INVASIVE PLANTS COUNCIL
Fourteenth Annual Report
December 31, 2016

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, I respectfully submit this report for activities conducted in 2016.

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. This was a highly effective process in past years, when the activities of the Council were managed by the Connecticut Invasive Plants Coordinator. However, since funding for the Coordinator position was eliminated in 2014, the Councils ability to carry out this mandate was severely diminished. When fully funded in past years, 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 2017, the activities and effectiveness of the Council will be minimal. The Council is exploring opportunities to increase effectiveness through formal and informal collaborations with various interest groups and volunteer organizations. However, tangible outcomes with timely and positive environmental impacts commensurate with those achieved when the Coordinator was fully funded is beyond reasonable expectations based on 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. In Connecticut, invasive plants continue to cause environmental and economic injury to our communities, our lands, lakes and commercial agricultural industries. For example, Connecticut lake-communities contribute almost 20% of total property tax revenues collected by their respective towns. These lake-communities only remain strong and financially vibrant when the lake ecosystem remains healthy, biologically diverse and attractive for recreational activities (see attached: 2016 report to the Town by the East Haddam Lakes Association). Additionally, the greatest loss of profit from farms is due to weeds, including many invasive species.

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, not passive neglect.

Over the past 14 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 staff has limited the ability of these agencies to process invasive plant management permits and control invasive species. That said, fully funding the Connecticut Invasive Plants Coordinator remains the only time tested 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. [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 2016 report from the IPC and affiliated groups see http://cipwg.uconn.edu/ipc/

Sincerely,

Dr. Richard McAvoy, Connecticut Invasive Plants Council Chair
Professor and Head
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

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

Mr. Tom McGowan
Exec. Director
Lake Waramaug Task Force, Inc.

Mr. David Sutherland
The Nature Conservancy

Dr. Theodore Andreadis
Director
The CT Agricultural Experiment Station

Mr. Paul Larson
Sprucedale Gardens
CT Nursery and Landscape Association

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

Ms. Katherine Winslow
Property Agent
Farmland Preservation Program
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 Department of Energy and Environmental Protection

Invasive Plant Work: 2016 year-end report

2016 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), 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 Watershed Council (upper river sites) and the Lower River Council of Governments (lower river sites) have stepped forward to conduct surveys and harvesting at a number of additional sites along the river.

Since 2014, DEEP staff, in collaboration with Lower River COG, have focused attention on sites in the lower portions of the Connecticut River, primarily Selden Cove, Salmon River and Tylerville (near Andrews Marina/Goodspeed Bridge). In 2016 IFD staff and volunteers again surveyed and removed stands of water chestnut from the lower river sites. At the Tylerville locations, Trapa appears to have been nearly eradicated at the Tylerville site (from "truckloads removed" in 2014 to one plant found and removed in 2016). The population at Selden cove also appears to be diminishing with eradication possible in another two to three years. Control at Salmon River Cove appears a bit more problematic, as patches have been shrinking in size, but the number of scattered plants has increased some.

2016 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 found 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. ACT's survey in early November located one area (a nine acre cove) in the lake with several small patches of hydrilla.

This year, 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) with the goal of eradicating hydrilla in Coventry Lake. The cove where hydrilla was present was successfully treated with an aquatic herbicide (Aquathol-K) on August 10 & 11. It is expected that management (surveys, possible herbicide treatments) with the goal of eradication will be ongoing for several more years.

Connecticut River. In early June, hydrilla was found in in a difficult to access portion of Keeney Cove by botanists participating in a "Bioblitz" conducted around the Two Rivers Magnet School, East Hartford. In mid-September 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 current growth, it appears that hydrilla has been in the river for a couple of years and it is likely to be dispersed downstream of Hartford. As a result eradication from the Connecticut River is not practical.

