

Onondaga Lake

2011 ANNUAL REPORT

cleanup

JOBS



COMMUNITY INVOLVEMENT

LAKE IMPROVEMENT



FUTURE

2011: a year of
PROGRESS



HABITAT ENHANCEMENT



SOUND SCIENCE



Substantial Progress in Onondaga Lake Cleanup Paves Way for Next Steps

500 Central New Yorkers Complete Critical Construction Projects in 2011

SYRACUSE, N.Y. – The Onondaga Lake cleanup is taking shape. In 2012, lake dredging and capping are scheduled to begin. More than 500 Central New York scientists, engineers, and skilled craft laborers are working with Honeywell, achieving significant progress executing lake improvement plans under the jurisdiction of the New York State Department of Environmental Conservation (DEC). About 300 jobs were added in 2011, and Honeywell plans to hire more local workers as the project continues. Significant upgrades made by Onondaga County to its municipal waste water treatment system plus the construction of Honeywell's underground barrier wall, which prevents contaminated groundwater from reaching the lake, have improved lake water quality to the best it has been in decades.

continued on page 2

Honeywell



Substantial Progress *from page 1*

In 2011, Honeywell continued building the infrastructure that will allow dredging to start in 2012; local contractors planted native trees and plants, based on public input, to enhance the Geddes Lakeshore; and the remediation of Geddes Brook began.

The community also helped develop a vision for the southwest lakeshore, and Honeywell incorporated sustainable remediation into designs to significantly reduce greenhouse gas emissions during implementation of the remedy.

The Onondaga Lake Cleanup Plan consists of four major projects:

- ▲ Preventing the migration of contaminants into the lake from old industrial sites
- ▲ Removing material from the bottom of the lake, permanently containing it at an approved site, and capping designated portions of the lake bottom
- ▲ Creating sustainable habitat along the lake's shorelines and tributaries to encourage wildlife growth and expanding opportunities for local recreation
- ▲ Implementing a long-term operation, maintenance, and monitoring program to ensure the effectiveness of the remedy

This Onondaga Lake Cleanup Report provides a brief overview of milestones achieved in 2011 and outlines the upcoming schedule for remediation activities and opportunities for public involvement.

For more information regarding employment opportunities, please contact Parsons or O'Brien & Gere:

www.parsonsjobs.com
www.obg.com

Major Milestones Achieved as Construction Projects Are Completed

Primary Source of Contaminated Groundwater from Former Allied Sites Prevented from Reaching the Lake

Substantial progress was achieved in December 2011 with completion of the underground barrier wall. By preventing contaminated groundwater from reaching the lake, the 1 ½ mile-long barrier wall helps prepare for lake dredging. One hundred twenty local people worked on the project.

An underground system pumps groundwater collected behind the wall to the Willis Avenue Groundwater Treatment Plant, where it is treated and tested to meet DEC requirements before it is sent to the lake. Since 2006, when the wall was first constructed, nearly 170 million gallons of water have been treated. When this project is completed in early 2012, approximately 200,000 gallons of water will be treated per day.



Local Companies Supplied and Transported Materials for Pipeline Construction

Another major milestone was reached with the construction of the double-walled pipeline that will transport material removed from the lake. Consistent with Honeywell's commitment to buy locally, the pipeline was purchased from VARI-TECH of Liverpool. As a safety measure, the material will travel through a 16-inch pipe, which will be inside a 22-inch pipe that will serve as a secondary containment. Sensors will determine if there are any leaks or losses in pressure. Any potential issues will result in temporary shut-off of the pipeline until the problem is resolved. Traffic barriers were installed in areas where the pipeline is in close proximity to roadways. Honeywell will conduct daily inspections of the pipeline and booster stations.



Construction Moves Forward on Consolidation Area

“Closed System” Prevents Lake Material from Being Exposed to Environment

Construction of the consolidation area that will hold material removed from the lake continued on Honeywell property off Airport Road. The Cleanup Plan, which was issued by DEC and the U.S. Environmental Protection Agency (EPA), includes removing material from the lake bottom, installing a new bottom cap in some areas, improving habitat, and transporting and containing dredged materials. Dredging activities and cap construction will be conducted from barges on the lake. A hydraulic dredge will remove the material from the lake bottom. It will then be transported via a double-walled pipe through non-residential areas to the lined consolidation area where it will be pumped into geotextile tubes for drying and safe isolation long-term. The “closed system” will prevent lake material from being exposed to the open environment.

