

Onondaga Lake

RESTORATION

2010 ANNUAL REPORT

Community Input Shapes Onondaga Lake Shoreline in Geddes

Community input has always been a key component of Honeywell's efforts to restore Onondaga Lake. In 2010, that commitment was evident as the public was offered an opportunity to help design the Geddes lakeshore.

Through a series of public meetings, nearly 100 people—many of whom have lived in Geddes, Solvay and Lakeland their entire lives—provided a wealth of suggestions on ways to improve the lakeshore along I-690 to create a welcoming “Gateway to Syracuse,” expand public access, and provide new recreational opportunities. Suggestions included planting diverse and sustainable vegetation and more indigenous wildflowers and plants, as well as providing improved lake access with walking and biking trails and a new boat launch.

On December 9, Honeywell and the Community Participation Working Group held a final public meeting to outline how the recommendations would be incorporated. Conceptual plans were unveiled for the public to review prior to completion of the final designs. Plantings will begin in spring 2011.

Groups involved in the process include: F.O.C.U.S. Greater Syracuse; Geddes, Solvay, Lakeland Kiwanis and Lions Clubs and Rotary; Friends of Solvay Library; Solvay Historical Society; Onondaga Audubon Society; Nine Mile Creek Conservation Council; and Camillus Canal Society, as well as elected officials and members of Onondaga County government.



Community's vision for the Geddes lakeshore

Onondaga Lake Restoration Achieves Significant Milestones

85 New Jobs in 2011 as Designs are Finalized and Construction Expands

SYRACUSE, NY – 2010 was a year of steady progress for the Onondaga Lake restoration plan, with achievements on several fronts — design, construction, habitat restoration, and community participation.

Under the direction of the New York State Department of Environmental Conservation (DEC), Honeywell has deployed about 180 dedicated scientists, engineers, and skilled craft laborers to develop and implement the comprehensive plan, which was approved by federal and state environmental authorities in 2005. The designs are being completed and critical projects are underway. Up to 85 new jobs are expected in early 2011. Honeywell will continue to take the lead on this privately funded project.

Public involvement expanded in 2010 through the Onondaga Lake Community Participation Working Group (CPWG), and input from the community began shaping the lake shoreline in Geddes.

The implementation of the Onondaga Lake restoration plan will help renew the waters of the lake and create healthy, sustainable habitat conditions for a vibrant “green corridor” that will benefit the lake’s environment and the people of Central New York.

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Shrub Willows and New Recreational Opportunities Key Elements of Sustainable Remedy

Partnership with SUNY-ESF Expands Renewable Energy and Improved Habitats for Wildlife

Building on a successful project started in 2004 to create a sustainable Shrub Willow Farm in Camillus, DEC announced in November a new remediation and restoration agreement with Honeywell that the *Syracuse Post-Standard* praised as a “novel solution.”

Under the agreement, Honeywell will implement a green remedy for its property off

of Airport Road using fast-growing shrub willows. Willows have demonstrated their effectiveness as an environmental remedy and

Cont. on page 2



Honeywell

Shrub Willows *from page 1*

alternative fuel resource. In addition, a variety of native trees and grasses will be considered for planting. The agreement also includes a public planning process for recreational opportunities in Camillus and Geddes.

“Research that the State University of New York College of Environmental Science and Forestry (SUNY-ESF) has conducted in partnership with Honeywell over the past six years has shown that shrub willows can be a sustainable vegetative cover,” said Dr. Neil Murphy, President of SUNY-ESF. “The success of our initial project and the agreement to expand means that more biomass for regional

renewable energy projects will be produced, habitat for wildlife will continue to improve, and there can be a living cover for about 600 acres.”

Today, more than 100,000 willows are thriving on 16 acres. In May, SUNY-ESF and Honeywell prepared another 25 acres for planting.

The agreement also provides the community with recreational opportunities including a new boat launch and public access for fishing. These projects will be undertaken in connection with the settlement of an enforcement action taken by DEC to address historic allegations related to the property.



