# CLEAND CONTRACT CONTRACTOR CONTRA

# VOICES FOR Lake cleanup a reality











#### Community Helps Preserve Future of Onondaga Lake Watershed

by Frank Moses, Director of the Montezuma Audubon Center

I've been closely involved with the Onondaga Lake cleanup since 2006. Over the years it has become very apparent there is an active community surrounding the lake that cares and will rise to the occasion to show it.

This year, Montezuma Audubon Center, Onondaga Audubon Society, Honeywell, and Parsons established the *Onondaga Lake Conservation Corps* to help restore and sustain Onondaga Lake and its value as an Important Bird Area.

The cleanup is a reality; the water quality is the best it has been in years and we can already begin to see real benefits. The *Conservation Corps* offers community members an opportunity to participate in hands-on activities, becoming part of the lake cleanup today and stewards of the lake for the future.



In three events at Geddes Brook and Nine Mile Creek, 1,100 native plants, shrubs, and trees were planted by more than 200 volunteers—parents and children, teachers and students, community members, youth and the young at heart. Close to 40 species of birds were sighted, with anticipation of more to come, thanks to the enhanced habitat. Some highlights included a bald eagle, spotted sandpipers, and yellow-rumped warblers.

Of all the resources invested in the restoration of Onondaga Lake, fostering stewardship to protect that investment is one of the most important.

Onondaga Lake is a true gem: something of the earth that is valued and polished so that it may be adorned by a loved one. We are fortunate to have Onondaga Lake to cherish and make better for future generations.



### Community's Vision Incorporated into Future Plans

by Charlotte "Chuckie" Holstein, Executive Director of F.O.C.U.S. Greater Syracuse



F.O.C.U.S. Greater Syracuse has been gathering ideas from thousands of community members for the past 15 years about their vision for Central New York. While many ideas have emerged, two goals have remained consistent: cleaning up Onondaga Lake and creating opportunities for minimalimpact development and recreation along its shoreline. In 2012, Onondaga County hired F.O.C.U.S. to conduct

a study on reconnecting the lake to the community. We

reviewed 54 reports—spanning the last 84 years—on the public's vision for Onondaga Lake. We also met with more than 100 stakeholders and reviewed more than 1,100 surveys to identify what the citizens would like to see for the future of Onondaga Lake and its shoreline.

For the first time in many generations, the Central New York community will experience a cleaner Onondaga Lake. The question is no longer "how" or "when," but rather "what." What do we —as a community —want for the future of Onondaga Lake and how do we want future generations to experience this amazing community asset? After evaluating and assessing interviews and survey results, three shared visions have

emerged: the majority of the lake should remain in public hands, it should remain largely undeveloped, and the "Loop the Lake Trail" needs to be completed.

This is an exciting time for Central New York! Onondaga County's upgrades to its wastewater treatment plant have improved the water quality of Onondaga Lake and its many tributaries. Our community is becoming greener and more sustainable with the "Save the Rain" program and implementation of sustainable stormwater management. And Honeywell's efforts have already taken us much closer to achieving our goals. We will have a cleaner and usable lake, more vibrant habitat for wildlife and vegetation, improved lake access, and much, much more.





Photo by: Douglas Lloyd

The improvement in Onondaga Lake water quality is one of the most impressive accomplishments in the Central New York region within the past decade.

Charles T. Driscoll Jr. Professor of Environmental Systems Engineering Syracuse University

# water quality improves



We look forward to bringing back many of the plant species that once made this area so unique.

Donald J. Leopold, Ph.D.



Above: Spicebush and softstem bulrush are two of the native plants at Geddes Brook wetlands and Nine Mile Creek.



#### SUNY-ESF Plays Key Role in Native Plant Selection

by **Donald J. Leopold, Ph.D.** Distinguished Teaching Professor and Chair (Department of Environmental and Forest Biology) at SUNY-ESF

As the Onondaga Lake cleanup moved forward in 2012, so too did a number of habitat enhancement projects in areas surrounding the lake. These projects included the reintroduction of native plants

to increase the functional and aesthetic values of adjacent wetlands—projects that also presented a unique educational opportunity for my students at the State University of New York College of Environmental Science and Forestry (SUNY-ESF).

