Early Detection and Cooperation Prevents the Establishment and Spread of a Severe Invasive Plant Pest into the Connecticut River
A Success Story
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The Setting

The Connecticut River courses through rich, diverse floodplains surrounded by low riparian, hemlock and upland hardwood forests. In the early 1980s, the Chapman Pond Preserve, a 500+ acre preserve with a 60-acre pond adjacent to the Connecticut River, was established by the State of Connecticut, The Nature Conservancy, and the East Haddam Land Trust, Inc. This preserve and its encompassing floodplain is a place of high native biodiversity, as its open water, wet meadows and forested surroundings are home to many species. Over 200 plant species (several of which are rare in Connecticut), many bird species such as the bald eagle, osprey, belted kingfishers, herons and egrets, and mammals such as the red fox and river otter, all dwell in this highly productive habitat. The Connecticut River watershed is immensely valued for its ecological, aesthetic and recreational qualities.

The Invader – Egeria (*Egeria densa* Planchon)

Egeria or Brazilian elodea, is a perennial freshwater aquatic herb that grows in water up to 6 m (20 ft) deep. Originally from South America, egeria has rapidly spread to many water bodies in most states in the U.S., and often occurs in warm freshwater ponds, lakes, reservoirs, and in slow-flowing streams and sloughs. Its ability to invade new areas via the dispersal of stem fragments, has probably been enhanced by the dumping of aquariums into aquatic natural areas. Egeria has many negative impacts in aquatic systems. It reduces the abundance and diversity of native plants by shading and increasing sediment deposition, it retards water flow (which interferes with irrigation projects, hydroelectric utilities, and urban water supplies), and it can restrict recreational and commercial activities such as boating, swimming, and fishing. Once well established, egeria can form dense thick mats of long, intertwining stems that prevent other plants from surviving.

In early spring 2001, Dr. Les Mehrhoff, curator of the University of Connecticut herbarium and co-chair of the Connecticut Invasive Plant Working Group (CIPWG), discovered and identified egeria in a small, man-made pond adjacent to Chapman Pond. He brought egeria to the attention of all of the partners of the Chapman Pond Preserve, and since Chapman Pond is directly connected to the Connecticut River by two tidal creeks, it was decided that rapid action was needed to immediately eradicate egeria from the site where it was discovered.

A Success Story

Upon notification that egeria was present in Connecticut, but still in manageable quantities, Connecticut's Department of Environmental Protection (DEP) quickly worked-out an agreement with TNC to immediately fund and eradicate this population of egeria, before it had a chance to spread to and along the Connecticut River. TNC hired a private contractor to eradicate this invader. In May 2001, the pond was treated with small quantities of the aquatic herbicide fluridone (tradename Sonar®). The pond was re-treated in both June and July, and by mid-September, the egeria in the pond was reduced considerably, but viable plants were still being found. As of early 2002, there are plans to continue these treatments until egeria is completely eradicated from this site.

David Gumbart, the Director of Ecological Management for TNC-Connecticut, states that this eradication effort is likely to be successful because it was detected early. The threats that egeria poses to native species, water flows and to other values were recognized immediately, and the Chapman Pond Preserve, the CIPWG, and the Connecticut DEP all realized that time was of the essence and worked together. Each partner played a vital role in bringing the infestation under control and preventing it from spreading. CIPWG was responsible for the early detection of the egeria, and perhaps more importantly, for notifying the state DEP and other concerned parties. Connecticut DEP quickly gathered input from concerned stakeholders and released funds for control and eradication of the egeria. TNC rapidly put these funds to good use by hiring a contractor to use methods most appropriate for eliminating the egeria before it become unmanageable, while minimizing damage to native plants and animals. This partnership paved the way for the establishment of an early detection and prevention system in the East Haddam area, and successfully prevented egeria from spreading into Chapman Pond and throughout the Connecticut River watershed.

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More Information
For more information, contact Dr. Barry Rice, Associate Scientist of TNC's Wildland Invasive Species Team at 530-754-8891 or bamrice@ucdavis.edu, or David Gumbart at 860-344-0716 or dgumbart@tnc.org. Additional information on the biology and ecology of Brazilian elodea, and methods for its control is available through http://www.invasivespecies.gov/profiles/brazwaterwd.shtml.

References
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