Milestones *from page 1*

The Onondaga Lake cleanup plan consists of four major construction projects that will:

- ▼ Prevent the migration of contaminants into the lake from old industrial sites
- ▼ Remove material from the bottom of the lake, permanently contain it at an approved site, and cap designated portions of the lakebed
- ▼ Restore sustainable habitat along the lake's shorelines and tributaries to encourage wildlife growth and expand opportunities for local recreation
- ▼ Implement a long-term operation, maintenance, and monitoring program to ensure the effectiveness of the remedy

This Onondaga Lake Cleanup Report is part of Honeywell's effort to keep you informed about milestone events, and let you know the schedule for the final designs, implementation, and public involvement.

Endangered and Threatened Species Observed at Restored Wetlands in Geddes

New Wetlands Home to a Variety of Plants, Birds, Fish, Amphibians, and Reptiles

In 2010, wildlife biologists observed a pied-billed grebe, which is listed as a threatened bird species by DEC, nesting with three young at the former Linden Chemicals Plant (LCP) in Geddes. The site, which was dominated by invasive species before 2007, is now thriving with restored wetlands that support a diverse array of wildlife. About 12,000 wetland plants and trees have been planted over the last three years.

Nearly 100 native species of trees and plants are growing, including broadleaf cattail, soft stem bulrush, and rice cutgrass, as well as saltmarsh bulrush, which is listed as an endangered plant species in New York State.

More than eight acres of the restored wetlands also are providing a high-quality habitat that is attracting a variety of amphibians and reptiles (such as northern leopard frog and painted turtles), fish, macroinvertebrates, deer, and birds. Bird sightings include green heron, mockingbird, and red-winged blackbird. The wetlands also contain a large number of muskrat lodges, which provide nesting areas for muskrats, ducks, and geese.

“The restoration of wetlands is vital for providing long-term habitat enhancements and ecological benefits in and around Onondaga Lake,” said Joseph McMullen, Principal Environmental Scientist at Terrestrial Environmental Specialists. “Over the last three years, the wetlands at the former LCP site have successfully contributed to the lake cleanup and now support a vast array of native plants and animals.”

Input from Ducks Unlimited, Montezuma Audubon Center, and

SUNY-ESF was incorporated into the restoration plans.

The restored wetlands also help control erosion, stabilize the shoreline, and retain nutrients to enhance water quality and habitat. They will continue to be monitored by wildlife biologists as part of a long-term maintenance and monitoring program.



Construction Began on Area that Will Hold Material Removed from Onondaga Lake

Up to 85 New Jobs in Early 2011



In September, construction of the area that will hold material removed from the lake began with the hiring of local labor. Working under the supervision of DEC, Honeywell began clearing trees and shrubs; improving roads; bringing in clean stone, gravel and soil; grading; excavating and surveying.

The material removed from the lake will be hydraulically dredged and transported via a pipeline to the consolidation area, which is off of Airport Road in Camillus. This approach will greatly reduce truck traffic, emissions, and noise compared to mechanical dredging and

trucking. The design calls for the use of geotextile tubes to retain and dry the material. Geotextile tubes have a proven track record and provide many community advantages, including effective odor control, a big reduction in size of the consolidation area, and significant buffer areas for a safe and secure facility with minimal visibility from outside the site.

About 70 skilled laborers and as many as 15 additional construction technicians, engineers, and scientists will be hired for 2011 construction work. These activities, which include the construction of a lakeshore cleanup

DEC and Honeywell Meet with Town of Camillus Engineers as Designs are Finalized

Public Input Since 2004

Designs for the operations and maintenance of the consolidation area are being finalized. Since the initial lake cleanup plans were announced in 2004, DEC and Honeywell have held numerous public meetings with the Town of Camillus. Hundreds of community members attended these meetings and commented during public comment periods. Town input, such as creating significant buffer areas, has been incorporated into the designs. Honeywell and DEC will continue to meet with town engineers.

support area and the pipeline, are other important milestones in the restoration of the lake. The new jobs are in addition to the approximately 180 people now working on lake cleanup activities.