Water will be collected and treated to meet DEC standards before being returned to the lake. A high-strength liner has been placed on a clay layer at the bottom of the consolidation area. Once the lake cleanup is complete, an additional high-strength liner will be placed above the geotextile tubes. Above the liner, layers of clean soil will be added and vegetation will be planted on top.

The consolidation area, which is designed to protect health and the environment, will be extensively monitored.

Transformation of Geddes Brook Wetlands Underway

Seventeen Acres Will Become Productive Habitat for Wildlife



Rendering of restored Geddes Brook.

Work began in 2011 at Geddes Brook to remediate and transform 17 acres of land in the Onondaga Lake watershed into a diverse new habitat for wildlife. The remediated Geddes Brook will become part of a green corridor connecting habitat from Onondaga Lake to upland sites. The yearlong project involves the removal of contaminated soil and invasive plants, and the planting of 50,000 native shrubs, flowers, and trees, which are critical to protecting and enhancing habitat and wildlife such as fish, birds, frogs, and turtles. The project

will improve the ecosystem and play a significant role in creating a productive, healthy watershed. Honeywell is working with national and local experts that represent hundreds of years of collective experience in areas of wetland ecology, biology, restoration ecology, and fisheries biology as well as the study of landforms and the processes that shape them.

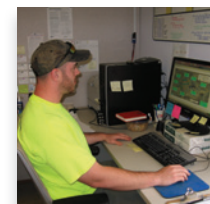
Local and National Experts Use Sound Science to Design Cap that Will Isolate Contaminants from the Lake’s Ecosystem

Honeywell has completed a capping demonstration project to fine-tune the capping process. Capping is a well-recognized engineering technique that has been successfully used in many cleanups across the country. National experts and local workers conducted years of model development and extensive testing under the oversight of DEC. The surface of the cap, which will be placed as part of the lake dredging and capping, will improve lake habitat and fish spawning.



Community Health and Safety Remains Top Priority

Air is Monitored and Plans Reviewed by State Agencies at Every Step



Comprehensive efforts to protect the public’s health and safety are an important part of every stage of the work to restore Onondaga Lake.

All health and safety plans are submitted to DEC, EPA and the New York State Department of Health. A comprehensive Community Health and Safety Plan describes the protective measures that were taken during 2011 construction activities. Throughout the project, the air is continuously monitored at the perimeter of the work zone. A separate health and safety plan is being prepared for lake cleanup operations, which are scheduled to begin in 2012.

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

www.lakecleanup.com.

Wetland Habitats Enhanced

Planting of Native Species and Creation of a Healthy, Productive Watershed are Critical Steps in Lake Cleanup

In order to achieve a sustainable lake remedy, extensive wetland areas will be improved or created along key portions of the west and southwest lakeshore. The State University of New York College of Environmental Science and Forestry (SUNY-ESF) has provided significant input on these projects and the Shrub Willow Farm in Camillus, a green remedy for Honeywell property off Airport Road. The Onondaga Lake Habitat Restoration Plan will be finalized in 2012.



“It is great that we are talking about ways the community can reconnect to the lake. People want to be out on Onondaga Lake and it is clear that we are on our way to returning to a healthy, sustainable lake.”

Joanne Mahoney,
Onondaga County Executive



Community Input Helps Shape Lakeshore

Community input has always been, and will continue to be, a key component of Honeywell’s efforts to clean up Onondaga Lake.

Geddes Lakeshore

In 2011, more than 1,100 plants, shrubs, and trees from more than 47 diverse native species were planted along the Geddes Lakeshore. The lakeshore enhancements, which the community helped design, will provide a welcoming “Gateway to Syracuse.” Once the lake cleanup is complete, there also will be improved lake access and recreational opportunities available to the public along this area.

Southwest Lakeshore

In October, more than 70 people gathered at the F.O.C.U.S. (Forging Our Community’s United Strength) Greater Syracuse community meeting to discuss a preliminary rendering of the southwest lakeshore and share their vision for enhancements. The rendering was based on suggestions from community members, municipal representatives, and local planners at a series of small group meetings.

