



## Windsor Pond Restoration Windsor, Massachusetts

**W**indsor is a small town located in the northwestern region of Massachusetts which has a beautiful pond of the same name. In 2003, Lycott was asked to survey the pond and make recommendations as to any management that might be necessary. Our survey revealed that the pond had a scattered growth of Eurasian Milfoil (*Myriophyllum spicatum*). This plant is very invasive and if left unmanaged, would out-compete more desirable indigenous plants, thereby altering wildlife and fisheries habitat. The plant would also, in time, interfere with the recreational use of the pond and have an adverse impact on property values.



Windsor Pond following successful treatment for milfoil.

During several meetings with the Windsor Pond Taxpayer Association members, Lycott reviewed the various management options. It was decided that the only effective method to manage the milfoil was to treat the pond with a US EPA registered and state-approved herbicide. A Notice of Intent was filed with the local conservation commission and the Department of Environmental Protection (DEP) and authorization was granted to proceed with the management program.

In the spring of 2004, Windsor Pond was treated with a light concentration of the herbicide Reward (active ingredient diquat). This treatment targeted only milfoil, while not affecting

the other more desirable aquatic plants. In September, weeks after the treatment, a follow-up survey was conducted which revealed that the treatment had been very successful. Normally, management of water bodies for invasive plants is an ongoing process. However, Lycott has found that in many instances, if the invasive plants are effectively man-

aged when first becoming established, then the need for yearly treatments may be considerably reduced.

The Windsor Pond Taxpayer Association had retained Lycott's services for the past two years, 2005 and 2006. Lycott conducted follow-up surveys of Windsor Pond to ensure that the milfoil did not become prevalent. Both the 2005 and 2006 surveys revealed an absence of milfoil plants and as a result, no treatments have been necessary.

Addressing a new infestation of invasive plants is vital to managing a water body. Early detection of invasive plant species, while they encompass a relatively small area, allows for several different management techniques to be considered (such as benthic screening or hand-harvesting.) Also, the chances of containing the infestation are significantly improved, not to mention the cost savings and reduced potential of any negative impacts to non-target species or humans.

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## Aquatic Weed Harvesting Waltham, Massachusetts

**F**or the second consecutive year, Lycott has successfully harvested the invasive Water Chestnut (*Trapa natans*) plants in Hardy Pond. A number of different management techniques have been utilized by other firms in this pond over the past several years. These techniques include herbicide treatments and harvesting, both of which were not very successful. A multi-million dollar dredging project was conducted which succeeded in deepening much of the pond. However, it did not preclude aquatic vegetation from proliferating around the shoreline.

The 42-acre pond was inundated with approximately twenty-five acres of Water Chestnut in the spring of 2005 when Lycott was awarded the contract to harvest this invasive aquatic plant. Two of the major hurdles that Lycott needed to overcome when harvesting the plants were the level of the water in the pond and the obstacles (e.g., large boulders) that were prevalent in the harvesting area. Harvesting of the Water Chestnut plants must occur in the spring. As the season progresses, the pond's water level drops rendering many areas inaccessible to the mechanical harvester.

Another very important factor for the long-term success of the project is to harvest the Water Chestnut before the plants can release their seeds (nutlets). This generally occurs from mid to late July each year. If the plants are harvested successfully over a period of years (depending on how long the plants have been established in the waterbody; i.e., quantity of viable seed bank), the biomass will be reduced to a point where the chestnuts can be managed by hand harvesting. This eliminates the expense of utilizing the large harvesting equipment.

Fortunately in 2006, Lycott was able to begin the harvesting in June. The combination of utilizing a hydro-rake along with the mechanical weed harvester to remove the Water Chestnut plants from shallow areas and around boulders aided greatly to the success of the project. This technique, along with hand pulling, enabled the pond's twenty-five acres of Water Chestnut to be effectively managed by July 7, 2006.

In future years, we anticipate that the level of effort to manage the Water Chestnut will be reduced provided the project continues to be conducted in a timely manner (i.e., before the Water Chestnut goes to seed).



Limno-barriers and treating the northwestern shoreline.

## Cape Cod Invasive Plant Managed Barnstable, Massachusetts

**F**or the past several years, the invasive aquatic plant Fanwort (*Cabomba caroliniana*) has continued to proliferate in one of the large basins associated with Wequaquet Lake. Gooseberry Pond is a major cove of this lake consisting of approximately 38 acres with an average depth of about nine feet. Lycott treated a large bed of Fanwort during 2005 with Sonar Q (manufactured by SePRO Corporation) pellets without success. The bed measured approximately one-quarter of an acre in size and due to the dispersion of the herbicide into the remainder of the water column in Gooseberry Pond, the treatment was not effective.

