

Onondaga Lake Cleanup Report

June 2008

About this Report ...

This Onondaga Lake Cleanup Report is part of Honeywell's program to keep you informed of milestone events in the Onondaga Lake cleanup, and keep you aware of future efforts Honeywell will undertake to complete the remediation plan approved by the New York State Department of Environmental Conservation (DEC), and the U.S. Environmental Protection Agency (EPA).

We encourage your participation and welcome your comments, questions and suggestions. We urge you to become involved. To learn more, please go to:

www.onondaga-lake-initiatives.com

Onondaga Lake Cleanup Plan Making Progress

Syracuse, NY — For the first time in years, the wetlands around the old LCP site in Geddes are filled with native species that are attracting wildlife. Muskrats, wild turkey and other species are returning and thriving. And at the old Solvay Settling Basins, a harvest of shrub willows holds the promise of a new source of clean, "green" energy and bio-fuels for our region.

It's said that success has many parents, and that's especially true in the creation of the Onondaga Lake cleanup plan.

In cooperation with the DEC, Honeywell has worked with hundreds of world-class scientists, engineers and technicians — plus federal, state, county, town and village leaders — to develop the cleanup plan in accordance with the Record of Decision (ROD) issued by DEC and the EPA on July 1, 2005. Approval of the Consent Decree by a federal judge on January 4, 2007 gave the green light to a comprehensive cleanup plan that has been in

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Shrub Willow Project Update

Tests Show Plants Could Create Living Cover for Settling Basins and Produce Clean Energy

In 2007, the State University of New York's College of Environmental Science and Forestry (SUNY-ESF) worked in collaboration with Honeywell to harvest two acres of shrub willows as part of a successful demonstration project which indicates this native species can become a productive source of "green" energy and bio-fuels for the region while also functioning as an effective "bio-cap" cover for the Solvay settling basins.

SUNY-ESF is also planting salt marsh vegetation in the hope of recreating salt marshes that once occurred in the Onondaga Lake vicinity. Salt marsh vegetation will prevent erosion and attract wildlife.

More than 35,000 of the rapidly growing shrub willows were planted in 2004 for a pilot project. Progress continues this Spring with the expansion of the project to ten acres and planting of 60,000 more shrub willows. Based on the success of the pilot project, experts say mass plantings and cultivation of shrub willows crops would:

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On the southwestern shore of Onondaga Lake, Honeywell is installing a one and one-half mile long underground barrier wall to prevent contaminated groundwater from entering the lake. The barrier wall is being built in three phases under the supervision of the New York State Department of Environmental Conservation.

Phase I, the Semet section, was completed in the summer of 2007. It extends 1,200 feet from the West Side Pump Station to the Causeway Bridge. The Willis/Causeway section is scheduled for Summer 2008 and will extend from the Semet section to the East Flume. The third section will extend from the East Flume to Harbor Brook. Contaminated groundwater collected behind the barrier wall is pumped under I-690 to the Willis Avenue Groundwater Treatment Plant.

These construction activities represent another step in Honeywell's efforts to stop contamination from reaching Onondaga Lake — work that must be completed before the lake cleanup can begin.

Advantages of a Shrub Willow Bio Cap: Clean, Renewable, Home-grown Fuel

In a world seeking new clean energy sources, "willow power" could be our alternative source of renewable energy.



Shrub willows grow quickly.

Willows help protect groundwater and reduce soil erosion.

Shrub willows help reduce global warming because they produce no greenhouse gases.

Willows can reduce our use of fossil fuel like oil and coal and they are superior to corn as a source of ethanol.



Willows grow in marginal soil, not prime farmland.

There is no need for costly annual planting, fertilizer or pesticides.

Harvests begin in 3 years, with 7 to 10 harvests expected over 25 years.

It's a smart solution that will clean up old industrial sites, creating hundreds of acres of lush new habitat for wildlife.



Willows are a clean, sustainable solution that draw their strength and power from nature.

One acre of shrub willows produces enough clean energy to run the average New York household for an entire year!

