

INVASIVE PLANTS COUNCIL
Fifteenth Annual Report
December 31, 2017

The Honorable Ted Kennedy, Jr.
State of Connecticut Senate
Legislative Office Building, Room 3200
Hartford, CT 06106

The Honorable James Albis
State of Connecticut House of Representatives
Legislative Office Building, Room 2100
Hartford, CT 06106

Dear Senator Kennedy, Representative Albis, and members of the Environment Committee:

As Invasive Plants Council Chairman acting on behalf of the Council, we respectfully submit this report for activities conducted in 2017.

The Invasive Plants Council* is comprised of representatives appointed by various state agencies, legislative authorities, educational institutions, as well as representatives from interest groups aligned with various non-profit environmental organizations and commercial industry associations. Council members contribute considerable time and effort to carry out the legislative mandate of the state. The Council was once highly effective in executing this mandate thanks to the services of a dedicated Connecticut Invasive Plants Coordinator. However, since funding for the Coordinator position was eliminated in 2014, the Council's effectiveness is now severely diminished. Before funding was discontinued, the Coordinator enabled communities and agencies across Connecticut to achieve an impressive level of positive environmental impact by mobilizing and coordinating the efforts of citizen volunteers. These well-coordinated volunteers were able to address invasive plant issues that threatened the environmental health and prosperity of both public and private lands including lakes, rivers, and forests in communities across Connecticut. Minimal funding is necessary to coordinate critical outreach education and training, manage prevention and control initiatives, and provide the essential administrative support that enables the Council to function effectively. Absent funding for the Coordinator in 2018, the activities and effectiveness of the Council will again be minimal. While the Council is exploring opportunities to increase effectiveness through formal and informal collaborations with various interest groups and volunteer organizations, tangible outcomes with timely and positive environmental impacts commensurate with those achieved when the Coordinator was fully funded cannot be expected on the basis of non-coordinated volunteer efforts alone.

In the U.S., total annual costs directly attributed to control of or loss and damage from invasive plants exceeded \$34 billion (Pimentel et al., Ecological Economics 2005), with another \$43.7 billion linked to plant-specific invasive pests and microbes. Nationally, the annual cost of controlling aquatic invasive plants alone is estimated at \$100 million. In Connecticut, invasive plants continue to cause environmental and economic injury to our communities, our lands, lakes and commercial agricultural industries. The council is particularly concerned with a number of emerging challenges for 2018. These include:

- The invasive barberry-deer tick-Lyme disease relationship and its impacts on public health
- The increasing spread of water chestnut and the loss of resources for control
- The recent and extensive spread of *hydrilla* throughout the Connecticut river and the need to prevent spread to additional waters
- The loss of state-wide capacity to address the spread of *phragmites*
- The need for a policy on the spread of invasive plants via fill, top soil, mulch, etc. coupled with an effective set of Best Management Practices (BMPs).

As environmental and economic damage continues to mount, requests from communities, businesses, land holders and public land managers for advice and solutions for managing these problematic, non-native species continues to accelerate. Since removal of invasive species from natural areas is so costly, the state is best served by programs that prevent future invasions through education, training, and the targeting of resources toward early detection and eradication campaigns. Prevention and early detection coupled with public education and training represent the most efficient, timely, and effective responses to emerging invasions and merit increased emphasis and legislative financial support, not passive neglect.

Over the past 15 years, the DEEP, CAES and DoAg have taken up the charge of responding to invasive plant issues by utilizing the resources and networks that the Council provides. Ongoing loss of critical staff positions has dramatically limited the ability of these agencies to process invasive plant management permits and control invasive species (e.g. *Phragmites* as previously cited). Fully funding the Connecticut Invasive Plants Coordinator remains the only proven mechanism for effective and timely environmental impact. I and other Council members are available to answer questions and provide advice as needed. Please contact me at (860) 486-2925 if questions arise.

As a reminder, the statute prohibiting individual municipalities from adopting an ordinance regarding the trade in invasive plants has expired. It is important that this prohibition be reinstated in order to avoid confusion among municipalities and nursery and landscape businesses, and maintain jurisdiction at the state level. [see Sec. 22a-381d. *Prohibited actions re certain invasive plants. Exceptions. Municipal ordinances prohibited. Penalty. (e) From July 1, 2009, until October 1, 2014, no municipality shall adopt any ordinance regarding the retail sale or purchase of any invasive plant*].

