego River AOC, a concerted effort is required to remediate the state's five other AOCs: Buffalo River, Niagara River, Eighteen Mile Creek, Rochester Embay-

ment, and the St. Lawrence River at Massena.

### ◆ Implementing Lakewide Management Plan (LaMP)/AOC Priorities (DEC)

With federal Great Lakes Restoration Initiative (GLRI) funds, a Great Lakes team has been formed to coordinate project planning, public outreach, sampling, and monitoring for the Lake Ontario and Lake Erie management plans, and management of the Great Lakes Areas of Concern in New York State. This team of engineers, biologists, and environmental resource specialists has boosted New York's capacity to coordinate statewide restoration efforts, leverage partnerships, and implement projects that directly benefit AOCs and Lakes Ontario and Erie. Current projects include a mink contaminant study to assess progress made in reducing animal reproductive problems from toxic chemicals in several AOCs, an algae control project at Ontario Beach to enhance safety and recreational uses, and an analysis of Niagara River

fish data to determine trends that will inform future remediation efforts.

### ◆ Addressing Beneficial Use Impairments (BUIs) (DEC, Monroe County Dept. of Health)

Efforts are underway to determine whether the BUI, 'Tainting of Fish and Wildlife Flavor,' can be removed at the Rochester Embayment and Buffalo River AOCs. DEC is collecting and analyzing water samples for phenols, benzene, and other contaminants of concern to determine whether this BUI can be safely removed from these areas. If water quality targets are achieved, the project will likely be completed by spring 2014.

Qmnonic / CC-BY-2.0, via Wikimedia Commons

*At the top of the aquatic food chain, mink are important indicators of toxic contaminants in our waters*



## Goal 4: Combat Invasive Species

**Invasive species** are considered among the most significant issues impacting water quality and healthy fish and wildlife populations and habitats. New York's Great Lakes basin is no exception. It has been colonized by hundreds of aquatic and terrestrial invasive species.

### ◆ iMapInvasives New York (NY Natural Heritage Program)

Launched in spring 2010 in New York State, the iMapInvasives project is an ambitious citizen science effort to map the spread of

invasive species. This program is led by the New York Natural Heritage Program, a collaboration between DEC and SUNY College of Environmental Science and Forestry (SUNY ESF). To date, over 80 trainings have been held throughout the state, engaging more than 900 individuals in mapping efforts. Trainees learn how to report new infestations of high priority invasives such as hydrilla and emerald ash borer using their computers and smart-

phones. Their citizen-based field reports will be combined with larger databases to inform rapid response and management actions by DEC and other agencies addressing invasive species in New York State.

*The iMapInvasives Program trains volunteers to use their smartphones to map and report new infestations*



Jennifer Dean

## Goal 5: Conserve and Restore Fish & Wildlife

New York State is home to 53 endangered and 45 threatened birds, mammals, insects, amphibians, reptiles, and fish, the majority of which require habitat in NY's Great Lakes basin for all or part of their life cycles. A holistic, ecosystem-based approach is essential to sustainably conserve, restore, and manage fish and wildlife in the state's Great Lakes basin.

### ◆ St. Lawrence at Massena/Akwesasne AOC Lake Sturgeon Restoration (St. Regis Mohawk Tribe)

This project aims to advance efforts to restore

lake sturgeon in the St. Lawrence River AOC at Massena, NY Area of Concern, by investigating suitable spawning habitat, water quality, and causes of reproductive failure. The project kicked off in 2011 with a series of roundtable meetings, where partners determined management priorities and identified project needs. Field work began in spring 2012 with a contaminant analysis to test sturgeon for PCBs, mercury, and other toxics. Educational outreach programs have also been held at local schools to engage students and communities in the project. In the next year, a habitat evaluation component will be initiated to assess physical, chemical, and biological indicators in over 15 riffle

habitats. Upon completion, project results will inform the design and implementation of sturgeon spawning beds, ultimately supporting efforts to remove the BUI for habitat and fish and wildlife degradation.

### ◆ Lake Erie Biodiversity Conservation Strategy (TNC)

The Nature Conservancy (TNC) is coordinating efforts to develop a multi-partner biodiversity strategy that identifies the conservation targets representative of Lake Erie's biodiversity, determines key threats to these features, and develops

BN Riverkeeper



BNRK's Niagara River Restoration Program has successfully restored over 5,500 linear feet of shoreline

long-term strategies to conserve these species and ecosystems. This approach will complement the Lake Erie Lakewide Management Plan by providing clear, practical actions that will result in measurable benefits to the Lake's diverse flora and fauna.

◆ **Niagara River Riparian Restoration Program (BN Riverkeeper)**

This program assists property owners along the Niagara River and its tributaries in developing and installing riparian buffers and other river-friendly landscape features that benefit habitat and water quality. Since the start of the program in July 2009, 21 sites totaling 5,650 linear feet of shoreline were planted with over 5,250 plants. Thirteen properties were completed last year

alone! A series of educational workshops was also held to engage waterfront property owners and the public in the program.