Suggestions have included: increasing public lake access and recreational opportunities, connecting to an expanded trail system, enhancing scenic views, providing options for a mixed-use development, and more. As the cleanup continues, Honeywell will continue to engage groups in the southwest lakeshore visioning project.

The wetlands along the southwest shoreline are included in the draft Onondaga Lake Habitat Restoration Plan. Final decisions about the cleanup for the land adjacent to I-690 along the southwest shoreline will be made by DEC in conjunction with EPA.



Public Input Gathered on Fishing Access Sites Along Nine Mile and Onondaga Creeks

In 2010, Honeywell and DEC agreed to a number of environmental and community projects within the Onondaga Lake watershed, including increasing public access for fishing along Nine Mile and Onondaga Creeks. Since then, the Onondaga County Federation of Sportsmen's Clubs, the Onondaga County Fisheries Advisory Board, and the Nine Mile Creek Conservation Council have provided input and suggested ways to improve public access, enhance safety, and support fishing.

Both access points are expected to open in spring 2012. The Nine Mile Creek fishing access point will be located approximately one mile downstream of the Amboy Dam along Airport Road in Camillus and will be open for public access for a minimum of five years. Onondaga Creek's access point will be located in the Tully Valley along Tully Farms Road, 1 ½ miles north of Route 80. It will be open for public access for approximately three years. These projects will be undertaken in connection with the settlement of an enforcement action taken by DEC.

"Upstate Freshwater Institute has been studying Onondaga Lake for more than 30 years. The improvement in water quality is truly remarkable. Onondaga Lake is experiencing a renaissance that few thought possible."

**Steven Effler, Director of Research
Upstate Freshwater Institute in Syracuse**



Onondaga Lake Community Participation Working Group

By Becky Corbin, Chair

A tremendous amount of activity on the Onondaga Lake cleanup kept the Community Participation Working Group (CPWG) busy this year. We continued our mission to enhance community involvement by helping to keep the public informed and providing opportunities for input. In 2011, the CPWG and the Consolidation Area CPWG merged, which will allow the CPWG to combine the community involvement and technical experience into one group. Progress with the consolidation area will remain a primary focus. The varied background of CPWG members will also provide perspective on habitat, community planning, and construction activities.

Highlights of the year included presentations from SUNY-ESF Professor Dr. Tim Volk, who shared the success of using shrub willows as an alternative sustainable cover for former Allied properties; and SUNY-ESF professors Dr. Neil Ringler and Dr. John Farrell, along with habitat expert Dr. Ryan Davis, who updated the group on the Habitat Restoration Plan. John Farrell described his involvement in developing plans for restoring the Harbor Brook wetlands to enhance spawning for northern pike.

The CPWG toured various construction projects including the 1 ½ mile-long underground barrier wall, the restored LCP wetlands, and the Geddes Brook wetlands. We also visited the consolidation area where the lake bottom materials will be dried and contained. Each of these tours was led by DEC project managers as well as other team members.

All of these experiences and information sharing resulted in the CPWG recommending that DEC hold a public meeting to communicate lake cleanup progress. This suggestion resulted in the Onondaga Lake Watershed Community Forum on November 29.

In 2012, the CPWG looks forward to maintaining its role as a liaison among DEC, Honeywell, and the community to continue to build upon a strong public participation program. We welcome input on ways to keep the community informed and encourage anyone to attend our meetings. Project information is available on our website at www.onondagalake.info. If you have any questions, feel free to contact me or the other officers through the website.

Cleanup Achieved Through Green Practices

Green practices such as the use of biofuels, recycled materials, and other sustainable solutions are key elements of Honeywell's Onondaga Lake remediation strategy.

- ▲ B20 biodiesel fuel will replace about two million gallons of standard diesel fuel.
- ▲ Green electric booster pumps and hydraulic dredging will help reduce greenhouse gas (GHG) emissions by the equivalent of removing 12,700 cars from the highway for one year.
- ▲ Recycled water will reduce the use of water that could be used for drinking by approximately 780 million gallons.
- ▲ A proposed alternative vegetative cover system for the Honeywell property off Airport Road would significantly reduce GHG emissions.
- ▲ Honeywell Wind Turbines by WindTronics will provide supplemental renewable energy.
- ▲ Solar panels will provide 30 percent of electric power for the Camillus Pump Station and 100 percent renewable power for air monitoring equipment.