Underground Barrier Wall Scheduled to be Completed in 2011; Prevents Primary Source of Contaminated Groundwater from Reaching Lake

Honeywell began installing 4,700 feet of interlocking steel panels along the southwest portion of Onondaga Lake to build the final phase of the underground barrier wall in August. This section will connect with the already completed sections to

create a 1.5-mile-long underground wall that will prevent contaminated groundwater from entering the lake. The project is scheduled to be completed in 2011 when the primary source of groundwater contamination will no longer reach the lake.

An underground system collects the groundwater and pumps it to the Willis Avenue Groundwater Treatment Plant. After the water is cleaned, it is tested to ensure it meets DEC requirements. The treatment plant is treating an average of 130,000 gallons of water per day.



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Creating a Healthy, Sustainable Ecosystem

Habitat Restoration Plan Released by DEC

In January 2010, DEC released the draft Onondaga Lake Habitat Restoration Plan. Habitat restoration is key to a healthy and sustainable Onondaga Lake, and the plan includes new wetlands, shoreline improvements, and a robust habitat layer for the bottom of the lake where remediation is required.

The plan is the result of extensive work by a team of national and local experts. Since February 2007, sportsmen and environmental groups have helped identify and resolve key issues for inclusion in the designs.

Wherever possible, the design respects the natural processes and conditions to create a suitable habitat for various species of plants, mammals, fish, benthic macroinvertebrates (bottom-dwelling organisms such as crayfish), birds, reptiles, and amphibians, while allowing for public access in and around the lake.

Community Health and Safety Plans Reviewed by State Authorities; Air is Monitored and Dust is Controlled

Comprehensive efforts to protect the public's health and safety are an integral part of the work to restore Onondaga Lake. Health and safety plans are reviewed by DEC and the New York State Department of Health (DOH), and are incorporated into every stage of the restoration. These plans include management and monitoring that follow DOH guidelines.

Air and odor monitoring results are publicly available in the Health and Safety section of Honeywell's website:

www.onondaga-lake-initiatives.com.



Major Dredging and Capping Design Released by DEC

Diverse and Sustainable Habitat Enhancements at Forefront of Plans

In May, DEC released the third of four major designs for the restoration of Onondaga Lake. The lake remediation plan, which was issued by DEC and the U.S. Environmental Protection Agency (EPA), calls for a combination of dredging and capping — environmental cleanup methods designed to protect health and the environment. Capping is a proven technology and has been implemented at numerous remediation sites across the country.

The plan outlines the areas to be dredged, the dredging depth, the components of the cap, and where capping will occur. The capping will isolate material in the lake and will be monitored to ensure it performs as intended. Developed by a team of more than 100 local engineers and scientists working with nationally recognized experts, the plan was based on 200,000 analyses of more than 10,000 samples taken from more than 800 locations in the lake.

The capping also supports goals for habitat

restoration, including maintaining or improving the quality and diversity of habitat in the lake. It discourages the establishment of invasive species, and promotes greater public access and use.

To ensure long-term isolation of material in the lake and protection of the environment, the cap will include a habitat layer, an erosion protection layer against wind/wave energy and ice, an isolation layer, and a mixing layer of sand.

Public Input and Dialogue Key to Successful Onondaga Lake Restoration

The remediation of Onondaga Lake is one of the largest construction projects under DEC supervision. Design and construction activities will take several more years to complete, and public interest remains high.

Since 2004, Honeywell and DEC have engaged the public through public meetings and presentations, fact sheets, tours, e-newsletters, website updates, door-to-door visits, postcards, and annual progress reports. Hundreds of people have attended meetings

and tens of thousands have visited Honeywell's and DEC's websites to get up-to-date information. Honeywell's website contains daily postings of air monitoring results during the construction workday.

In 2009, DEC issued a Citizen Participation Plan to formalize efforts undertaken by DEC and Honeywell and ensure that the public stays informed and involved in the restoration of Onondaga Lake. The DEC solicited applications from interested community members to serve on a lead CPWG.