◆ **Niagara River Habitat Improvement Projects (HIPs) (DEC, NYPA, USFWS, Tuscarora Nation, Seneca Nation, Niagara Re-licensing Env. Coalition, OPRHP)**

In the last two years, several habitat restoration projects have been completed within the Niagara River AOC. At Little Beaver Island, over eight acres of wetlands were restored through removal of fill, site grading, and invasive species control activities. Recreational amenities, including a kayak/canoe launch, trail and overlook, and interpretive signage, were also installed. An-

other HIP removed invasive species from 66 sites at Buckhorn and Tiff marshes to benefit native wetland species. In addition, a common tern restoration project was expanded to create additional nesting habitat on the Buffalo Harbor breakwaters by adding gravel nesting substrate, and installing perimeter fencing and chick shelters. This brought the total nesting habitat created by this HIP to well over 10,000 square feet!

Tim DePriest



Beaver Island restoration

## Goal 6: Conserve Great Lakes Water Supplies

**New York's water is our most important economic and environmental asset. Given the growing demand for water, including water for human consumption, food production, and energy generation, coupled with projected climate change impacts, it is essential that New York continue to strengthen its capabilities to better understand and manage its water resources in the Great Lakes region.**

◆ **Water Conservation Project (U.S. Geological Survey)**

The USGS, in cooperation with DEC, has identified best management practices for water conservation and loss mitigation for major non-potable water users in New York. These findings will be accessible via the web and will support New York's efforts to develop a water conservation manual for non-potable water uses, including industrial, commercial, and institutional water withdrawals.

◆ **In-stream Flow Recommendations for NY's Great Lakes Basin (The Nature Conservancy)**

This project will provide the information necessary to develop and implement science-based in-stream flow standards for sustainably managing tributaries in NY's Great Lakes basin. With input from experts and researchers throughout the state, this project will result in the development of sustainable flow recommendations.

*Only 1% of Great Lakes water is renewed annually through precipitation and groundwater. The remaining 99% is a legacy from the last ice age.*

## Goal 7: Promote Smart Growth, Redevelopment and Adaptive Reuse

**By focusing on urban land uses and redevelopment, the Great Lakes region can achieve its economic development goals, increase the value of existing infrastructure, reduce development pressure in greenfields, and support the state's climate change mitigation goals.**

◆ **Sustainability Planning (NYSERDA)**

Each of the four regional economic development councils within NY's Great Lakes basin (Western NY, Finger Lakes, Central NY, and North Country) are developing regional sustainability plans. Once completed, these plans will provide guidelines for improving air, water, land and quality of life through smart growth and sustainable economic development initiatives.

◆ **Lake Ontario Coastal Restoration & Resiliency Strategy (DEC, DOS)**

This multi-faceted strategy aims to improve outcomes anticipated from

climate change impacts and water level management by enhancing and strengthening the constructed and natural shorelines within the Lake Ontario and St. Lawrence River systems. Plan components include ecological restoration of natural shorelines, an assessment of coastal infrastructure, a shoreline vulnerability and opportunity analysis, public outreach, and resource and technical support. The strategy will benefit coastal communities as well as the environment by advancing efforts to build a more resilient shoreline.

Jennifer Tait



*Healthy, resilient coasts benefit shoreline communities and nearshore wildlife*

## Goal 8: Enhance Recreation and Tourism Opportunities

Enhanced tourism and recreation opportunities benefit NY's economy, environment, and citizens. Enhanced access to recreational amenities and increased visitation to parks, beaches, and other locales supports regional economic growth and increases public appreciation and stewardship of Great Lakes resources.

### ◆ Genesee Valley Greenway (GVG)

The GVG is a 90-mile multi-use trail with multiple benefits. It follows the former Genesee Valley Canal and provides an important corridor for recreational use and habitat connectivity. It also serves as a

riparian buffer that protects water quality. Recent efforts by the Friends of the GVG, Genesee River Wilds, and the Genesee Valley Conservancy have included repairs to culverts and trail breaks, preservation of historic stone culverts, and acquisition and restoration of various sections of the trail.

### ◆ Eastern Lake Ontario Dune Stewards Program (DEC, Student Conservation Association, NY Sea Grant, TNC)

The Eastern Lake Ontario Dune Steward Program promotes environmentally responsible recreational use of the unique freshwater dune ecosystem,

while providing public outreach, site maintenance, and natural habitat restoration. The program serves a 17-mile stretch of barrier beach that includes El Dorado Nature Preserve, Black Pond Wildlife Management Area (WMA), Southwick Beach State Park, Lakeview WMA, Sandy Pond Beach Natural Area, and Deer Creek Marsh WMA. The Dune Steward program was created in 1994 by Sea Grant and other collaborators.

*Dune Stewards served over 10,000 people, repaired/replaced 1,200 feet of snow fence, and educated a total of 170 students in summer 2012*



Jesse Warner

## Goal 9: Plan for Energy Development

Energy, water, and environmental quality are inextricably linked. New York must ensure that energy demands are met, while emphasizing energy efficiency and integrating the use of clean, renewable technologies. New energy-generating facilities should minimize environmental impacts, support climate change goals, and support the regional economy.