Shrub Willow Project Update (From Page 1)

- Reduce salt and runoff from the settling basins carried by normal regional rainfall that sinks into the groundwater and flows into Nine Mile Creek and Onondaga Lake.
- Increase the diversity of vegetation and wildlife on the settling basins.
- Convert the settling basins into productive areas for woody biomass and the production of renewable "green" energy and bio-fuels right here in Syracuse.

The SUNY-ESF shrub willow test project strongly indicates that dense shrub willow groves can serve as an effective cover on the settling basins, eliminating the need for man-made liners and clay caps.

The 15-foot willows form a lush green canopy and also put down roots that drink up vast amounts of water. In fact, they

can prevent rain and snow from seeping into the settling basins, greatly reducing the effect of groundwater runoff. A shrub willow bio-cap will also improve the quality of the air we breathe because densely-planted vegetation serves as a carbon sink that naturally traps greenhouse gases.

What's more, shrub willows can be periodically harvested as a clean energy source, producing bio-fuels like ethanol far more efficiently than alternative energy sources.

In short, a shrub willow bio-cap provides a "green" remedy for old settling basins, and some big paybacks: Safe, renewable energy. Cleaner air and water. Lush new wildlife habitat.

Public and private partnerships like the shrub willow test project are helping us address the problems of the past, explore innovations for the future, and create an era of progress that will benefit the people, environment and quality of life in Central New York!

Cleanup Plan Progress (From Page 1)

discussion, design and testing for more than 12 years.

In brief, the remediation plan calls for the dredging and disposal of up to 2.65 million cubic yards of contaminated sediments. An isolation cap will be constructed to cover an estimated 425 acres in the shallower areas of the lake, and a thin-layer cap will isolate 154 acres in the lake's deeper areas.

In addition, the plan includes natural recovery, wetland and habitat restoration, plus long-term maintenance and monitoring. On-going scientific investigation and analysis will enhance the cleanup. The Consent Decree also provides for a Citizens Participation Program and a Statement of Work detailing how future aspects of the cleanup plan will be carried out.

Onondaga Lake Cleanup Objectives

- Help clean up one of Central New York's great natural resources through a DEC- and EPA-approved plan.
- Protect human health and the environment, plus diversify and enhance wildlife and fish habitat.
- Offer the community the prospect of regaining an important environmental, recreational and social resource that can be enjoyed for generations to come.

For its part, Honeywell has made great progress on the cleanup of Onondaga Lake.

Honeywell completed the first 1,200-foot section of a groundwater barrier wall on the southwestern shoreline of Onondaga Lake in 2007. Each interlocking steel panel is two feet wide and weighs nearly one ton, and most are sunk 30 to 50 feet deep underground. The completed barrier wall will eventually measure one and one-half miles long and prevent contaminated groundwater from entering Onondaga Lake.

Contaminated groundwater from the shore-side of the



Local Conservation and Wildlife Groups, SUNY-ESF and Elected Officials Joined Honeywell and Wetlands Specialist in October to Complete Wetlands Restoration at Former LCP Site.

first phase of the underground barrier wall is being treated and cleaned at the Willis Avenue groundwater treatment plant before being piped back into the lake.

Honeywell and environmental experts designed a wetlands and landscape plan for the former LCP plant site to reestablish more than 20 native species that will increase wildlife habitat in the nine-acre area previously covered by non-native invasive reeds known as phragmites.

Through an innovative technology known as "soil washing," more than eight tons of mercury were removed from the LCP site.

Twelve thousand newly-planted trees and native plants are growing in these formerly contaminated wetlands nearby. Among the new plantings are trembling aspen, wool-grass, green ash and pussy willow.

Onondaga Lake Cleanup Plan

— CALENDAR FOR 2008 —

The Calendar at right indicates the timeline of scheduled events for 2008.

