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Overcoming Obstacles in the Control of Water Chestnuts in an Urban Setting

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The City of Holyoke, Massachusetts, United States is the site of a major infestation of water chestnuts, Trapa natans. This infestation has provided lessons in the importance of partnering, education, outreach, cooperation, and solving logistical problems in the control of aquatic invasive species in an urban setting.

The City of Holyoke, Massachusetts, known as the Paper City of the World, is one of the first industrial planned communities in the United States. Located on the Connecticut River, a significant number of its downtown buildings are tied into the Holyoke Canal System and the Holyoke Dam which is used to generate electricity. Once a thriving economic area, the City now struggles with low median incomes, poor standardized test scores, and a high percentage of persons living below the poverty level. These socio-economic challenges have often diminished the value of the preservation and protection of environmental resources in the city.

The water chestnut infestation was first noted in 1997 at Log Pond Cove- the site of the city dump in the late 1800's and early 1900's. Located on the Connecticut River, just above the famous Holyoke Dam, the Cove was initially used to hold logs sent downstream from timber operations in Vermont and New Hampshire. The north opening of the Cove gradually filled in, leaving only a small opening from the main Cove to the river and a finger-like backwater cove. These slow moving protected areas presented ideal habitat for an invasive species to flourish.

By the time control operations began in summer of 1998, water chestnuts completely covered the sixteen acre surface of Log Pond Cove and the five acre surface of the finger cove. First attempts at control included the use of garden wheelbarrows and a small mechanical harvester borrowed from another community. Of course, early attempts at harvesting with wheelbarrows seem thoroughly foolish and naïve in hindsight. Each year of control work since 1998 has developed new insight and better management. Issues like access to the Cove for on-shore handling over an active railroad line; safety and security of the harvesting operations in light of a vagrant camp in the Cove floodplain; project abutter complaints of odor and noise; mechanical harvesting versus herbicide treatment; project financing; final disposal locations; permitting; scheduling; education and outreach efforts to prevent additional infestations; and partnering with other municipal, state, federal, non-profit organizations and private individuals have been fully developed to produce a now-successful control and management program at the Cove.

Local officials and others have recognized the water chestnut control project at Log Pond Cove as an exemplary example of how well government can work when difficult questions are approached creatively and cooperatively. Now, even those with no previous environmental experience are touting the importance of invasive species control.

Thank you for the opportunity to share the City of Holyoke's experiences with others in the field of aquatic invasive species.