### ◆ Great Lakes Offshore Wind Energy Consortium

In March 2012, New York was among five states and ten federal agencies to sign a bipartisan federal-state Memorandum of Understanding (MOU) that supports the efficient, expeditious, orderly and responsible review of proposed offshore wind energy projects in the Great Lakes by establishing a Great Lakes Offshore Wind Energy Consortium. The Consortium will

facilitate agency coordination and information sharing that will promote regionally based planning to lower energy development costs, promote efficient decision-making processes, and support sustainable uses of the Great Lakes that fully consider potential social, environmental, cultural, safety, and security impacts.

*Competing offshore uses of the lakes must consider and balance the needs of humans and wildlife*



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## Goal 10: Support Partnerships, Public Understanding, and Coordinated Science

Addressing the multi-faceted challenges of NY's Great Lakes region demands a broad array of expertise, resources, and broad-based public support. Priorities for fostering long-term coordinated action include supporting partnerships; enhancing coordinated science, monitoring, and information management; and increasing public understanding of Great Lakes resources through environmental education.

### ◆ Two New Watershed Protection Alliances: LEWPA & SLRWP

The St. Lawrence River Watershed Partnership (SLRWP) was formed in 2010, filling a critical need for a watershed group in this part of the basin. The group has representa-

tion from eight counties, two state agencies (including DEC), and other community groups and academic institutions. The group is seeking funds to do watershed assessment and has a small grant to kick-start several projects to address water quality and invasive species management activities.

The Lake Erie Watershed Protection Alliance (LEWPA) was formed with member counties, Cattaraugus, Chautauqua, and Erie, to alleviate non-point source pollution issues affecting New York's Lake Erie watershed and shoreline. The Alliance has held five meetings since its formation in 2011, with representation from throughout the tri-county region.

### ◆ 2012 Summer of Science on Sodus Bay

Prompted by a major algal bloom in 2010, this innovative research initiative brings together a variety of projects and partners, including SUNY ESF, SUNY Brockport, University at Buffalo, Wayne County SWCD, and Save Our Sodus, to study how blue-green algae can be controlled and ultimately eliminated from Sodus Bay. Research projects include testing whether hydrogen peroxide treatments are effective in controlling algae outbreaks, using floating buoys to determine when and where blooms are likely to appear and how they might be alleviated, and testing of a biofilter device that may filter toxins from blue-green algal blooms. This coordinated research effort has made Sodus Bay one of the premier research sites in the region for blue-green algae—and a great example of effective collaboration!

*"The direct economic benefits of restoring the Great Lakes total at least \$50 billion."*

-The Brookings Institution



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Ad Meskens / CC-BY-SA3.0, via Wikimedia Commons



*Lake Ontario as viewed from Olcott Beach*

New York State's Great Lakes Watershed Program uses an ecosystem-based management approach to support traditional core agency responsibilities, implement federal treaties and binational management plans, and advance New York State priorities for environmental sustainability and economic revitalization. Program responsibilities include:

- ◆ Fostering collaboration and coordination among the many stakeholder groups working in the basin;
- ◆ Participating in and supporting Lakewide Management Plan workgroups, remedial advisory committees, and other collaborative management efforts;
- ◆ Providing technical support to advance implementation of management plans; and
- ◆ Connecting organizations and stakeholders to funding and project opportunities.

**For more information on the  
Great Lakes Watershed Program, visit:  
<http://www.dec.ny.gov/lands/25562.html>**

# Outlook for 2013: Putting Plans into Action

## Bringing NY's Great Lakes Action Agenda to Life!

By year's end, the Great Lakes Watershed Program looks forward to finalizing the Great Lakes Action Agenda and putting it into action by establishing new partnerships, developing innovative projects, and by leveraging the expertise, commitment, and resources available to restore the greatness to our Great Lakes.

A considerable investment has been made in New York's Great Lakes basin to date. Since the start of the Great Lakes Restoration Initiative (GLRI), a federally funded, multi-year program to restore the Great Lakes, over \$47 million has been granted to various organizations in New York State to support projects addressing toxic substances and areas of concern; invasive species; nearshore health and non-point source pollution; habitat and wildlife protection and restoration; and accountability,

education, monitoring, evaluation, communication and partnerships. In the coming year, many of these projects will be completed, achieving measurable benefits to our region's environmental quality.



New York's Environmental Protection Fund is an important contributor to ecosystem-based projects that benefit water quality, wildlife, and people. The Great Lakes Watershed Program is currently overseeing eight projects that will enhance environmental quality and recreational and economic opportunities, and support the work of partners throughout the basin. A combination of ecosystem-based management pilot projects, coastal resiliency efforts, and a mini-grants program will support implementation of the Great Lakes Action

Agenda, while leveraging local, state, and federal resources.

Our program goals for 2013 are ambitious, but achievable. We look forward to tackling the challenge of restoring New York's Great Lakes basin for the benefit of communities, wildlife—and generations to come!

Rodger Klindt



*DEC Biologist Chris Fidler tags a lake sturgeon to help support recovery efforts*