Onondaga Lake Lead Community Participation Working Group

By Dereth Glance, Chair

In July 2009, DEC appointed community members from across Onondaga County and charged them with "providing community involvement in the cleanup of Onondaga Lake ... so that the public is informed and has opportunities to contribute opinions, perspectives, and recommendations."

Representing citizens, community leaders, public officials, and conservation and environmental groups, the volunteer Community Participation Working Group (CPWG) members meet monthly to provide a forum to inform, receive input, make recommendations, and discuss the Onondaga Lake remediation program. The CPWG focus is to review progress and community outreach activities to determine the effectiveness of the Onondaga Lake Bottom Citizen Participation Plan.

In its first year, the CPWG was busy facilitating input into the designs for habitat restoration and the dredging and transport of material from the lake to a consolidation area in Camillus. The CPWG toured the groundwater treatment plant, the barrier wall, the consolidation area, and other key locations involved in the Onondaga Lake remedy.

In January 2010, the CPWG assisted DEC in a public meeting to discuss critical



design plans. Breakout sessions included a chance to interact with DEC and Honeywell experts, as well as members of the CPWG. Input from the community included suggestions for the habitat plan on types of birds and wildlife, plants, wetlands, and recreation, as well as fishing and public access. Residents expressed concerns and raised questions about the decision to locate the consolidation area in the town of Camillus. The CPWG collected the questions and requested that EPA, DEC, and DOH answer them and post the information at www.onondagalakeinfo.org. The Lead CPWG quickly realized there was a need to address these significant issues and recommended establishing a separate working group.



In March, DEC asked for community applications to "foster meaningful public engagement in the construction, operation and monitoring" of the consolidation area. Eleven community members were chosen in May to serve on the group.

The CPWG also co-hosted a public meeting to discuss the conclusions of the EPA Human Health Risk Assessment for the transportation and storage of the estimated two million cubic yards of contaminated sediment. A postcard letting the community know how to access these questions was mailed to everyone living in the Town of Camillus.

In 2011, the lead working group continues its efforts and will form a habitat subcommittee to review the Onondaga Lake Habitat Restoration Plan and provide input and recommendations. Anyone interested should contact: Les Monostory (fishbugm5@aol.com) for more information.

The CPWG also launched websites to further keep the public informed.

More information is available at:
www.onondagalakeinfo.org and
www.onondagalake.info

Outdoor Recreation and Habitat Conservation Celebrated by Thousands at Honeywell Sportsmen's Days

Fly fishing, turkey calling, and skeet shooting were just a few outdoor sports enjoyed by more than 4,000 attendees of the 2010 Honeywell Sportsmen's Days at Carpenter's Brook in September.

The annual event, held by the Onondaga County Federation of Sportsmen's Clubs, celebrates National Hunting and Fishing Day. Local wildlife artists, authors, and Boy Scouts demonstrated a number of outdoor activities, including archery, 3-D laser big game

hunting, retriever dog demonstrations, crossbow, fly tying, jig tying, canoeing, muzzle loading, and trout fishing. Other weekend events included guest appearances by conservation officers and forest rangers.



*"The Federation members thank Honeywell for its continuing partnership," said **Stephen Wowelko**, President of Onondaga County Federation of Sportsmen's Clubs. "Honeywell has given our members the opportunity to share our knowledge of conservation practices with them and provide input on the lake restoration plans."*

Local Kids Flock to *For the Birds!*

Seventy fifth-grade students from Long Branch Elementary School in Liverpool participated in a hands-on educational program designed to teach the importance of birds and bird habitats

In May, the nationally recognized *For the Birds!* program was brought to Long Branch Elementary by Honeywell Institute for Ecosystems Education, in collaboration with the Onondaga Audubon Society and the Montezuma Audubon Center. The program reinforces how critical birds and birding are to the future of Onondaga Lake, and seeks to instill a sense of stewardship in students about protecting and preserving their environment.