2016 DEEP Forestry Division Invasive Plant Control Efforts

A total of 602 acres of invasive plants were controlled by certified forest practitioners for the most recent reporting period May 2015 through April 2016. Of that ninety-two (92) acres of control was completed by the DEEP Forestry Division staff (see table for detail) and 510 acres by practitioners regulated by the Division. The total number of control acres for 2016 increased compared to the previous year (105 acres in 2015).

2016 DEEP Forestry Invasive Plant Control Efforts on DEEP Managed State Forests

State Forest	Block	# acres treated	Species Controlled	Control Technique Used	Brief description/ reason for treatment
Nathan Hale	Nathan Hale	6	Autumn Olive, MF_rose, bittersweet	Herbicide, backpack sprayer, pressurized	Year 3 follow up to larger control work associated with commercial sale E-1007
Nehantic	Taneyhill	6	bittersweet, burning bush	FECon Mowed, next year Wildlife will spray repsrout	Bittersweet invaded Wildlife openings from the 1970's and is spreading into the forest
Naugatuck	Great Hill	14.5	barberry, multiflora rose, bittersweet	Herbicide backpack sprayer, pressurized	Moderate to high density populations within boundary of commercial sale W-420
Naugatuck SF	West Block	0.5	Knotweed	Herbicide applied to cut stems	Kill knotweed to prevent spread
American Legion	around Valley Office	0.1	Bitttersweet	Herbicide applied to cut stems	Kill bittersweet to prevent spread
Paugussett	Upper	0.1	Bittersweet, multiflora rose, barberry	Herbicide applied to cut stems	Kill plants that invaded an old log landing
Naugatuck	Quillinan Reservoir	1	Tree of Heaven, barberry	Hand pulling	Remove Tree of Heaven seedlings and barberry
Shenipsit	Soapstone	3	Barberry, multi-flora rose, bittersweet, autumn olive	Hand pulling	Maintain area invasive-free
Shenipsit	Bald Mtn	1	Barberry, multi-flora rose, bittersweet, autumn olive	Hand pulling	Maintain area invasive-free
Nipmuck	Snow Hill	2	Barberry, multi-flora rose, bittersweet, autumn olive	Backpack propane torch	Eradicate invasives in stand
Nipmuck	Stickney Hill	1	Barberry, multi-flora rose, bittersweet, autumn olive	Hand pulling	Maintain stand invasive-free
Nipmuck	Breakneck	1	Mugwort	Hand pulling	Try to stop spread
Natchaug	Chaplin	1	Mugwort	Hand pulling	Try to stop spread
Camp Columbia	Camp Columbia	7	Japanese barberry, multiflora rose, bittersweet, shrub honeysuckle, winged euonymous	Herbicide, backpack pressurized sprayer.	Pre-harvest treatment to prevent timber sale from encouraging spread of invasives.
Camp Columbia	Camp Columbia	1	winged euonymous	Hand pulling	prevent re-establishment and spread after herbicide killed most of the plants.
Housatonic SF	Sharon Mountain	47	Japanese barberry, multiflora rose, bittersweet, shrub honeysuckle, privet	Herbicide, motorized backpack sprayers	prevent re-establishment and spread after herbicide killed most of the plants.

2016 DEEP Boating Division Invasive Plant Efforts

The DEEP Boating Division hired 16 Boating Education Assistants (BEAs) in 2016. Twenty-five thousand, three hundred and fifteen dollars ($25,315) of Federal Aquatic Nuisance Species program funds were also made available to help support these positions. The BEAs time was spent visiting state boat launches throughout the state and educating boaters on clean and safe boating techniques, with an emphasis on ways boaters can help prevent the spread of aquatic invasive species. The BEAs visited lakes, ponds, and coastal waters in western CT. The statewide BEA Program collected 8,247 Clean Boater Pledges and conducted 5,227 AIS vessel inspections and 3,952 Vessel Safety Checks between May 13, 2016 and October 13, 2016.