I have had the opportunity to make recommendations on the selection of hundreds of thousands of native plants that are being planted on more than 40 acres of wetlands at Geddes Brook, Nine Mile Creek, and other sites around Onondaga Lake. Native plants are very well-adapted to local conditions. They produce a beautiful progression of flowers, textures, and colors throughout the year, attract a variety of wildlife including many pollinating insects, and can control and filter stormwater runoff better and more sustainably than many mechanical systems.

Examples of native species selected for the Geddes Brook wetlands include red maple, American sycamore, pussy willow, dogwoods, witchhazel, sedges, bulrushes, and many others. These species were selected to re-establish specific plant communities that once dominated this area, including floodplain forest, hardwood swamp, and emergent wetlands.

Several of the targeted species are part of natural communities that have historical or cultural importance. For example, northern white-cedar and eastern white pine are among many species being planted in the western part of the Geddes Brook floodplain as part of an effort to re-establish a cedar swamp that was historically present around Onondaga Lake and along Onondaga Creek. We will also be reintroducing salt marsh species in areas along the lakeshore.

ESF undergraduate and graduate students continue to study the restoration of lands near and adjacent to Onondaga Lake, and we are excited to support further habitat enhancements in the coming years. With the significant public interest in native plant gardening, the opportunity to extend these ideas has been especially interesting to me.

#### Spawning Success at Onondaga Lake: SUNY-ESF Helps with Habitat Plan

#### by Neil H. Ringler, Ph.D.

Vice Provost for Research and Distinguished Teaching Professor at SUNY-ESF



Restoring diverse, functioning, and sustainable habitats in and around Onondaga Lake is one of the top priorities of the cleanup. Our students and colleagues at SUNY-ESF are already seeing an increase in the number of species living in the lake, and enjoying the opportunity to both study and catch fish.

In areas where Honeywell is capping the lake bottom, a new habitat layer will improve spawning grounds for fish. We also are improving habitat conditions throughout shallower areas where

the cleanup is taking place, such as adjacent wetlands and creeks. My ESF colleague, John Farrell, Ph.D., also provided critical input into the design of the Harbor Brook wetlands, which are intended to support spawning for northern pike. These plans include realigning Harbor Brook to further improve fish habitats and to create new wetlands for a diverse ecosystem.

The lake cleanup efforts have provided unique opportunities for well over a hundred college students at all levels who have conducted numerous studies on the Onondaga Lake watershed and its aquatic communities.

I am proud that ESF has been a part of these efforts and look forward to continuing our partnerships to improve Onondaga Lake for future generations. As an angler, local citizen and college professor, the evolving partnerships to restore our lake mean a great deal to me, my family, and students.







### ppopdagalake



This is one of the biggest lake cleanup projects in the world.

Ken Sommerfield Construction Manager. Parsons

#### **Onondaga Lake Cleanup Takes Shape**

The Onondaga Lake cleanup reached a historical milestone in 2012 as lake operations began. Hundreds of Central New York scientists, engineers, and skilled craft laborers continued working with Honeywell, achieving significant progress implementing lake improvement plans under the jurisdiction of the New York State Department of Environmental Conservation (DEC). Significant upgrades made by Onondaga County to its municipal wastewater treatment system plus the construction by Honeywell of the underground barrier wall, which intercepts contaminated groundwater from former industrial sites, have improved lake water quality to the best it has been in decades.

The Onondaga Lake Conservation Corps, a partnership among the Montezuma Audubon Center, the Onondaga Audubon Society, Parsons, and Honeywell, was established to provide opportunities for volunteers to become environmental stewards protecting the Onondaga Lake watershed. Hundreds of volunteers have joined experts for plantings of native plants and trees during the remediation of Geddes Brook and Nine Mile Creek.

# substantial progress

#### **Dredging and Capping Under Way** More than 230,000 cubic yards removed; about 400 million gallons of water treated.

Onondaga Lake dredging and capping began in summer 2012. These are critical components of the lake cleanup plan, which was issued by state and federal agencies. In November, dredging concluded for the winter, and capping ended in December. Both will resume in spring 2013.

Hydraulic dredges will remove about 2 million cubic yards of material from the bottom of the lake. *By the end of 2013, dredging will be about halfway complete.* During dredging lake material is transported through a double-walled pipe to a lined consolidation area on Honeywell property off of Airport Road, where it is pumped into geotextile tubes for drying and safe isolation long term. About 450 acres of the lake are being capped to provide a new habitat layer, prevent erosion, and isolate remaining contaminants.