Middle School Students Make the MOST of Honeywell Summer Science Week

Exploration of Watershed Teaches Young Scientists about Geology, Birds, and Data Collection Through Hands-On Learning

This summer marked the sixth year of *Honeywell Summer Science Week at the MOST*, which provides unique learning opportunities to help excite and inspire a new generation of scientists in Central New York. Seventy-four middle school students participated in the program, a week-long exploration of the Onondaga Lake watershed that engages students in hands-on learning, including studying local birds in their habitats, bug collecting, water testing, GPS sampling procedures, and geology. Created by the MOST, *Honeywell Summer Science Week* is sponsored by Honeywell Hometown Solutions.

Local Teachers Take Flight During Honeywell Educators @ Space Academy

Space Program Trains Teachers to Inspire Students to Study Science and Math

Fremont Elementary School teacher Brian Young and Minoa Elementary School teacher Becky Loy were awarded scholarships to attend *Honeywell Educators @ Space Academy* at the U.S. Space & Rocket Center in Huntsville, Ala., in June 2011.

Created in partnership with the U.S. Space & Rocket Center in 2004, *Space Academy* is designed to help teachers move beyond the standard math and science curriculum with supplemental teaching techniques developed through real-life astronaut training. Participants engage in unique activities such as astronaut training exercises including high-performance jet simulation, scenario-based space missions, land and water survival training, and state-of-the-art flight dynamics programs.



"It is important for everyone to have dreams and to not lose sight of that passion," said Becky Loy. "Honeywell has been instrumental in helping me pursue my passion and giving me additional ways to help others pursue their dream or passion."



Honeywell Hometown Solutions

Thousands Find the Sport in Habitat Conservation During Honeywell Sportsmen's Days

In September, more than 4,500 people learned about habitat and wildlife conservation while participating in numerous outdoor sports during the 2011 *Honeywell Sportsmen's Days*. The Onondaga County Federation of Sportsmen's Clubs holds the annual event at Carpenter's Brook in Elbridge, N.Y., in celebration of National Hunting and Fishing Day.

Local wildlife artists, woodsmen, authors, sportsmen, and Boy Scouts demonstrated a number of outdoor activities including: skeet shooting, turkey and predator calling, archery, crossbow, fly fishing, gun cleaning, fly tying, canoeing, muzzle loading, birds of prey demonstrations, and trout fishing.

"The Federation members are grateful to Honeywell for its continuing support and partnership," said Onondaga County Federation of Sportsmen's Clubs President Stephen Wowelko. "Our members have had the opportunity to provide input and share their knowledge of conservation practices throughout Honeywell's lake restoration planning process."



Audubon Honors Honeywell Hometown Solutions for its Commitment to Conservation Programs

Honeywell Recognized for Innovative Programs that Promote Environmental Stewardship

The Montezuma Audubon Center honored Honeywell Hometown Solutions in June for its support of sustainable programs that promote birding and habitat conservation, as well as educational programs that raise awareness and promote environmental stewardship to new audiences.

The Montezuma Audubon Center, the Onondaga Audubon Society, and Honeywell have been working in partnership since 2008 when they jointly adopted Onondaga Lake as an Important Bird Area (IBA). The adoption marked the first time a company in New York State co-adopted an IBA with an Audubon organization.

In December 2009, Audubon and Honeywell Hometown Solutions introduced the professional development program: *Honeywell Institute for Ecosystems Education*. Teachers who completed the program attended the Audubon event.

Honeywell also worked with Audubon to introduce Audubon's nationally acclaimed *For the Birds!* program to 70 Liverpool fifth-grade students in 2010. *For the Birds!* is a multi-session, interdisciplinary educational program that provides hands-on lessons that teach students about the importance of birds and bird habitats.



In recognizing Honeywell with a Donald G. Colvin Conservation Award, Onondaga Audubon Society President Gene Huggins said, "The partnership among Montezuma Audubon Center, Onondaga Audubon Society, and Honeywell has been significant in creating educational programs that instill a sense of stewardship in our youth to protect and preserve the environment."

