

**CONNECTICUT DEPARTMENT OF ENERGY and ENVIRONMENTAL
PROTECTION**

Invasive Plant Program 2011 Year End Report

**Update on DEEP Non-native Invasive Plant Species Control Projects using
Supplemental Environmental Project Funds-** Total funding committed - \$109,608.91

Four high priority invasive plant control projects were selected for funding based on the 2008 Request for Proposals - Grants to Municipalities for Control of Invasive Plants. Work has been initiated on the two mile-a-minute projects and the Bantam Lake project. The water chestnut control project will be conducted in 2011 and 2012. Final Reports will be submitted in 2011/2012.

Removal of mile-a-minute vine from lands in New Milford, CT - Total Funding: \$14,735.00

Completion Date: June 30, 2011 The Town of New Milford received a DEEP grant for 2010-2011 titled "Removal of mile-a-minute vine from lands in New Milford". The town worked closely with Mad Gardeners, Inc., a private gardening group, to hire staff to control mile-a-minute vine (MAM) at properties in two large areas of the town. Each area contained multiple properties. Staff removed MAM by hand pulling throughout the summer. Properties with known mile-a-minute populations and other nearby properties were inspected multiple times during the growing season, approximately every 2-3 weeks. Plants found were removed by hand. Plants with flower buds, flowers, or seeds were bagged and disposed by incineration.

Mile-a-minute vine control project in Newtown, CT - Total Funding: \$10,873.91 Completion Date: June 15, 2011 The Town of Newtown received a DEEP grant for 2010-2011 titled "Mile-a-Minute Vine Control in Newtown Open Space Areas adjacent Huntingtown Road". Due to problems caused by the economic situation in the town, Newtown laid off the staffer responsible for this project and the majority of the work was not completed.

Bantam Lake/River Suction Harvesting of fanwort (*Cabomba caroliniana*), Town of Litchfield: Total Funding: \$78,000 Completion Date: January 15, 2011 Diver-Assisted Suction Harvesting (DASH) was conducted to remove fanwort along the north shore of Bantam Lake and at the inlet of the lower Bantam River and to test the efficacy of benthic barriers. A final report "Bantam Lake Fanwort Control Project" was submitted in January 2011 documenting the results. In addition to the suction harvesting control actions, divers used a "hunt and pick" protocol, installation of a fragment barrier to catch floating plant material to prevent the spread within the lake. Benthic barriers, made from a material that prohibits light, but allows for oxygen to move through the barrier, were deployed in a portion of the Bantam River and a small area in the North Cove. Results of the benthic barriers were mixed; the fanwort plants under the benthic barriers were killed. However, fanwort was found growing on top of the barriers when they were removed in autumn.



A crew from Water's Edge Restoration and Management "suction harvesting" fanwort in Bantam Lake just to the west of the inlet of the Bantam River. A portion of the fragment barrier can be seen in the foreground.

Water chestnut control at Hartford Flood Control Ponds, City of Hartford & U.S. Fish and Wildlife Service (USFWS) - Funding: \$6,000 completion Date; June 2013 extension

DEP entered into a joint funding agreement with the USFWS to cost-share herbicide treatments at the Hartford flood control Pond (north Hartford) with the goal of eradicating a dense infestation of water chestnut. The City of Hartford has been very cooperative in allowing access to the site. Eradicating water chestnut from the Hartford Flood Control Ponds is a key action to prevent the spread of water chestnut in the CT River. Control actions have been sporadically implemented since 2007. Annual control actions are essential until complete eradication has been achieved. Low water levels this July and August (2010) made it impossible to access the water body and prevented the herbicide application. The 2011 herbicide application was conducted with good results. The enabling agreement between DEEP and the USFWS has extended so the second herbicide application will be conducted in 2012.

