



Oswego County Soil and Water Conservation District
3105 State Route 3
Fulton, New York 13069

Oswego County 2012 Water Chestnut Control Program

Introduction

This year's Water chestnut (*Trapa natans*) control program included various physical hand pulling events as well as a large chemical treatment approach throughout Oswego County.

Multiple hand pulls were orchestrated on three different water bodies: Oswego River, Oneida Lake and the Salmon River. Chemical treatment took place on the Oswego River only.

Chemical Treatment

Preparations and planning began during the winter and spring of 2012. Discussions took place between NYS Department of Environmental Conservation (DEC)/Division of Environmental Permits, Onondaga County Health Department and this office pertaining to the application techniques and outcomes. Decisions were being formulated as to which approach would be undertaken for the 2012 season: chemical alone, and which one? hand pulling, cutting, and/or mechanical harvesting, or a combination of any or all of the mentioned techniques. Chemical effectiveness was being looked at more closely; knowing that terrestrial plants can build up a resistance to glyphosate (Roundup), and that Rodeo (the aquatic version of Roundup) has been used for a number of years now, it was decided to alter the chemical for 2012. The prior approved and labeled chemical called Clearcast was then selected to be used as a comparison test for effectiveness.

Clearcast cost ten times as much as Rodeo, thereby making for a tighter management of financial resources in support of the 2012 expectation. A total resources package was then developed between: St. Lawrence-Eastern Lake Ontario (SLELO) PRISM via The Nature Conservancy, the NYS Environmental Protection Fund via the Finger Lakes-Lake Ontario Watershed Protection Alliance (FOLLOWPA) and the federal Great Lakes Restoration Initiative (GLRI) Aquatic Nuisance Species grant via FOLLOWPA. Treatment cost was estimated around \$80,000 for 2012.

During the latter part of the spring, site assessments and treatment locations were identified and prioritized based upon 2011 control efforts. These included eight different plots/locations in the Oswego River stemming from just south of Minetto to just north of Phoenix, New York. All sites totaled up to 209.5 acres of expected Water chestnut.

Bid packages were then developed and sent out for performing the 2012 treatment. Letters to riparian property owners were then sent out advising them of the potential spraying.

Selection of a certified applicator was then made based upon bid responses. Allied Biological was selected for the 2012 season (**Figure 1**). Application was then made to NYS DEC for an Aquatic Pesticide Application Permit.

Due to the fact that a new chemical herbicide was to be utilized, this caused a more thorough review within DEC before approving such a permit. Permit was approved on July 20, 2012 having an end date of August 31, 2012. DEC required that water samples be taken and analyzed for chemical residual shortly after treatment at specific locations, as well as at the end of the final spraying directly in a treated site. This added to the cost of doing business for 2012 as well. In addition, new permit requirements were passed since last year that required this office to submit a Notice of



Figure 1. Allied Biological Air Boat Application

Intent (NOI) for coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Point Source Discharges to Surface Waters of New York from Pesticide Applications.

The same chemical applicator had been selected by Onondaga County to treat Water chestnut in the Seneca River, which then delayed the contractor from coming to the Oswego River. Treatment in the Oswego River began on August 6th and continued up to August 30th, 2012. This overall time period included in having the contractor come back after a short break of time and spray the remaining ‘green stripes’ left by the airboat when they first sprayed. A total of 209.5 acres were treated between the eight different plots: Minetto Causeway, Rookey’s, Gentile’s, Battle Island, Pathfinder Island, City of Fulton, Gale Island and Ox Creek Area.

In order to have some sense of effectiveness of the chemical treatments, a Water chestnut sampling routine was undertaken in both counties, at selected locations either in the Oswego, Seneca or Oneida Rivers. An Ekman dredge was utilized to gather nuts from the bottom of the river. These nuts were then analyzed for their viability and numbers. The results could then provide us with some scientific basis of how well the control efforts are succeeding or not. In order to be informative, this process needs to be undertaken for a number of years at the same locations; both fall and spring sampling should also be performed. For the few years that we have sampled, results are mixed from year to year.

A more up close and personal look at this year’s chemical treatment will be accomplished in September by kayaking into the treated sites and photographing the remaining plant material and noting observations.