At the lined consolidation area, designed to protect health and the environment, the dredged material is pumped into the industrial-strength geotextile tubes made from permeable materials that offer odor control as well as a significant reduction in the size of the consolidation area. A high-strength plastic liner and a natural clay layer serve as the bottom of the consolidation area to safely seal the



Largest of three hydraulic dredges; double-walled pipe forms four-mile-long pipeline that transports lake material

material inside. Geotextile tubes undergo extensive quality testing to ensure their effectiveness.

Water leaving the geotextile tubes is collected, treated on-site, and then sent to the Metropolitan Syracuse Wastewater Treatment Plant and treated again to meet DEC standards before being returned to the lake. Once the lake cleanup is complete in 2016, the geotextile tubes will be covered to ensure long-term isolation. Layers of clean soil will be added and vegetation will be planted on top.

Air monitoring results are available at www.lakecleanup.com.



A stand-alone carbon filtration system helps reduce odors

#### Air Monitoring to Protect Health and Safety Substantial Efforts Undertaken to Minimize Odors

The cleanup, one of the largest remediation projects in the country, was designed to significantly reduce potential odors. Extensive efforts, including the use of heavy-duty plastic geotextile tubes to hold the lake material, the transport of the material through a double-walled pipeline, a system to capture and treat vapors from the wastewater treatment plant, and sediment thickeners, have been incorporated into the design and operation to protect worker and public health.

Throughout the project, air quality is continuously monitored at the perimeter of the work zone to ensure that it remains safe and below government criteria.

A comprehensive air monitoring system was developed in a coordinated effort with DEC, the New York State Department of Health (DOH), and the U.S. Environmental Protection Agency (EPA), and is in place. Air monitoring data is submitted to DEC, DOH, and EPA daily. In addition, Honeywell has an air monitoring team that investigates air quality at the work site.

According to the DEC, "total VOC levels detected at the perimeter monitoring locations comply with the standard established for protecting public health."

To further minimize odors, in 2012, Honeywell put in place additional measures including odor control misting systems, a cover system for active work areas in the water basin, a stand-alone carbon filtration system, and plastic covers for the geotextile tubes when they are full. Additional measures are being evaluated for continued improvements in 2013.

#### Onondaga Lake Community Participation Working Group

by Becky Corbin, Chair



2012 saw many years of study and preparation culminate in the removal of contaminated material from the lake bottom. The highly visible nature of the dredging operation dramatically increased public awareness, generating interest and excitement on many fronts. The Community Participation Working Group (CPWG), a group of volunteers whose mission is to help keep the public informed about lake cleanup activities, was pleased to see greater public awareness.

The CPWG stayed informed through routine meetings with DEC and Honeywell. Our group toured restored wetlands surrounding the lake, viewed ongoing progress at the consolidation area, got a close-up view of the dredges, and had the opportunity to utilize the wonderful new Visitors Center. Various CPWG members also serve as links to other community and interest groups involved with or concerned about Onondaga Lake.

This year, the CPWG continued an ongoing dialogue among the community, DEC, and Honeywell. The group identified questions the community had, which were then answered by DEC and posted on its website. The Frequently Asked Questions help create greater community understanding of all aspects of the lake cleanup, including health and safety, monitoring, and operations.

We expect 2013 to be a very busy year as dredging progresses and the community looks forward to utilizing the fantastic resources we have in Onondaga Lake. Information on the CPWG is available on our website at **www.onondagalake.info**.







#### Science-Based Community Programs Provide Firsthand Experience for Local Students and Teachers

by Sue Potrikus, Science Teacher at Camillus Middle School



Whether it's attending the *Honeywell Educators @ Space Academy* at the U.S. Space & Rocket Center in Huntsville, Ala., participating in the *Honeywell Institute for Ecosystems Education* or *Honeywell Summer Science Week at the MOST* field studies programs, or bringing the *FMA Live!* show to the West Genesee School District last spring, my students and

I have benefited from Honeywell's innovative programs that seek to excite students about science and math through real-world demonstrations and experiments. The program activities create lasting memories as well as practical application of scientific laws.