CT Invasive Plants Coordinator

Logan Senack, the Invasive Plant Coordinator, reports jointly to the DEEP and the University of Connecticut. DEEP was able to fund and implement another one year Project Amendment to the existing Cooperative Agreement with the University of Connecticut Plant Science and Landscape Architecture Department. This amendment allowed us to extend the Invasive Plant

Coordinator contract until June 30, 2012. Donna Ellis, UCONN Plant Science Program and Nancy Murray, DEEP Inland Fisheries oversee this Cooperative Agreement. **Currently, no funding is available to continue this program after May 30, 2012.**

2011 Accomplishments

Provided administrative support to the Invasive Plants Council

Provided administrative support to the Invasive Plants Council by preparing and posting meeting minutes for the nine Invasive Plants Council meetings, organizing parking and attendance logistics, and assisting with several IPC requests for information.

Hosted Invasive Plants and Habitat Improvement Workshop for over 100 attendees

Worked with CIPWG and DEEP to set up a workshop on June 1, 2011 for state and municipal staff, garden clubs, and the general public about invasive plants. The day-long workshop covered the prioritization of invasive plant control efforts using limited resources, removal efforts, and ways to improve wildlife habitat using native plants. Guest speakers from UConn, DEEP, and USDA Natural Resource Conservation Service presented material to the group, including a site walk at Sessions Woods Wildlife Management Area, a DEEP property in Burlington, CT.

Published disposal protocols for terrestrial and aquatic invasive plants

Coordinated the development of brochures on disposal protocols for terrestrial and aquatic invasive plants. The protocols emphasize environmentally responsible ways to dispose of invasive plants after control or removal efforts take place. These documents have been widely used throughout Connecticut and elsewhere to assist in educating homeowners in how to prevent the spread of invasive plants through the landscape after disposal projects.

Continued development of invasive species database

Continued work on a reporting protocol for invasive plant species. A pilot project accepting reports of only two species will be expanded to accept reports of all of Connecticut's invasive species. This will also assist DEEP in prioritizing management actions.

Submitted records of invasive plants to state and regional databases

Submitted records of invasive plants to groups which track invasive species, including the Invasive Plant Atlas of New England (IPANE) and the Early Detection and Distribution Mapping System (EDDMaps). These publicly available databases help to share and distribute information about invasive species affecting Connecticut. DEEP is working with EDDMaps to develop a control a management tracking module.

Coordinated invasive mile-a-minute vine removal

Conducted site visits throughout the state to collect information on the invasive mile-a-minute vine and assisted towns and other groups in their removal efforts of invasive plants. This includes updating the mile-a-minute control plan and helping to organize three invasive plant removal events in eastern Connecticut to address mile-a-minute vine with local volunteers. Reports from the public led to the discovery of mile-a-minute in new locations in the state.

Expanded outreach events and public engagement

Presented material about invasive plants to the general public and other interested groups at several local outreach events, including Plant Science Day in Hamden, CT White Memorial Conservation Center Family Nature Day, UConn Cornucopia festival, CNLA Summer Field Day, UConn Garden Conference, UConn Perennial Plant Conference, CT Flower Show, CT Association of Wetland Scientists, CT Conference on Natural Resources and other events.

Website improvements

Coordinated the expansion of the Invasive Plants Website to include additional information about more of Connecticut's invasive species. Early detection information, a photo gallery, volunteer section, event calendar, and other important information were also added. Links and coordination with other programs and websites were improved.

DEEP Aquatic Nuisance Species (ANS) Cooperative

DEEP-Inland Fisheries Division used United States Fish and Wildlife –Aquatic Nuisance Species Task Force funds were used to establish a part time Aquatic Nuisance Species Coordinator in 2011 through a one year Cooperative Agreement with the University of Connecticut and will be completed on December 31, 2011. Nancy Murray, DEEP Inland Fisheries Division; Dr. Patricia Bresnahan, the ANS Coordinator; and Nancy Balcom, UCONN Sea Grant make up the CT Coordinating Committee.