As a result, Lycott combined its efforts with Shaun Hyde, SePRO Corporation's Northeast Aquatic Specialist, to design a treatment method that would address the Fanwort in the entire basin. The plan involved the installation of limno-barriers and treating the northwestern and northern shoreline with Sonar A.S. followed by Sonar Q pellets (active ingredient fluridone) over a period of several weeks. Follow-up sampling, both within the limno-barrier and outside the barrier clearly indicated that the barrier was containing the herbicide, even with the custom built "boat opening." The concentrations of fluridone in the basin remained at optimum levels throughout the summer months. The fall surveys that were conducted to determine the condition of the Fanwort plants clearly showed that the treatment had been completely successful.

In September, Lycott removed the limno-barrier. Interestingly, some of the residents found that the limno-barrier provided an added benefit during this past summer. The barrier had discouraged both jet ski and large boat operators from entering the basin.

# Reebok World Headquarters

## Canton, Massachusetts

For a number of years, the pond at the Reebok World Headquarters located in Canton, Massachusetts, had not been managed for aquatic and emergent vegetation. As a result, the pond began to fill in with a variety of plants including Duckweed (*Lemnaceae*), Watermeal (*Wolffia*), Cat-tails (*Typha*), Filamentous algae and various rush species (*Juncus sp.*) along the shoreline. The pond measures approximately one-half of an acre and is a man-made pond that was designed and constructed as an irrigation pond for landscape use. Although the pond was lined with an impervious plastic liner, plants had begun to establish themselves on the surface of the liner and through some of the seams.

Lycott was retained by D. Foley Landscape, Inc. of South Walpole, MA in 2004 to begin management of the vegetation in and around the shoreline of the pond. After two years of treatments with the appropriate herbicides and algaecides, and effort from D. Foley Landscape, Inc., the pond has been restored to its original condition. In 2006, D. Foley Landscape, Inc. conducted



Reebok World Headquarters before, right, and current wetland area after management.



restorative activities which involved repositioning the liner and repairing the irrigation system. As a result of the herbicide treatments and the restoration work, the pond will require minimal future management to maintain its aesthetically pleasing condition and to retain its use as a source for irrigation in the future years.

## Japanese Knotweed and Phragmites

A growing problem that the United States and other countries are experiencing is the increasing costs incurred due to invasive plants. These costs are effecting federal, state and local governments, not to mention private landowners. It is estimated that the cost in New England alone, is in the hundreds of millions of dollars.



Japanese Knotweed.

Each year Lycott's services continue to expand in order to meet the demand for the management of invasive plants, including Common Reed (*Phragmites*) and Japanese Knotweed (*Polygonum cuspidatum*). This past summer, the Lower Pioneer Valley Educational Collaborative (LPVEC) retained Lycott to treat and subsequently cut and remove several stands of Knotweed on their property located in West Springfield, Massachusetts. This project, designed and permitted by Baystate Environmental Consultants, was an integral part of the LPVEC restoration project.

In Rhode Island, Lycott continued to manage the *Phragmites* stands in various locations that have altered wildlife and native

plant habitat. These sites include the Misquamicut Golf Course, the shoreline of a private North Scituate pond, as well as, Nag Marsh, which is a part of the Narragansett Bay National Estuarine Research Reserve, located on Prudence Island.

The management of *Phragmites* also continued for the Nature Conservancy within Benton Hill Fen Preserve and Beeslick Pond Preserve in northwestern Connecticut. Both sites are rare circum-neutral spring fens that support many rare and threatened plant and animal species. Original treatments conducted via Lycott's Argo ATV in 2005 were extremely successful in managing these invasive plants. In 2006, native plants including *Typha* were already making a comeback in these valuable resource areas. Abutting property owners granted access to approximately ten additional acres of *Phragmites* to become part of the management program. Treatments to the additional acreage began in 2006 and will continue in 2007.



Benton Hill Preserve.

## Lycott Adds to Fleet to Meet Increased Demand

**L**ycott is now in its thirty-sixth year of business. Over the years, the technology and methods for managing lakes, ponds and reservoirs have expanded tremendously. This past year, due to the increased demand, Lycott added additional equipment to provide our clients with the most up-to-date methodology. Among the added equipment is the Lycott designed and locally manufactured Aquatic Rake, more commonly referred to as a "hydro-rake." This piece of equipment is utilized to rake aquatic vegetation from water bodies. Its use is beneficial in certain circumstances where other methods may not be as effective.



Lycott's new Aquatic Rake.

Due to the increasing demand for aquatic weed harvesting, Lycott has added a second aquatic weed harvester to its fleet. This addition allows our company to address multiple projects at different locations and to more effectively address larger projects.



New 25-foot Donzi.

Lycott has also added other equipment consisting of:

- A 25-foot Donzi boat that is utilized to more efficiently facilitate the benthic barrier placement and the hand-harvesting of milfoil plants in Lake George, New York, for the Lake George Park Commission.
- Super-tracks were purchased and installed on Lycott's Argo, an 8-wheeled amphibious ATV, thus allowing access to previously inaccessible areas.



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**We  
were  
the First...**