The cleanup of Onondaga Lake is a science-driven project and presents so many good opportunities to get involved. During *Honeywell Summer Science Week at the MOST*, students from many school districts collected data across the watershed to enrich their knowledge of engineering, technology, biology, and math. From touring Onondaga Lake to visiting Syracuse University chemistry labs and SUNY-ESF, I have enjoyed seeing the results of the research and meeting scientists from many fields of study. I've also been involved in the *Conservation Corps* volunteer program and helped plant native shrubs and aquatic plants to establish a new ecosystem. As a science teacher, it is so important to find ways to teach our youth how the cleanup works and the impact they can have on the future.

I am truly a more passionate and involved teacher because of these experiences.

### Local Students Go Outdoors to Learn About Science

by Peter Plumley, Ph.D., Exhibits Project Manager at the MOST



The Museum of Science and Technology (MOST) and Honeywell have partnered for seven years to give middle school students a chance to learn about science through *Honeywell Summer Science Week at the MOST.* The weeklong outdoor exploration of the Onondaga Lake watershed gives students a chance to study local birds in their habitats, collect bugs and plants, assess water quality, learn GPS procedures, and discover geology.

Traversing Onondaga Creek from the headwaters to the Inner Harbor, young people are mentored by environmental studies students and faculty from Syracuse University and



#### Honeywell

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SUNY-ESF. Every aspect of the camp is hands-on. Participants are in the creek taking water quality measurements, observing ecological conditions, analyzing the data collected, and discovering trends and gradients. Data ownership leads to a true understanding of science methods, parameters, and analysis. It is an exciting feeling. Graduates of the program enter ninth grade with confidence in their abilities to compete in STEM courses, and a drive to get engaged in local community projects and share their discoveries.

Summer Science Week provides opportunities to learn using an interdisciplinary approach for investigation, discovery, and resolution of environmental issues facing citizens of Onondaga County. The program inspires students to pursue careers in science, technology, engineering, and mathematics.

We encourage graduates of the summer program to consider advancing their newfound independent research of the environment and participate at the Central New York Science & Engineering Fair. One of our 2011 Honeywell Summer Science Week graduates, Emerson Czerwinski Burkard, earned second place and an all-expense-paid trip to compete with 1,600 students from around the world at the 2012 International Science Fair. Since 2006, 417 eighth-graders have graduated from this program.

#### Sportsmen Look Forward to Enhanced **Recreational Opportunities**

by Stephen Wowelko, President of the Onondaga County Federation of Sportsmen's Clubs

The Onondaga County Federation of Sportsmen's Clubs represents more than 5,000 members in more than 40 sporting organizations throughout Central New York. Our organization participated in development of the Onondaga Lake Habitat Restoration Plan. We were proud to be part of such an important part of the cleanup, enhancing habitat and improving areas where our members hunt, fish, and enjoy outdoor recreational activities throughout the year.

Improvements at the Geddes Brook wetlands and Nine Mile Creek will enhance habitat to support a diverse array of fish, birds, and mammals while increasing



opportunities for outdoor recreation. In addition, the federation's input has helped Honeywell and DEC design public fishing access points on Nine Mile and Onondaga Creeks. The fishing access points, which opened this year, allow for safe access to the areas as well as parking.

In 2012, the federation again partnered with Honeywell on Honeywell Sportsmen's Days at Carpenter's Brook. More than 4,000 attendees were able to learn about outdoor sports and hear about Honeywell's progress on the Onondaga Lake cleanup project.

We are excited about Honeywell's commitment to and enthusiasm for wildlife conservation, access to waterways, improved fisheries, and better recreational activities, and look forward to a better future for Onondaga Lake.





Hundreds of volunteers plant native species during *Onondaga Lake Conservation Corps* events this year.

# environmental steward



Environmental stewards help re-establish wetland habitats, which will provide shelter, cover, and food to support fish and wildlife.



# habitat re-emerging

#### Transformation of Geddes Brook and Nine Mile Creek in Progress

#### Native Habitat Re-established in Onondaga Lake Watershed

Work is well under way to remediate and transform 17 acres at Geddes Brook and 30 acres at Nine Mile Creek into diverse new habitats for wildlife. The projects will become part of a green corridor connecting habitat from Onondaga Lake to upland sites.