For the complete 2017 report from the IPC and affiliated groups see <http://cipwg.uconn.edu/ipcl/>.

Sincerely,



Dr. Richard McAvoy
Connecticut Invasive Plants Council Chair
Dept. of Plant Science and Landscape Architecture
University of Connecticut

Mr. William Hyatt, IPC Vice-Chair
Chief, Bureau of Natural Resources
CT Dept. of Energy and Environmental Protection

Dr. Theodore Andreadis
Director
The CT Agricultural Experiment Station

Mr. Darryl Newman
Planters' Choice Nursery
Representing a commercial plant business

Mr. Paul Larson
Sprucedale Gardens
CT Nursery and Landscape Association

Ms. Connie Trolle
(Nominated to replace Tom McGowan)
President of the CT Federation of Lakes

Dr. John Silander, Jr.
IPANE project and Research Professor
Dept. of Ecology and Evolutionary Biology
University of Connecticut

Mr. David Sutherland
The Nature Conservancy

Cameron Weimar
(Selected to replace Ms. Katherine Winslow)
CT Dept. of Agriculture

* As established in 2003, the Council operates pursuant to Connecticut General Statutes §22a-381 through §22a-381d and is responsible for developing programs and materials to educate the public on issues related to invasive plants, developing recommendations for controlling and abating the dissemination of invasive species, updating and publishing a list of invasive plants, supporting agencies charged with conducting research on invasive plant control, supporting the development of non-invasive varieties, and making recommendations to the General Assembly for the prohibition of any plant determined to be invasive.

Connecticut Invasive Plant Working Group (CIPWG) 2017 Annual Report

The Connecticut Invasive Plant Working Group (CIPWG) is a consortium of individuals, members of environmental organizations, and affiliates of municipal and state agencies whose mission is to promote awareness of invasive plants and their non-invasive alternatives. Formed in 1997 as an ad-hoc group, CIPWG is now in its 20th year of operation. The working group meets 1 to 2 times per year to collaborate and share information on the presence, distribution, ecological impacts, and management of invasive plants affecting Connecticut and the region and to promote uses of native or non-invasive ornamental alternatives. CIPWG members are affiliated with federal and state agencies, municipalities, non-governmental organizations (NGOs), educational institutions, the green industry, and the general community. Donna Ellis (UConn Department of Plant Science & Landscape Architecture) and Charlotte Pyle (formerly with the USDA Natural Resources Conservation Service) serve as CIPWG Co-Chairs.

The CIPWG website address is www.cipwg.uconn.edu. Kristen Ponak serves as the CIPWG webmaster. The website provides information on invasive plant topics that include identification, management, various lists of invasive plants, photos of invasive plants, invasive alternatives, resources, legislative updates, and Connecticut Invasive Plants Council activities. In addition to the Connecticut List of Invasive and Potentially Invasive Plants determined by the Connecticut Invasive Plants Council in accordance with Connecticut General Statutes §22a-381a through §22a-381d, the website includes an [Early Detection list](#) and a list of plants for which more research is needed. Online reporting forms for mile-a-minute weed (*Persicaria perfoliata*), giant hogweed (*Heracleum mantegazzianum*), and purple loosestrife (*Lythrum salicaria*) allow website visitors to provide distribution information on these species. A separate, related website exists for mile-a-minute information at www.mam.uconn.edu. The CIPWG website provides links to the Early Detection and Distribution Mapping System (EDDMapS; www.eddmaps.org) to submit reports of other invasive plants. Additional features and updates have been added to expand the CIPWG website, including a photo notebook with a gallery of Connecticut invasive plants, an event calendar, and links to invasive plant fact sheets and management information.

CIPWG's news and events list serve has approximately 860 members from Connecticut and other states in the region. Requests to subscribe to the list serve may be submitted online from the CIPWG website or via request to Donna Ellis, CIPWG Co-Chair.

Since 2002, CIPWG has hosted biennial invasive plant symposia. The eighth biennial symposium was convened on October 11, 2016 at the UConn Student Union in Storrs, CT, with 490 people attending. The symposium theme was *Invasive Plants in Our Changing World: Learn from the Past, Prepare for the Future*. The all-day event featured national, regional, and local experts as well as citizen volunteers sharing practical solutions for invasive plant management and actions needed to promote native species and improve wildlife habitat. Plans are underway for the fall 2018 CIPWG symposium, to be held at the UConn Storrs campus. [Symposium information](#) is available on the CIPWG website.