Details and updates are available online at:

www.onondaga-lake-initiatives.com

— Key —

Honeywell

Onondaga Lake Partnership

| JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER |
|---|----------|-------|-------|-----|---|------|---|-----------|--|----------|----------|
| I-690 Storm Drain Modifications and Temporary Trench – Pre-Phase II Barrier Wall Work | | | | | | | | | | | |
| | | | | | | | Onondaga Lake Barrier Wall – Phase II Construction Begins, Willis Portion | | | | |
| | | | | | Full-Scale, 10-acre Shrub Willow Demonstration (A joint SUNY-ESF • Honeywell Project) | | | | | | |
| | | | | | Phase IV Pre-Design Field Investigation Program | | | | | | |
| | | | | | Onondaga Lake Partnership Lake Day | | | | Onondaga Lake Partnership Annual Meeting | | |

Honeywell Expands Its Programs to the Syracuse Community

In addition to its investment in the Onondaga Lake cleanup plan, Honeywell has a long-term commitment to the Syracuse community. The company has deployed community initiatives that focus on four pillars of service: Science & Math Education, Housing & Shelter, Family Safety & Security and Habitat & Conservation. With the collaboration of community groups and partner organizations, Honeywell taught middle school students that science can be fun through FMA Live!, our partnership with NASA; repaired homes with Home Headquarters; protected children from dangerous situations with safety education; and supported programs that enhance the environment.

Sustainability Learning Center at Accelerate 2008 Conference

One hundred and sixty-nine students from 11 area high schools and one middle school made presentations and hosted exhibitions on sustainability efforts in their schools at the Sustainability Learning Center, a new component of the annual Accelerate Conference. Honeywell was a key sponsor of the learning center. Students covered topics ranging from environmentally friendly initiatives at the local level to programs that can affect the entire planet. Run by the Cornell Cooperative Extension of Onondaga County, the Sustainability Learning Center provided an opportunity for the students to interact with members of the business, manufacturing, technology and environmental communities.

Honeywell Summer Science Week at the MOST

In July 2007, 55 students visited locations from the Tully Valley to Onondaga Lake to learn from scientists, engineers and professors about water quality and the environment. Created by the Milton J. Rubenstein Museum of Science & Technology in 2006, Honeywell sponsors Summer Science Week at the MOST to help inspire students to become engineers and researchers who will someday play a key role in protecting and restoring our precious resources. Students from the Syracuse City, West Genesee Central and Solvay Union Free school districts and the Dunbar Center received an introductory lesson about Onondaga Lake's environment while cruising on the *Emita II*. The program continues this summer for 60 more students.

Discovery Day at the MOST

In September, 19 middle school students demonstrated their expanded knowledge and understanding of the Onondaga Lake watershed during Discovery Day at the MOST. Their presentations on geology, geography, chemical analysis and habitats detailed experiments the students conducted during Honeywell Summer Science Week in July.

Anglers Reel in Onondaga Lake's Future

One of the most impressive signs of improvement in Onondaga Lake is increasing number of bass, carp, walleye and trout — and the sport fishermen who come to catch them. Nearly 100 fishing enthusiasts from across Central New York gathered this summer for the fourth Onondaga Lake Partnership Carp Fishing Tournament and Family Fun Fishing Derby co-sponsored by Honeywell.

FMA Live! Gives Students Scientific Inspiration

In October of 2007, more than 2,000 middle school students from West Genesee Middle School and Syracuse middle schools participated in Honeywell and NASA's award-winning FMA Live! science concerts. FMA Live! is a cornerstone of Honeywell's commitment to deliver innovative educational programs and help create a steady and competitive pipeline of young people interested in science and technical careers.

Named for Newton's Second Law of Motion (Force = Mass x Acceleration), FMA Live! uses original hip hop music and choreography, cutting-edge video and interactive science demonstrations to teach Newton's laws of motion to middle school students.

Honeywell Educators @ Space Academy

Area teachers received Honeywell scholarships to spend one week at the U.S. Space and Rocket Center in Huntsville, Alabama, as part of Honeywell Educators @ Space Academy. The program provides 50 hours of intensive classroom, laboratory and training time, focusing on space science and space exploration.