In 2011, the first year that AIS boat inspections were conducted, in addition to the education initiative, 1,260 vessel inspections were performed. In 2012, 1,691 inspections were performed; 2013, 1,563 inspections were performed; and in 2015, 4,087 inspections were performed. Data were not collected in 2014 although boaters were educated and inspections performed.

- Of those launching in 2016, 97% of those inspected stated they inspected and removed any weeds from their boat prior to launching. Additionally, 96% of the people said they disposed of their bait properly. In 2011, 84% reported that they inspected and removed weeds and 73% reported disposing of bait properly.
- In 2016, 87% of boaters indicated that they washed their boats prior to launching compared to 62% in 2011.
- 97% indicated they drained their boat prior to launching in 2016 compared to 84% in 2011.
- In 2016, 2 inspected boats arrived at launches with weeds compared to 40 boats in 2011.
- It is evident that boaters are becoming aware of the existing AIS laws. In 2016, 3% of boaters said they were not aware of the lawscompared to 11% in 2011.

During the course of the interaction with the BEA, boaters are informed about damages that may be caused by the spread of invasive species. Data show that boaters are understanding their responsibilities and are taking necessary steps to Clean, Drain, Dry they 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%

2016 Wetland Habitat and Mosquito Management (WHAMM) Program Invasive Plant Control Efforts
(herbicide applications to treat a variety of invasive plants but mostly phragmites)

2016 WHAMM Pro Project List -Herbiciding **Update:** 11/21/2016

	Acres	Date of Spraying	Product Gallons Triclopyr	Product Gallons Imazapyr	Product Gallons Glyphosate	vendor
COMO Marsh, Stonington - Phrag	10	9/21			50	RW KS
Dodge Paddock, Stonington	1	9/21			3	RW KS
Silver Sands SP, Milford	20	10/11			2600	IMM
Sluice Creek, Guilford Condo	3	10/6			53	RW KS
	35 Acres		0	0 Gallons mix (final vol)	2706 gallons	

2016 Products used and control	rate		**Product total**
Glyphosate 5.4 (Alligare) EPA 81927-8	2.5%	68	Gallons
Imazapyr 4 SL (Vegetation Manager) EPA 7	1.5%	0	Gallons
Alligare 90 (Surfactant) SN 001A-072307	0.5%	13.53	Gallons
Ecotriclopyr 3 SL (triclopyr) EPA 110405	1.0%	0	Gallons
Sonar AS (Fluridone) EPA 67690-4		0	Quart

2016 Wildlife Division Habitat Unit's Invasive Plant Management Report
Work Conducted Under The Federal Aid Habitat Development Project (W-61-D)