Physical Removal

Oneida Lake

The New York Bass Chapter Federation, (NYBCFN) led by member club Salt City Bassmasters continued their water chestnut abatement efforts in 2012. Due to adverse reports from volunteers monitoring Oneida Lake, NYBCFN requested that the hand pull operations be moved from the Oneida River to Oneida Lake. Upon approval, the NYBCFN coordinated 9 hand pull operations over the period of three weeks. Two additional days were cancelled due to inclement weather. Approximately 5200 pounds of water chestnut plant material was removed from the lake and composted in an environmentally prudent manner. Two areas received attention during these efforts were the Big and Muskrat Bays. (credit to Patrick Grady, President of Salt City Bassmasters for this Oneida Lake status report)

Oswego River

Two pre-scheduled hand pull events (July 7th and August 4th) along with many other incidental hand pulls were conducted near Battle and Factory Islands, north of the City of Fulton. These efforts were coordinated by Dick Drosse and successful by the number of individual volunteers who participated by canoes and/or kayaks.

Salmon River

On July 14th this office sponsored an organized hand pull event at Port Ontario in the Salmon River Estuary. Nearly twenty-five volunteers participated in pulling over 500 pounds of Water chestnut. Credit goes to the Oswego County River Guides Association, NY Sea Grant, SLELO-PRISM, NYS Office of Parks, Recreation & Historical Preservation and to the many private individuals who gave up their Saturday morning. Many more Water chestnut plants still remain at this site, for which needs close attention in 2013. Approximately 15 cubic yards of plants were removed.

Oneida River

It is anticipated that a small hand pull will take place before the end of September near the northwest corner of Horseshoe Island in the Oneida River. Efforts that had routinely hand pulled this section of Oneida River had been redirected to conduct a more intensive hand pull on Oneida Lake.

Observations

The early results of the chemical treatment appear to be very favorable. Clearcast seemed to burn down the plant material quicker as compared to Rodeo. As far as the destruction to the nuts and their future capability of sprouting, time will tell. The routine nut sampling conducted later this fall and next spring may also provide an indicator as to the nut viability.

Some areas this year did come in rather light in plant density causing concern that these plots may not be treatable by chemicals next year. An increased effort of hand pulling needs to be spearheaded in preparation for these additional areas of water chestnut.

Of the known areas of hand pulling, vigilant effort continues to be the strategy for controlling water chestnut. The Oneida Lake site is a prime example of letting one's guard down and becoming complacent in thinking that water chestnut has been controlled and not a problem for the future. It doesn't take but only a year or two without a watchful eye for Water chestnut to spread quickly and begin altering our native aquatic habitats.

The success of the hand pull events goes to the many volunteers that make it possible. Without their concerned willingness to help improve our waterways, Water chestnut would take over; destroying fish habitat, choking out native aquatic vegetation, making life miserable for the recreational boater, and causing great angst for the waterfront property owner. Should we become more successful in reducing Water chestnut via chemical treatments, there will be an increasing demand for more volunteers to conduct hand pulling efforts. May we be blessed with such a future effort.

On another facet, a fine art photographer from Montreal, Canada contacted us about taking photographs of the Oswego River Water chestnuts. Arrangements were then made for taking them out by canoe into a large patch of Water chestnut. The artist is planning to create an art exhibit on invasive species that is expected to travel to locations throughout Canada and the northeastern United States sometime in 2013.

For 2013, continue with hand pulling every where possible. Chemical control may need to resort back to Rodeo, depending upon adequate funding.

Credits/Acknowledgments

The 2012 Oswego County Water Chestnut Control Program would like to thank the support of the many others that have made this year's program what it is.

The SLELO-PRISM, Robert Tetro, Matt Chesbro and Michelle Tompkins for allowing the use of their private property. Don Nelson, NYS DEC Division of Environmental Permits for issuing the aquatic pesticide permit. Russ Nemecek, Onondaga County Health Department for collaborating effort based upon a watershed approach for controlling and researching Water chestnut in the Three Rivers System. Allied Biological Company for their application treatments. Dick Drosse and to the many other volunteers involved with hand pulling efforts. Elena Willis from Canada with the hope of increasing the message to others about invasive species.

See attached photos and images of the 2012 control season.

(This report was submitted by John DeHollander, District Manager)



July 6, 2012 – Ox Creek, prior to Clearcast treatment on August 21, 2012



September 5, 2012 – Ox Creek, post treatment



July 6, 2012 – Oswego River near Gale Island prior to Clearcast treatment August 16, 2012



September 5, 2012 – Oswego River near Gale Island, post treatment



The targeted species – Water chestnut (*Trapa natans*)



From l to r: Assistant Jason, Fine Art Photographer Elena Willis and John DeHollander (August 16, 2012)