Wildlife rehabilitator Cynthia Page connected students to the world of raptors by

introducing them to an eagle owl, a red-tailed hawk, and a peregrine falcon. Students learned how birds of prey are at the top of the food chain, and that improving water quality in areas like Onondaga Lake is critical to their quality of health and survival. Students also built a bird habitat garden and took a birding field trip to Onondaga Lake.

"This was the first time that *For the Birds!* merged with Audubon's Adopt an Important Bird Area program in an effort to excite students about the wonders of birds and understand why Onondaga Lake is so important," said Frank Moses, Director of the Onondaga Audubon Society. "Birds are a major indicator of our environment's health and the program helps future generations understand that connection."

*"I like all the different activities we do and all the different things we get to learn about birds!" said **Hana Hollenbeck**, a fifth-grade student from Long Branch Elementary School in Liverpool participating in Audubon New York's *For the Birds!* "I didn't like birds before, but now I do!"*



Three Teachers Represent Central New York at Honeywell Educators @ Space Academy

Chittenango Middle School science teacher Beth Bennett, West Genesee Middle School math teacher Sue Bingham, and Dr. Martin Luther King Elementary School teacher Pattie Burns were selected to participate in Honeywell Educators @ Space Academy, a learning adventure of a lifetime. Space Academy, created in partnership with the U.S. Space & Rocket Center, provides an intensive curriculum focused on space science and exploration.

"It's really great that Honeywell supports this," said Christine Vogelsang, Deputy Superintendent of Syracuse School District. "The opportunity to blend some professional development for our teachers, especially in space exploration, is exciting to our kids. The international recognition that the city school district earns from the Honeywell program, coming at a time of decreasing school budgets, is a real boost," she added.

Teachers Learn Hands-on Lessons

In collaboration with the Montezuma Audubon Center and the Onondaga Audubon Society, the Honeywell Institute for Ecosystems Education hosted a week-long workshop in August for middle school teachers from 10 Central New York school districts. The goal was to help teachers transform textbook curriculum into new and inspiring lessons designed to promote a unique, hands-on approach to geology, watershed dynamics, and human-ecosystem dependencies.

Fifteen Onondaga County teachers completed an inquiry-based exploration of the Onondaga Lake watershed. The field studies were designed to help teachers strengthen their students' critical, analytical, and creative thinking skills through discoveries in watershed dynamics, habitat health, and the Onondaga Lake Important Bird Area. Participating teachers

explored freshwater and field habitats, took a boat tour of Onondaga Lake, and investigated freshwater streams and marshes with environmental educators and naturalists.

The curriculum promotes environmental stewardship, supports birding and raises awareness of the Onondaga Lake Important Bird Area. Field studies include examining the geology and hydrology of the Onondaga Lake watershed, the chemical and physical characteristics of Saw Mill Creek, and surveying local birds with Cornell Laboratory of Ornithology.



*"Through Honeywell Institute for Ecosystems Education, teachers can jazz up interest in science among students. The teachers can get ideas and give students creative ways to learn science hands-on. This will make them interested. We need students to create innovative technologies," said **Charles Driscoll**, Syracuse University's Distinguished Professor of Civil and Environmental Engineering.*



Middle School Students Discover Onondaga Lake Watershed

Rigorous science joined with serious fun in July when 55 students participated in a week-long exploration of Onondaga Lake during Honeywell Summer Science Week at the MOST

The gathering marked the fifth year for a special program designed to offer students hands-on exploration of the environment. Created by the Milton J. Rubenstein Museum of Science & Technology (MOST), Summer Science Week is made possible through a grant from Honeywell Hometown Solutions.

With notebooks in hand, the students spent the week exploring the Onondaga Lake watershed collecting data and performing experiments. They went geocaching on an Onondaga Creek walk, visited Heiberg Memorial Forest, examined the geology of Clark Reservation, and learned about Onondaga Lake bird life. MOST Exhibits Project Manager Dr. Peter Plumley and SUNY-ESF graduate students served as the young scientists' tour guides throughout the week.



Onondaga County Executive Joanie Mahoney addressed the students after they reported on their experiences.