Key tasks completed to date: re-established the CT ANS Work Group; held a Taxonomic Work Group meeting on April 7, 2011 (see Attachment A); updated ANS listing criteria, species vector list; prepared a DRAFT CT Rapid Response (RR) Plan. This RR Plan will be presented at the next CT ANS Taxonomic Work Group meeting that is being planned for October 2011. (See meeting minutes in Attachment 1)

DEEP Connecticut River water chestnut Control

DEEP (Inland Fisheries and Geological Survey staff) and U.S. Fish & Wildlife Service (USFWS) completed their annual water chestnut survey of the Connecticut River. Bill Foreman (DEEP-Inland Fisheries) coordinates this effort from Hartford downstream where staff and volunteers surveyed the main stem of the CT River and associated coves from Hartford to Essex. USFWS staff coordinate and lead water chestnut control activities from Hartford north into Massachusetts, including major infestations on the Hockanum River and several other sites in the Hartford area. DEEP found and removed plants from more sites than in 2010 and USFWS found (and removed) less plants than in 2010. This year, the Tidewater Institute (with coordination from USFWS) surveyed portions of the lower river, locating and removing much of a new infestation found on Eustasia Island.

DEEP IFD staff did not find any plants at the confluence of the Still River and Lake Lillinonah this year, where plants have been found and removed annually beginning in 2006. In late September, 2011, water chestnut was reported at several sites in West Thompson Lake (a flood control impoundment and recreation area on the Quinebaug River in Thompson, CT, operated by the U.S. Army Corps of Engineers) and later removed by a volunteer.

DEEP Boating Division Report on Invasive Investigators Program

Wendy Flynn/ Eleanor Mariani

Connecticut Department of Energy and Environmental Protection (DEEP) Boating Division initiated a Volunteer Invasive Investigator Program in 2011. The Volunteer Invasive Investigator Program is designed specifically to help educate people on ways to keep our waters clean and prevent the spread of aquatic hitchhikers into the lakes and rivers of Connecticut. To date, we trained approximately 75 Invasive Investigators, and our Boating Education Assistants also distributed information and conducted invasive species vessel inspections similar to the Invasive Investigators. The Invasive Investigators will check for invasive species and collect information about where boats have been, if any invasive species were found, and what if any cleaning steps were done prior to launch. Volunteers are required to attend an initial training of 2.5 hours and visit local boat launches. DEEP Boating Division staff familiarized volunteers with the local invasive species, teach how to conduct a voluntary inspection and provide instructions regarding data collection. Annual refresher training will be approximately 1 hour. The program is administered under the authority of the CT DEEP and training is held at local sites. Volunteers will be under the local supervision of the lake or pond organization with whom they register.

2011 DEEP Wetland Habitat Restoration and Mosquito Management (WHAMM) Program

WHAMM Program 2011 Invasive Plant Control

The DEEP WHAMM Program started spraying for phragmites in mid July and will continue until the first killing frost along the coast. The DEEP is using two crews with our new Marsh Master II (purchased with CT Duck Stamp Funds) and an ARGO. We had a two week period after tropical storm Irene with no spraying and a very rainy season which put off spraying. We are using two different herbicides: glyphosate and imazapyr. We have sprayed several Phragmites sites this year. The sites are the following:

NRCS WHIP Funded Projects for Phragmites control

Pomfret, CT Audubon – 10 acres

Verkades in Waterford – 1 acre

White Memorial in Litchfield – 5 acres

Pandolpho site in Ashford – 1 acre

Columbia – Yellow Floating Heart - <.25 acre
 Killingworth Bog for Land Trust and Lip, Phragmites and other plants- 5 acres

DEEP LIP Funded Projects for Phragmites control
 Sharon, CT Audubon – 4 acres
 Joshua Creek LCT, Lyme – 2 acres

DOT Funded for invasive control
 West River in West Haven, Phragmites – <.5 acre
 Kent, Wyantenock State Forest, 2 Projects, Phragmites - 4 acres
 Flatbush Ave., Hartford – 5 acres

Other funded Phragmites control
 Little River, New Haven, North Haven-25 acres
 Silver Sands SP, Milford-25 acres

Yellow floating heart, Columbia, >1 acre
 DEEP started conducting annual control work at this site in 2008 when the whole surface area of the pond was covered with this invasive plant. In 2011 only a few individual plants were found. Control work or hand pulling will be planned for 2012.

2011 DEEP Wildlife Division- State Land Habitat Management Program and Landowner Incentive Program

The Wildlife Division’s Landowner Incentive Program (LIP) provides technical advice and cost assistance to private landowners for habitat management that will result in the protection, restoration, reclamation, enhancement, and maintenance of habitats that support fish, wildlife, and plant species considered at-risk. Activities include invasive plant control projects. This program has been made possible through grants from the U.S. Fish and Wildlife Service, which recognized the need to help states with the stewardship of their at-risk species.