The Connecticut Invasive Plant Working Group maintains the following subcommittees:

- Education and Outreach (educational outreach about invasive species and their alternatives)
- Management (develop and disseminate information on invasive plant control options)
- Native Alternatives (explore and promote use of native plant species as alternatives to invasives)

CIPWG provides a [List of Speakers](#) who are available to give presentations on many invasive plant-related topics, including identification, control, and non-invasive alternatives. CIPWG speakers and other members coordinated and presented many lectures, workshops, demonstrations, guided field walks, and invasive plant management events during 2017. Two portable CIPWG exhibits that feature invasive terrestrial plants and aquatic species continue to be displayed at numerous public events.

The CIPWG exhibits were displayed, invasive plant talks were presented, invasive plant educational materials were provided, and/or invasive plant management activities occurred at the following local, statewide, and regional events during 2017 (All towns are in CT unless otherwise noted; activities occurred in 44 CT towns). The 214 activities reported below reached over 30,000 Connecticut citizens, including agency and municipal staff. A minimum of 8,022 hours was provided through intensive invasive plant training sessions and management activities, as well as brief technical educational outreach:

- Andover, management activities, Andover Conservation Commission; Crompton (14 participants)
- Ashford, invasive plant activities, Ashford Conservation Commission; Wrobel (16 participants, multiple days)
- Ashford, presentation, Ashford Conservation Commission; Wrobel/Lee (11 attendees)
- Avon, management activities, Farmington River Watershed Association; Moorhead and others (87 participants, multiple days)
- Avon, monitoring activities, Farmington River Watershed Association; Moorhead (multiple days)
- Brentwood, NY, presentation, Long Island Sound Management Area; Moorhead
- Bridgewater, management activities; Nelson (9 participants, multiple days)
- Bridgewater, management consulting activities; Nelson
- Brookfield, management activities; Nelson (2 participants)
- Concord, NH, training workshop, University of New Hampshire Extension; Mervosh (25 attendees)
- Cornwall, management activities; Gambino and Allyn
- Cromwell, exhibit, Connecticut Association of Conservation and Inland Wetlands Commissions; Pyle (300 attendees)
- Cromwell, exhibit, Connecticut Grounds Keepers Association Turf and Landscape Conference; Ellis (300 attendees)
- Cromwell, presentation, Connecticut Association of Conservation and Inland Wetlands Commissions; Mervosh (60 attendees)
- Danbury, field walk and management activities, Still River Watershed Connections; Nelson and Zipparo (6 attendees)
- East Granby, 26 management activities; Clifford (on behalf of the East Granby Land Trust) (51 participants, multiple days)
- Falls Village, exhibit, Mad Gardeners Symposium; Nelson (130 attendees)
- Falls Village, invasive plant curriculum development, Housatonic Valley Regional High School; Moran
- Falls Village, management activities; Zetterstrom, Stoner, and Zarillo
- Falls Village, workshop, Sharon Land Trust, Invasive Initiative, and Housatonic Valley Regional High School Arboretum and Landscape Committee; Zetterstrom (20 attendees)
- Glastonbury, presentation and guided tour, UConn School Integrated Pest Management (IPM) Program; Ellis (95 attendees)
- Goshen, exhibit for town fair; Nelson (multiple days)
- Greenwich, management activities, Town of Greenwich Inland Wetlands and Watercourses Agency; Tomaszewski (6 participants)

