Control and eradication of water chestnut (Trapa natans, L.) in an Oneonta wetland, 2013 progress report

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The marsh of concern is located within the city of Oneonta, Otsego County, NY. The majority of the shoreline (and site access point) is owned by Louis Blasetti with a number of other landowners along the northwestern shoreline behind Oneida Street. Water chestnut (Trapa natans L.) was first observed in the wetland in 2000, though it is likely that it was introduced in years prior but was not documented. A detailed description and history of the management efforts to control and eradicate the water chestnut within the marsh is given in a 2009 Master’s Thesis submitted by W. Eyres (2009) and subsequent report to the NYS Department of Environmental Conservation (Harman et al. 2012). In short, management activities have included a combination of herbicide applications and hand-harvesting of plants since 2006. The combination of chemical and manual control of plants was hugely effective in reducing the population from 2007 to 2010. Native floating-leaved plants were rebounding. Logistical complications resulted in a “missed” herbicide application during the 2010 growing season and subsequent rebound of the population. Following the 2011 herbicide application a second growth of plants was observed in mid-August. These plants were also producing fruits; a major hand-pulling event was held in mid-September, though growth was so prolific that effective harvest of all plants was not achievable. Grant funding for herbicide application expired in 2011. 2012 efforts consisted of hand harvesting on 2 dates; abundance was very low in comparison with past years and only a few plants, if any, remained following the harvesting effort (Waterfield and Albright 2013).

Water chestnut abundance was relatively high in 2013. Hand-harvesting was conducted on 3 dates in 2013, 18 July, 9 and 26 August, by BFS staff along with OCCA staff and volunteers from Headwater Youth Conservation Corps and SUNY Oneonta faculty and incoming freshmen (coordinated by OCCA). Approximately 23 canoe-loads of chestnut were removed, with only isolated individuals remaining, if any. All plants found were harvested. The greatest density of plants was found in the secluded north-eastern portion of the marsh. Harvesting in this area was completed on August 26, at which point some plants had already matured and falling apart and nuts had been released. It is likely that some nuts had already matured and were released. The increased water chestnut abundance in 2013 is evidence that hand-harvesting efforts will be necessary for the coming years, as a viable seed bed still remains.

HAND-HARVEST SUMMARY
2011: >12 canoe-loads harvested, with at least 12 remaining at the end of the season
2012: ~1 canoe-load harvested, “none” remaining at the end of the day.
2013: ~23 canoe-loads harvested, with only isolated individuals potentially remaining.

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REFERENCES