Submitted by Judy Wilson - Habitat Program

No.	Site	Town	Treatment	Acres	Month Work Completed	Invasives Treated	Management Objective
	State Lands						
1	Assekonk Swamp WMA	Stonington	Sprayed (Argo, truck)	34	July	barberry, multiflora rose & bittersweet	NEC forest regeneration
2	Bear Hill WMA	Bozrah	Sprayed (Argo, truck)	40	August	autumn olive, barberry & multiflora rose	Old field
3	Belding WMA	Vernon	Sprayed (Argo, backpack)	23	September	autumn olive, barberry & multiflora rose	Old field
4	Camp Columbia SF	Morris	Sprayed (Truck)	0.25	July	autumn olive, barberry & multiflora rose	Forest regeneration
5	Centennial SF	Easton	Sprayed (Truck)	1	August	bittersweet	Fenceline
6	Charles Island NAP	Milford	Sprayed (Mule, backpack), granular application	1.4	April	mile-a-minute vine, barberry, honeysickle	Heron rookery restoration
7	Charles Wheeler	Milford	Sprayed (Truck)	1	July	knotweed	Maintain public parking/boat launch
8	Cockaponset -Aircraft Rd	Middletown	Sprayed (Argo, truck)	10	August	autumn olive, barberry & multiflora rose	Grasslands
9	Flaherty	East Windsor	Sprayed (Argo, truck, backpack)/Mowed	324	July	multiflora rose and bittersweet	Old field
10	Housatonic River WMA	Kent	Sprayed (Truck, mule, Argo)	48.5	June	bush honeysuckle, wormwood, barberry, autumn olive	Old fields/forest regeneration
11	Larson Lot WMA	Colchester	Sprayed (Truck)	17	September	autumn olive, barberry & multiflora rose	Old field
12	Mad River FCA	Winsted	Sprayed (Truck, Argo)	11	July	autumn olive, barberry & multiflora rose	Meadow/old field
13	Mattatuck SF	Thomaston	Sprayed (Truck)	0.5	August	autumn olive	Old Field
14	Nathan Hale SF	Coventry	Sprayed (Argo, backpack)	21	September	autumn olive, barberry & multiflora rose	Old fields
15	Naugatuck SF	Naugatuck	Sprayed (Argo, truck)	10.7	July	barberry & autumn olive	Old fields
16	Nod Brook	Avon	Sprayed (Truck)	0.25	July	autumn olive, barberry & multiflora rose	Grassland
17	Quinnipiac River SP	North Haven	Sprayed (Truck)	6	July	mile-a-minute, autumn olive, multiflora rose & bittersweet	Cedar/forest understory
18	Roncari	Windsor	Sprayed (Truck, mule)	67	June	mugwaort, autumn olive, swallowort, multiflora rose, knotweed	Grassland
19	Roraback WMA	Harwinton	Sprayed (Truck, Argo)	30	July	autumn olive, barberry & multiflora rose	Forest understory & old fields
20	Sessions	Burlington	Sprayed (Mule, backpack)	1	June	summer crested mint, barberry,mugwort, garlic mustard	Fields/demonstrations sites
21	Skiff MT	Sharon	Sprayed (Truck)	3.5	July	crown vetch, wild parsnip (knoxious plant),	Fields/old fields
22	Suffield WMA	Suffield	Sprayed (Truck)	90	August	autumn olive, barberry & multiflora rose	Grassland
23	Tankerhoosen WMA	Vernon	Sprayed (Argo, backpack)	13	August	autumn olive, barberry & multiflora rose	Pitch pine restoration
24	West Rock SP	Hamden	Sprayed (Truck)	13.5	July	autumn olive & multiflora rose	Cedar/forest understory
25	Zemko Pond WMA	Salem	Sprayed (Argo, truck, backpack)	12	July	autumn olive, barberry & multiflora rose	Old field
	PRIVATE LAND SITES						
1	Avalonia Land Trust (Knox)	Stonington	Sprayed	11	September	mugwort, honeysuckle, multiflora rose,	Coastal grassland
2	Great Mountain Forest	Canaan	Sprayed (Argo, truck)	8	August	barberry, multiflora rose & bittersweet	NEC forest regeneration
3	Magnusen	Lebanon	Sprayed (Argo, backpack)	14	September	barberry, multiflora rose & bittersweet	WLFW NEC project
4	Woodbury Southbury Fish and Game	Morris		23	Summer	autumn olive, barberry & multiflora rose	WLFW NEC project
29	**Total Sites**		**TOTAL ACRES TREATED**	837.6			

Connecticut ANS Management Plan

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

2015 ANS Funds ($25,315) were used during calendar year 2016 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 allocated $180,000 to the Department of Energy and Environmental Protection (DEEP) in Fiscal Year 2015 to establish an aquatic invasive species grant program to be administered by the DEEP. $125,500 was awarded as grants to municipalities, $30,000 was used to provide funding for Boating Education Assistants to inspect for invasive species at boat launches, and $24,500 was used to contract for aquatic plant surveys and herbicide treatments in response to a hydrilla infestation in Coventry Lake (see Hydrilla update on page 1 for details).