- Guilford, presentation, Connecticut Conservation Commission; Williams (150 participants)
- Guilford, television interview, CT NBC 30 Troubleshooters; Williams (5 participants)
- Hamden, exhibit, Plant Science Day, The Connecticut Agricultural Experiment Station; Ellis (1,157 attendees)
- Hampton, presentation and site walk, Goodwin Forest Conservation Center; Rondeau (12 attendees)
- Hartford, exhibit, Ag Day at the Capitol; Ellis and Concklin (150 attendees)
- Hartford, exhibit, Connecticut Flower and Garden Show; 24 volunteers worked 72 hours (30,000 attendees)
- Hartford, presentation, Connecticut Environment Committee; Zetterstrom (3 participants)
- Hartford, Storrs, and Windsor, administrative support for Invasive Plants Council meetings; Ellis (9 members, multiple days)
- Holyoke, MA, management activities, The Trustees of Reservation; Knox (33 participants; multiple days)
- Kent, management activities, Kent Land Trust; Zetterstrom
- Lakeville, presentation, The Salisbury Forum and area Land Trusts; Tallamy (350 attendees)
- Lebanon, exhibit, Connecticut Nursery and Landscape Association Summer Symposium; Ellis, Allen, and Wallace (400 attendees)
- Lebanon, presentation, Connecticut Nursery and Landscape Association Summer Symposium; Ellis and Allen (30 attendees)
- Middlefield, television interview, CT NBC 30 Troubleshooters; Williams (6 participants)
- Milford, presentation, Coastal Certificate Program; Pyle (20 attendees)
- Millerton, NY, management activities; Nelson
- Mystic, management activities, Wild Ones Mountain Laurel Chapter and Dennis Pequotsepos Nature Center; Pan (8 participants, multiple days)
- Mystic, presentation, Wild Ones Mountain Laurel Chapter; Atha (40 attendees)
- New Haven, meeting, Pollinator Plant Working Group; Pyle (6 attendees)
- New Haven, presentation, South Central Connecticut Regional Water Authority; Williams (20 participants)
- New Haven, radio interview, CT WNPR; Williams (2 participants)
- Newington, 3 training sessions; Boone, Donnelly, Picone, Pyle, and Villwock (75 participants, multiple days)
- New London, presentation, Wild Ones Mountain Laurel Chapter Monthly Program; Mervosh, Reed, and Stokes (50 attendees)
- New London, presentation and guided tour, Connecticut College; Knuttel (14 attendees)
- New Milford, exhibit, New Milford Garden Club; Nelson and others (150 attendees)
- New Milford, management activities; Nelson and others (27 participants, multiple days)
- New Milford, management consulting activities; Nelson (multiple days)
- Newtown, management consulting activities; Nelson
- Niantic, management activities; Reed and Stokes (8 attendees, multiple days)
- Norfolk, training workshop, Aton Forest; Moorhead (9 attendees)
- North Canaan, management activities; Zetterstrom, Allyn, and CT Department of Transportation (multiple days)
- Northwestern Connecticut, educational outreach; Zetterstrom
- Plantsville, exhibit, Connecticut Nursery and Landscape Association Winter Symposium and Expo; Ellis, Allen, and Wallace (300 attendees, 2 days)
- Redding, presentation, Redding Garden Club and Mark Twain Library; Nelson (80 attendees)

- Regional, online conference, Northeastern Integrated Pest Management (IPM) Center; Ellis (52 participants)
- Regional, video, UConn Extension Agriculture Team; Ellis and others (173 views)
- Rockfall, exhibit, Connecticut Botanical Society; Moorhead
- Roxbury, management activities; Nelson (8 participants, multiple days)
- Salisbury, exhibit; Zetterstrom
- Salisbury, management activities, Hotchkiss School; Mervosh and Zetterstrom (24 participants)
- Salisbury, management activities, Indian Mountain School; Zetterstrom (9 participants)
- Salisbury-Lakeville, management activities, Salisbury Land Trust; Zetterstrom and Allyn
- Sharon, management activities, Sharon Land Trust; Hunter and Allyn (12 participants)
- Sharon, workshop, Sharon Land Trust and Invasive Initiative; Zetterstrom (30 attendees)
- Southbury, exhibit, Connecticut Association of Wetland Scientists; Moorhead
- Stamford, presentation and field demonstration, UConn Extension Master Gardener Program; Mervosh (15 attendees)
- Statewide, EDDMapS reporting and verifications; Moorhead (multiple days)
- Statewide, mile-a-minute weed biological control project, 29 release and monitoring sites visited; Cheah, Ellis, Nelson, and Varricchio (4 participants, multiple days)
- Storrs, field demonstration, Connecticut Natural Resources Conservation Academy; Williams (16 participants)
- Storrs, invasive risk management workshop; Silander, Gabelman, Ellis, Pyle, and others (14 attendees)
- Storrs, poster, Connecticut Conference on Natural Resources; Moorhead
- Tolland, presentation and guided tour; Ellis (15 attendees)
- Uncasville, presentation, Connecticut Recreation and Parks Association Annual Conference and Trade Show; Ellis (25 attendees)
- Washington, management consulting activities; Nelson
- West Cornwall, presentation, Housatonic River Commission; Zetterstrom and Allyn
- Westminster, MA, presentation, Massachusetts Nursery and Landscape Association Annual Summer Conference and Trade Show; Ellis (80 attendees)
- Windsor, presentation, Windsor Garden Club and Windsor Conservation Commission; Mervosh (40 attendees)

Submitted by Donna Ellis (UConn Department of Plant Science and Landscape Architecture; CIPWG Co-chair), with contributions from Charlotte Pyle (CIPWG Co-chair) and many other CIPWG members included above.