"Onondaga Lake took a dramatic turn during the course of its cleanup because of what people learned about how to clean the lake," said County Executive Mahoney. "These are the kinds of things we need you to continue to study in order to help us make a positive impact on the environment."



*One of the students' favorite activities was learning about plants along Onondaga Creek on Tully Farms Road. "It was really interesting and I liked learning about different plant life," said **Morgan Nichols** from Camillus Middle School. "I think the whole experience was interesting. It was fun learning how to make rope out of plants," said **Madelyn Kelly** from J.T. Roberts Middle School.*

Onondaga Lake

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Dear Community Members,

Thanks to your support and participation, we began 2011 with design plans becoming construction projects, a giant step in the restoration of Onondaga Lake. This year as you drive along I-690 you will see activity along the Geddes lakeshore. The projects include building infrastructure to support cleanup operations, the completion of the underground barrier wall, and the enhancement of the Geddes lakeshore.

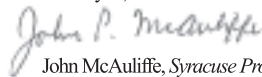
The page one story "Community Input Shapes Onondaga Lake Shoreline in Geddes" tells how the community helped shape the vision for the lakeshore with its suggestions for diverse and sustainable vegetation, and more indigenous wildflowers and plants, as well as providing greater access to the lake.

We are proud of our progress and hope you share our excitement as you read our third Annual Report. This year we include an article from Dereth Glance, Chair of the Lead CPWG. The CPWG has worked hard to build on what Honeywell and DEC have done to ensure the community has input and information. They will continue to advise us on ways to increase public participation.

There are still years of work ahead but each step brings us closer to restoring Onondaga Lake. Your input and involvement are key to creating a sustainable restoration that the community will enjoy for years to come.

If you have any questions, please contact me at 315.552.9784. You also can learn more by visiting us online at www.onondaga-lake-initiatives.com.

Thank you,



John McAuliffe, Syracuse Program Director



What They're Saying About Onondaga Lake

*"We have reason for celebration," said **Chuckie Holstein, Executive Director of F.O.C.U.S. Greater Syracuse.***

"The progress on the restoration of Onondaga Lake is a giant step in making our community sustainable. Twelve years ago citizens created a vision that included the restoration of the lake to make it accessible, clean, and a place where all age groups could fish, boat, hike, bike, and use wheelchairs. F.O.C.U.S. recognizes that this vision is clearly visible on the near horizon."

*"Onondaga Lake is a remarkable, unique aquatic ecosystem ... where else in the United States can you find 35 kinds of tackle-breaking fish, reproducing naturally within a historic setting, within walking distance of a major city, and accessible to any angler from the shoreline or boat? While there are still restrictions on eating fish from the lake, it is clear that water quality has improved a great deal," said **Dr. Neil Ringler, a SUNY-ESF Distinguished Professor** who has been studying fish in Onondaga Lake since 1986.*

For more information, please visit our website:

www.onondaga-lake-initiatives.com

2011 Calendar

Construction Projects

Pipeline Construction Begins	Spring/Summer
Consolidation Area Water Treatment Plant Construction Begins	Spring
Onondaga Lake Shoreline Support Area Construction	Summer
Underground Barrier Wall Completed	Late 2011/Early 2012

Citizen Participation Plan Projects

Community Participation Working Group	Monthly Meetings
Announcement of community visioning project for a portion of 660 acres of former Allied industrial properties	Spring 2011
Honeywell/DEC Presentations Websites/Fact Sheets/E-newsletters	Throughout the year

Restoration Projects

Geddes Brook Wetland Restoration Begins	Spring
Shrub Willow Farm Expansion	Late Spring
Geddes Lakeshore Enhancement Project	Spring
Upper Harbor Brook Restoration Begins	Summer

DEC Release of Reports, Designs, and Public Meetings

Onondaga Lake Bottom and Habitat Design	Summer
Design for Transporting, Drying, and Management of Lake Material	Summer
Onondaga Lake Operations Health and Safety Plan	Late Fall