Fourteen Top Middle School Science Teachers Learn New Techniques to Inspire Student Learning

Through Honeywell and Audubon's professional development program, *Honeywell Institute for Ecosystems Education (HIEE)*, 14 Onondaga County middle school science teachers learned how to take the classroom outdoors, inspire students to take a more active role in preserving their environment, and help students acquire critical thinking and problem-solving skills.

HIEE provides opportunities for teachers to explore freshwater and field habitats, and investigate 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.

HIEE is part of Honeywell's overall initiative to recognize the importance of Science, Technology, Engineering, and Mathematics (STEM) education and to educate youth about habitat and conservation.

"It has been a wonderful opportunity to be around so many experts and teachers in my field and learn a variety of ideas that I can bring back into my classroom," said Kim Buchanan, a seventh-grade science teacher from Fabius-Pompey Middle School-High School. "I now have more to offer my school, students, and community, based on what I learned about citizen science during *Honeywell Institute for Ecosystems Education*."

"*Honeywell Institute for Ecosystems Education* is a great program that provides educators with new and exciting ways for students to learn about their environment in their own backyards so they can make a positive impact here in Central New York," said SUNY-ESF President Neil Murphy. "SUNY-ESF is proud to be a part of this innovative and powerful program."



PRE-SORTED STANDARD
US POSTAGE
PAID
PERMIT NO. 994
SYRACUSE, NY

OnondagaLake *cleanup*

Dear Community Members,

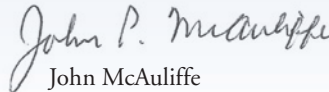
2011 was an exciting year for Onondaga Lake. Your participation and support have been essential in turning good ideas into real, tangible results. Significant improvements are visible along the lakeshore, and the lake's water quality is the best it has been in decades.

More than 500 Central New Yorkers are helping Honeywell achieve substantial progress and more will be hired in the coming year. With the infrastructure now in place, lake dredging and capping are scheduled to begin in 2012.

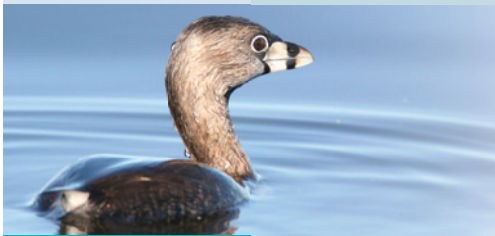
Community input continued to play a significant role in 2011 during the southwest lakeshore visioning process. Progress made to this point would not be possible without the public's involvement. We will continue to seek community input on its vision for the future of Onondaga Lake.

If you have questions, please contact me at 315.552.9784. You also can learn more by visiting us online at www.lakecleanup.com.

Thank you,



John McAuliffe
Syracuse Program Director



2012 Calendar

Construction Projects

Groundwater Collection System Behind Barrier Wall Completed	Early 2012
Consolidation Area and Water Treatment Plant Construction Continues	Winter/Spring
Nine Mile Creek Remediation Begins	Spring/Summer
Onondaga Lake Dredging Begins	Spring/Summer
Upper Harbor Brook Remediation Begins	Spring
Groundwater Collection System Extension Along West Shoreline Begins	Summer

Citizen Participation & Community Enhancement Projects

Community Participation Working Group (CPWG) Meetings	Monthly
Onondaga Creek and Nine Mile Creek Fishing Access Points Open	Spring
Community Planning for Former Industrial Property in Camillus and Geddes	Throughout the year
Honeywell Presentations	Throughout the year
Website Updates/Fact Sheets/E-newsletters	Throughout the year

Honeywell Hometown Solutions

FMA Live!	April
Honeywell Educators @ Space Academy	June
Honeywell Summer Science Week at the MOST	July
Honeywell Sportsmen's Days at Carpenter's Brook	September

Habitat Improvement Projects

Geddes Brook Wetlands Plantings	Spring/Summer
Shrub Willow Farm Expansion	Spring/Summer
Geddes Lakeshore Plantings	Spring
Upper Harbor Brook	Fall

DEC Release of Reports, Designs, and Public Meetings

Onondaga Lake Operations Health & Safety Plan	Early 2012
Dredging & Capping and Habitat Restoration Final Design	Early 2012
Onondaga Lake Remediation Public Meeting	Spring/Summer

For more information or to sign up for our e-newsletter, please visit our website, www.lakecleanup.com.