24 January 2018

Connecticut Department of Energy and Environmental Protection

Invasive Plant Work: 2017 year-end report

2017 CT DEEP Water Chestnut Removal Efforts.

From 2005 through 2013, Inland Fisheries Division (IFD) staff had surveyed (often in collaboration with other DEEP staff) the main stem CT River and associated coves from Hartford to Haddam for the highly invasive water chestnut (*Trapa natans*). Cynthia Boettner, US Fish & Wildlife Service (USFWS – Silvio O. Conte fish & wildlife Refuge), coordinates and leads water chestnut control activities from Hartford north into Massachusetts including major infestations on the Hockanum River and several other sites in the Hartford area. With limited staff resources, volunteers conducted surveying and much of the harvesting at several of the USFWS sites. Over the last several years both the Connecticut River Conservancy (CRC -formerly Connecticut River Watershed Council) and the Lower River Council of Governments (COG) have stepped forward to conduct surveys and harvesting at a number of additional sites along the river.

Since 2014, DEEP staff, in collaboration with Conte Refuge staff and volunteers have focused attention on sites in the lower portions of the Connecticut River, primarily Selden Cove and Salmon River (a site in Tylerville near Andrews Marina/Goodspeed Bridge had been successfully cleared after several years of harvesting). In 2017 IFD staff and volunteers again surveyed and removed stands of water chestnut from these lower river sites. The population at Selden Cove appears to be diminishing with eradication possible in another several years. Control at Salmon River Cove continues to be a bit more problematic, as patches have been shrinking in size, but the number of scattered plants has increased.

2017 Additional water chestnut efforts.

DEEP fisheries staff removed water chestnut from the headpond above the Clarks Pond Dam and Fishway (Milford) in August. DEEP staff also confirmed reports of the presence of water chestnut in the lower cove (south of I-95) of Lake Saltonstall.

2017 CT DEEP Hydrilla update.

Until recently, hydrilla was found at only a few locations in CT. This invasive aquatic plant can spread aggressively (it can grow up to a foot a day), form dense mats of vegetation and can be very difficult to control. It was recently found in two publicly accessible waterbodies:

Coventry Lake. In the fall of 2015, hydrilla was identified in Coventry Lake (Coventry). DEEP subsequently contracted with Aquatic Control Technologies (ACT) a lake management contractor, for an extensive survey to determine the extent of the hydrilla infestation and if needed, develop a management plan to address the infestation. ACT's initial survey in November (2015) located one area (a nine acre cove) in the lake with several small patches of hydrilla. It was expected that management (surveys, possible herbicide treatments) with the goal of eradication would be ongoing for several years.

In 2016, following review of a management plan developed by SOLitude Lake Management (formerly ACT) and consultations with the Town of Coventry, DEEP funded management efforts (including a series of surveys and a herbicide treatment) and the cove where hydrilla was present was successfully treated with an aquatic herbicide (Aquathol-K) and a management plan for 2017 was developed.

This year (2017) DEEP again funded management activities (contracted with SOLitude Lake Management) that included multiple surveys and herbicide treatments. The initial 2017 survey found additional patches of hydrilla scattered throughout the lake, including near the boat launch, prompting expansion of the original management plan, including additional herbicide treatment areas, revision of herbicide formulation and treatment protocols, and use of benthic barriers to address the smaller scattered patches. Herbicide

treatments were conducted in late September and barrier placement occurred in early October. Of great concern, post-treatment surveys in late October and November found new growths of hydrilla outside of the areas identified and treated earlier in the year, likely due to several unfortunate characteristics of hydrilla including its ease of fragmentation, ability to sprout in deeper water or from fast growing runners, and its ability to maintain robust growth through the end of the growing season. Management options for 2018 are now being developed. The amount spent on Coventry Lake hydrilla control during 2017 totaled \$24,500 in federal monies (see section on the Connecticut ANS Management Plan) plus approximately \$13,000 in state funds.