Invasive Plant Control Projects

| <i>Site</i> | <i>Town</i> | <i>Treatment</i> | <i>Acres</i> | <i>Relationship to Invasives</i> |
|----------------------|-------------|-----------------------|--------------|--|
| Quinnipiac River SP | North Haven | Spray/manual | 12 | Control mile-a-minute, autumn olive, multiflora rose & bittersweet |
| West Rock SP | Hamden | Spray/manual | 12 | Control autumn olive & multiflora rose |
| Sessions Woods WMA | Burlington | Spray | 19 | Control black locust |
| Tunxis SF | Hartland | mow | 14 | Control white ash, barberry, autumn olive & barberry in WSG field |
| Tunxis SF | Hartland | Spray | 4.2 | Old fields - autumn olive and multiflora rose |
| Housatonic River WMA | Kent | Brush hog | 17.8 | Control autumn olive & multiflora rose |
| Housatonic River WMA | Kent | Spray fields & forest | 55 | Control bush honeysuckle, wormwood, barberry, autumn olive |

| Site | Town | Treatment | Acres | Relationship to Invasives |
|--------------------|--------------|------------------------------------|--------------|--|
| | | regeneration | | |
| Bear Hill WMA - 06 | Bozrah | Spray forest regeneration | 8 | Control autumn olive, barberry & multiflora rose |
| Bishop Swamp | Andover | Spray | 5 | Control barberry & multiflora rose |
| Belding WMA-6080br | Vernon | Brush hog OF | 8.4 | Control barberry & multiflora rose |
| Belding WMA-6080br | Vernon | Mow/manual | 9 | Control barberry, autumn olive & multiflora rose |
| Aircraft Rd | Middlefield | Manual & spray | 2 | Control barberry & multiflora rose |
| Talbot WMA | Scotland | Spray | 4.2 | Control barberry, autumn olive & multiflora rose |
| Spignesi WMA | Scotland | Spray fields & forest regeneration | 10 | Barberry & autumn olive |
| FFTA | East Windsor | Mow fields | 150 | Control autumn olive & multiflora rose |
| FFTA | East Windsor | Spray alder regeneration site | 8 | Control multiflora rose and bittersweet |
| Mad River FCA | Winsted | Mow | 19 | Control autumn olive, barberry & multiflora rose |
| Mad River FCA | Winsted | Spray | 19 | Control autumn olive, barberry & multiflora rose |
| Centennial SF | Easton | Grassland mow | 54 | Control autumn olive, barberry & multiflora rose |
| Naugatuck SF | Naugatuck | spray fields | 14 | Barberry & autumn olive |
| Goshen WMA | Goshen | Spray fields & forest regeneration | 13 | Control barberry, autumn olive & multiflora rose |
| Roraback WMA | Harwinton | Spray fields & forest regeneration | 50 | Control barberry, autumn olive & multiflora rose |
| Camp Columbia | Morris | Spray fields & forest regeneration | 10 | Control barberry, autumn olive & multiflora rose |
| Bartlett Brook | Colchester | Prescribed bun | 16 | Control barberry, autumn olive & multiflora rose |
| Babcock Pond WMA | Colchester | Prescribed bun | 10 | Control barberry, autumn olive & multiflora rose |
| Meshomoc SF | Glastonbury | Mow/old fields | 22 | Control barberry, autumn olive & multiflora rose |
| Mansfield | Mansfield | Mow/old fields | 10 | Control barberry, autumn olive & multiflora rose |
| Pachaug SF | Sterling | Spray old fields | 42 | Autumn olive |
| Simsbury WMA | Simsbury | Spray tree of heaven/old field | 3.5 | Tree of heaven & multiflora rose |
| Enders SF | Granby | Grassland conversion | 10 | Non-native old field converted to grasses |
| Sessions Woods WMA | Burlington | spray/manual | 3 | crested late-summer mint and garlic mustard |
| Charles Island | Milford | Manual & spray | 2 | cut oriental bittersweet and treated cut stems |