Contaminated soil has been removed and 100,000 native shrubs, flowers, and trees are being planted. The projects will improve the ecosystem, and protect and enhance habitat and wildlife. Environmental stewards from the *Onondaga Lake Conservation Corps* helped plant 1,100 trees and plants while learning from habitat experts about the sustainability of the Onondaga Lake watershed.

By restoring Geddes Brook to a more natural, sinuous, meandering channel, water will flow over the channel banks into the wetlands during wet seasons. More than 20 native species including trembling aspen, woolgrass, green ash, and pussy willow, are now thriving in the LCP wetlands, and supporting a diverse array of wildlife.



#### Help protect the Onondaga Lake watershed

To learn more about the Onondaga Lake Conservation Corps or participate in future activities, please contact Frank Moses at **montezuma@audubon.org** or call **315.365.3588**.



# visitors center



#### See the progress of the cleanup at the new Onondaga Lake Visitors Center

The Central New York community has played a key role in the efforts to clean up Onondaga Lake. The Onondaga Lake Visitors Center was built to provide the public with access to the significant work taking place by hundreds of scientists, engineers, and skilled craft laborers from this region.

From significant improvements in water quality to the return of native plants and animals, you will see the progress being made to restore the natural beauty and habitat of Onondaga Lake.

To schedule a tour or host a meeting, please call 315.552.9751 or visit our website, www.lakecleanup.com.



Left: The Onondaga Lake Visitors Center, designed and built by Honeywell, is adjacent to I-690 at Exit 7 along the southwest shoreline of Onondaga Lake.

Right: Boy Scouts from Troop 139 in Liverpool, N.Y., plant native vegetation along the western shoreline near the new Onondaga Lake Visitors Center.



#### Honeywell

301 Plainfield Road, Suite 330 Syracuse, NY 13212

#### Dear Community Members,

2012 was a milestone year as dredging and capping began, extensive habitat enhancements were made at the Geddes Brook wetlands and Nine Mile Creek, the Onondaga Lake Visitors Center opened, and the *Onondaga Lake Conservation Corps* was founded. We are proud that the cleanup uses green practices such as the use of biofuels, recycled materials, and other sustainable solutions.

As we continue to improve the beauty and value of Onondaga Lake and adjacent habitats, we look forward to continued collaboration with our partners, working to achieve the community's vision of a healthy, sustainable asset for future generations.

The realization of that commitment will be the result of the talent, creativity, and dedication of so many who reside and work in this community—from the elected officials to the academic, environmental, nonprofit, and business communities to our partners and workers. It will be because of this collaboration and partnership, and because of the work of Onondaga County, that we will reach our goal.

Thank you for your ongoing support of the Onondaga Lake cleanup. There are many ways for you to get involved. You, your family, and friends could become environmental stewards helping to protect the Onondaga Lake watershed as part of the *Conservation Corps*, or you can visit us at the Onondaga Lake Visitors Center. You also can learn more at **www.lakecleanup.com**.

Thank you,

John McAuliffe Syracuse Program Director

P. manhple

#### Construction Projects

Groundwater Collection System Along Western Shoreline Continues	Throughout 2013
Upper Harbor Brook Remediation Resumes	Early 2013
Onondaga Lake Dredging and Capping Resume	Spring
Nine Mile Creek Remediation Resumes	Spring
Honeywell Hometown Solutions	
Honeywell Educators @ Space Academy	June
Honeywell Summer Science Week at the MOST	July
Honeywell Sportsmen's Days at	September

Carpenter's Brook

#### Citizen Participation & Community Enhancement Projects

Community Participation Working Group (CPWG)	Monthly
Onondaga Lake Conservation Corps	Spring/Summer/Fall
Free Fishing Weekend	June
Onondaga Lake Visitors Center Tours/ Meetings	Throughout the year
Community Planning for Former Industrial Property in Camillus and Geddes	Throughout the year
Website/Fact Sheets/E-newsletters	Throughout the year
Habitat Improvement Projects	
Shrub Willow Farm Expansion	Spring/Summer
Upper Harbor Brook	Spring/Summer/Fall
Geddes Brook Wetland Habitat Monitoring	Spring/Summer/Fall
Nine Mile Creek Wetland Habitat	Fall

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

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