Connecticut River. Last year (June, 2016) hydrilla was found in a difficult to access portion of Keeney Cove by botanists participating in a “Bioblitz” at the Two Rivers Magnet School, East Hartford. Later that year DEEP staff observed several patches of hydrilla mixed in among the aquatic plants growing in the river at Glastonbury’s Riverfront Park and Boathouse. Based on the observed growth, it appeared that hydrilla had been in the river for a couple of years and it was likely to be dispersed downstream of Hartford. As a result eradication from the Connecticut River was deemed not practical.

In 2017, DEEP fisheries staff conducting fish surveys (night electrofishing) identified hydrilla in several new locations including Wethersfield Cove, Crow Point Cove, and in the mainstem in Enfield where it was found scattered along the west shore from the Massachusetts border down to the Enfield Town launch in Thompsonville. Additionally, volunteers from the organizations involved in Connecticut River water chestnut control collected hydrilla from the lower Mattabeset River. The presence of hydrilla near the Massachusetts border would suggest a source population upriver from Connecticut.

2017 DEEP Forestry Division Invasive Plant Control Efforts

A total of 664 acres of invasive plants were controlled by certified forest practitioners for the most recent reporting period May 2016 through April 2017. Of that nineteen (19) acres of control was completed by the DEEP Forestry Division staff (see table for detail) and 645 acres by practitioners regulated by the Division. The total number of control acres for 2017 increased compared to the previous year (602 acres in 2016).

2017 DEEP Forest Invasive Plant Control Efforts on DEEP Managed State Forests					
State Forest	Block	Acres Treated	Species Controlled	Control Technique Used	Brief Description/Reason for Treatment
American Legion		13	Barberry, bittersweet, winged euonymous	Herbicide, Backpack Sprayer, pressurized	Preharvest treatment to remove seed source
Goodwin		2	Barberry, multi-flora rose, winged euonymous	Hand pulling, propane torch	Postharvest followup to kill existing and new invasives
Natchaug	Goodwin	1	Garlic mustard	Hand pull	Prevent spread into harvest area
Shenipsit	Soapstone	1	Mugwort	Hand pull	Prevent further spread into forest
Nipmuck	Breakneck	1	Mugwort	Hand pull	Prevent further spread into forest

Roraback WMA		1	Barberry	Propane torch, hand pulling	Eliminate from actively managed sugarbush, prevent spread
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2017 DEEP Boating Division Invasive Plant Efforts

The DEEP Boating Division hired 14 Boating Education Assistants (BEAs) in 2017. Federal Aquatic Nuisance Species (ANS) program funds (\$24,395) were used to help support these positions. The BEAs time was spent visiting state boat launches at lakes, ponds and coastal waters throughout western CT educating boaters on clean and safe boating techniques, with an emphasis on ways boaters can help prevent the spread of aquatic invasive species (AIS). The statewide BEA Program collected 5,880 Clean Boater Pledges, conducted 4,769 AIS vessel inspections and 2,665 Vessel Safety Checks between May 19, 2017 and September 28, 2017.

In 2011, the first year that AIS boat inspections were conducted, 1,260 vessel inspections were performed. In 2012, 1,691 inspections were performed; 2013, 1,563 inspections were performed; in 2015, 4,087 inspections were performed; and in 2016, 5,228 inspections were performed. Data was not collected in 2014 although boating education and AIS vessel inspections were performed.

- Of individuals launching vessels in 2017, 98% of those checked stated they inspected and removed weeds from their boat prior to launching. Additionally, 91% of individuals said they disposed of their bait properly. This is an increase from 2011, where 84% reported that they inspected and removed weeds and 73% reported disposing of bait properly.
- In 2017, 88% of boaters indicated that they washed their boats prior to launching compared to 62% in 2011.
- 99% indicated they drained their boat prior to launching in 2017 compared to 84% in 2011.
- In 2017, 2 inspected boats arrived at launches with invasive species compared to 40 boats in 2011.
- Boaters are becoming aware of the existing AIS laws. In 2017, 1% of boaters said they were not aware of the laws compared to 11% in 2011.

During the course of the interaction with the BEA, boaters are informed about environmental damages that may be caused by the spread of invasive species. Data shows that boaters are understanding their responsibilities and are taking necessary steps to Clean, Drain, Dry their boats in order to prevent the spread of aquatic invasive species from one waterbody to another. The data in the table below shows the success of the program.

Year	Total Inspections	Self Inspected/Removed	Disposed of Bait	Washed Boats	Drained Boats	Aware of AIS Laws
2011	1,260	84%	73%	62%	84%	89%
2012	1,691	93%	92%	76%	93%	90%
2013	1,563	91%	91%	79%	78%	96%
2014	3,380	**	**	**	**	**
2015	4,087	99.8%	88%	95%	97%	98%
2016	5,228	97.1%	96.2%	87%	97%	97.3%
2017	4,769	98%	91%	88%	99%	99%

The ANS grant also provided funding for printed materials. The Clean, Drain, Dry message was printed on whistles that are required safety equipment on all small vessels. . The whistles are distributed to boaters to promote good stewardship of water resources, prevent the spread of aquatic invasive species, and enhance boating safety

Other efforts to combat AIS included, the Boating Division placing informational buoys in Coventry Lake to identify an area of Hydrilla to discourage boaters from entering portions of the lake.. Buoys were placed between May 2016 and October 2016 and May 2017 through October 2017.

2017 Wetland Habitat and Mosquito Management (WHAMM) Program Invasive Plant Control Efforts (herbicide applications to treat a variety of invasive plants but mostly phragmites)

2017 WHAMM PROJECT HERBICIDING		
APPLICATION AREA	ACRES	DATE(S)
Dodge Paddock - Stonington	0.3	9/7/2017
Franklin WMA - N. Franklin	0.2	9/8/2017
Todd Park -Bethel	1	9/18/2017
People's Forest - Barkhamsted	2.2	9/26/2017
Condo's Marsh - Guilford	2	9/27/2017
Stanton Weir Marsh	6	9/28/2017
Knox Preserve- Stonington	0.5	10/3/2017
Greenwich Land Trust	4	10/4/2017
Roseland Lake - Woodstock	0.5	10/4/2017
Condo's Marsh - Guilford	2	10/5/2017
Como Marsh - Stonington	3.25	10/11/2017
Lord's Cove - Old Lyme	191.7	8/21 - 9/3/2017
TOTAL =	213.65	

2017 Wildlife Division Habitat Unit's Invasive Plant Management Report

Work Conducted Under The Federal Aid Habitat Development Project (W-61-D)

All work conducted by Wildlife Division staff (permanent and seasonal staff), unless otherwise noted*. A total of 1,145 acres were treated.

Proj. #	Site	Town	Treatment	Acres	Month Work Completed	Invasives Treated	Management Objective
1	Assekong Swamp WMA	Stonington	Sprayed (Argo, Backpack, Truck)	20	August	barberry, multiflora rose, bittersweet, porcelain berry	NEC project site pre harvest, roadside & parking lot
2	Babcock Pond WMA	Colchester	Sprayed (Truck)	20	July, August	autumn olive	Old field/grassland
3	Bartlett Brook WMA	Lebanon	Sprayed (Truck)	12	August, September	autumn olive	Old field/grassland
4	Belding WMA	Vernon	Sprayed (Argo, Backpack, Truck)	15	August, September, October	autumn olive, barberry & multiflora rose, bittersweet	Old field/Forest regeneration- pre harvest
5	Camp Columbia SF	Morris	Sprayed (Backpack, Mule, Truck)	5.5	May, June	autumn olive, barberry & multiflora rose	NEC project/Forest regeneration
6	Charles Island NAP	Milford	Sprayed (Backpack)	1	May	mile-a-minute vine, barberry, honeysuckle	Heron rookery restoration
7	Charles Wheeler WMA	Milford	Sprayed (Truck)	1	August, September	knotweed	Maintain public parking/boat launch
8	Cockaponset SF	Middletown	Sprayed (Argo, truck)	9	August	autumn olive, barberry & multiflora rose	Grassland/old field
9	Cromwell WMA	Cromwell	Sprayed (Truck)	3	July	burning bush, multiflora rose, autumn olive, garlic mustard, barberry, bittersweet	Old field/ shrub land
10	Flaherty WMA	East Windsor	Sprayed (Argo, truck)	310	July	multiflora rose and bittersweet	Grassland/old field
11	Goshen WMA	Goshen	Sprayed (Backpack, Truck, Argo)	176	May, August	Black willow, multiflora rose, bittersweet	Grassland
12	Harkness SP	Waterford	Sprayed (Argo, truck)	30	August, September	autumn olive, mugwort	Grassland
13	Housatonic River WMA	Kent	Sprayed (Mule, Truck, Argo)	48.5	July	bush honeysuckle, wormwood, barberry, autumn olive	Old fields/forest regeneration -post harvest
14	Larson Lot WMA	Colchester	Sprayed (Truck)	15	August	autumn olive, barberry, multiflora rose, Japanese knotweed	Old field
15	Mad River FCA	Winsted	Sprayed (Argo)	22	July	autumn olive, barberry & multiflora rose	Meadow/old field
16	Mattatuck SF	Thomaston	Sprayed (Mule)	7.5	July	autumn olive	Old Field
17	Naugatuck SF	Naugatuck	Sprayed (Mule, Truck)	11	July	barberry & autumn olive	Old fields
18	Nehantic SF	East Lyme	Sprayed (Truck)	10	September	autumn olive, bittersweet	Old field
19	Nod Brook WMA	Avon	Sprayed (Truck)	46	June	autumn olive, barberry & multiflora rose	Grassland

20	Pease Brook WMA	Lebanon	Spray (Truck)	52 *	August	autumn olive, multiflora rose	Forest regeneration - pre harvest, Old Field, Parking lot, & road sides
21	Quinnipiac River SP	North Haven	Sprayed (Truck)	8	May, June, August, September	mile-a-minute, autumn olive, multiflora rose & bittersweet	Cedar/forest understory
22	Roncari WMA	Windsor	Sprayed (Truck, mule)	67	August	mugwaort, autumn olive, swallowort, multiflora rose, knotweed	Grassland
23	Roraback WMA	Harwinton	Sprayed (Truck, Argo)	52.5	July, August	autumn olive, barberry & multiflora rose	Forest understory & old fields
24	Sessions WMA	Burlington	Sprayed (Mule, backpack)	1	June, July, August, September	summer crested mint, barberry, mugwort, garlic mustard	Fields/demonstrations sites
25	Skiff MT WMA	Sharon	Sprayed (Truck)	73	July, August	crown vetch, wild parsnip (knoxious plant)	Fields/old fields
26	Spignesi WMA	Hampton	Sprayed (Argo, Truck, Backpack)	25	August	autumn olive	Old field/grassland
27	Suffield WMA	Suffield	Sprayed (Truck)	120.5	September	autumn olive, barberry & multiflora rose	Grassland
28	Talbot WMA	Scotland	Sprayed (Truck)	7	July	autumn olive	Old field
29	Tankerhoosen WMA	Vernon	Sprayed (Argo, backpack)	4	October	autumn olive, barberry & multiflora rose, mugwort	Pitch pine restoration
30	West Rock SP	Hamden	Sprayed (Truck)	13.5	July	autumn olive & multiflora rose	Cedar/forest understory
31	Zemko Pond WMA	Salem	Sprayed (Argo, truck)	11	August	autumn olive, barberry & multiflora rose	Old field
			State Land Treated	1145	* =48 acres was contracted, 4 acres Wildlife Division staff		

Connecticut ANS Management Plan

Summary of Aquatic Nuisance Species Federal Funds and Aquatic Invasive Species Appropriated Funds:

A total of \$48,895 in Federal Fiscal Year 2016 Aquatic Nuisance Species (ANS) funds were awarded to the Department of Energy and Environmental Protection for expenditure during 2017. A portion of these funds (\$24,500) were used for surveys and herbicide treatments at Coventry Lake as part of an effort to eliminate hydrilla from this water body. The remainder (\$24,395) was used to hire one additional Boating Education Assistant to educate anglers and boaters at launch areas on high risk lakes (those with high levels of boating activity and frequent use by out-of-state boaters).

State of Connecticut Grants to Municipalities

The Connecticut General Assembly did not allocate any funding for this purpose in Fiscal Year 2016. The General Assembly had previously allocated \$200,000 and \$180,000 to the Department of Energy and Environmental Protection (DEEP) in Fiscal Years 2014 and 2015 to establish an aquatic invasive species grant program to be administered by the DEEP. Information on how these funds were distributed and spent was provided in previous years' reports.