PROJECTS SELECTED FOR FUNDING – 2015 AIS GRANTS TO MUNICIPAILTIES

Municipality	*water body*	*Project Title*	*grant award.*
Ellington	Crystal Lake	Removal of Variable Water Milfoil from Crystal Lake in Ellington, Connecticut	$15,000.00
Preston	Amos Lake	Control of Variable Water Milfoil in Amos Lake Preston, CT	$3,700.00
Middlebury	Lake Quassapaug	Control of Eurasian and Variable Milfoil on lake Quassapaug, Middlebury, CT	$11,500.00
~~*East Haddam*~~	~~*Moodus Reservoir*~~	~~*Phase Two project to eradicate and control Fanwort and Variable Milfoil*~~ Applicant decided to reassess project, declined grant.	~~*$6,000.00*~~
Salisbury	East Twin Lake/West Twin Lake	Diagnostic feasibility Study: Integrated Eurasian Milfoil Management and Holistic Lake Management Planning for Lakes Washinee and Washining in Salisbury, CT.	$10,000.00
Coventry & Mansfield	Eagleville Lake	Eagleville Lake fanwort management project.	$13,000.00
Candlewood Lake Authority*	Housatonic River	Feasibility of the use of CO2 to prevent emigration of Dreissena polymorpha from Laurel Lake (Lee, MA) to the Housatonic River and Candlewood Lake (CT).	$13,500.00
Lyme/Old Lyme	Rogers Lake	Control of Fanwort and Variable Leaf milfoil in Rogers Lake, Lyme/Old Lyme, CT.	$18,500.00
Guilford	Quonnipaug Lake	Control of Eurasian watermilfoil and fanwort in key recreational areas of Lake Quonnipaug, Guilford, CT with benthic barriers and granular fluridone.	$20,000.00
Bloomfield	Filley Pond	Restoration of Filley Pond though the Management of the Water Chestnut species	$10,000.00

*Representing Brookfield, Danbury, New Fairfield, New Milford and Sherman.

Number	*Municipality*	*Title*	*target species*	*water body*	***Primary method***	***grant award***
2014-AIS-01	North Stonington	Variable Leaf Milfoil control in Wyassup Lake North Stonington, CT	variable-leaf milfoil	Wyassup Lake	herbicide	2650.00
2014-AIS-02	Winchester	Control of Eurasian water milfoil and Variable Leaf water milfoil in Highland Lake located solely in the Town of Winchester	eurasian water milfoil, variable-leaf water milfoil	Highland Lake	herbicide	15000.00
2014-AIS-03	New Fairfield	The Efficacy and Impact of Grass Carp Stocking for Eurasian Milfoil Control in Ball Pond, New Fairfield, CT	eurasian water milfoil	Ball Pond	study	9150.00
2014-AIS-04	East Haddam	Town of East Haddam -Lake Hayward Invasive Aquatic Plants Mitigation Funding Request	fanwort, variable-leaf milfoil	Lake Hayward	herbicide	9050.00
2014-AIS-05	East Haddam	Pilot project to test the effectiveness of herbicides to control Fanwort and Variable Milfoil on 25 acres of Moodus Reservoir, a 566 acre lake in East Haddam, CT	fanworth, variable-leaf milfoil	Moddus Reservoir	herbicide	6000.00
2014-AIS-07	Preston	Control of Variable Water Milfoil in Amos Lake Preston, CT	variable-leaf milfoil	Amos Lake	herbicide	4400.00
2014-AIS-10	Goshen	Diagnostic Study of Aquatic Plant Life in Dog Pond, Tyler Lake, and Westside Pond	eurasian water milfoil	Dog, Tyler & Westside ponds	study	4000.00

Number	*Municipality*	*Title*	*target species*	*water body*	***Primary method***	***grant award***
2014-AIS-11	Union	Restoration of Lower Mashapaug Pond and Preservation of Mashapaug Lake and Quinebaug Headwaters in Union, CT, by Controlling and Managing Invasive Variable Water Milfoil	variable-leaf milfoil	Little Mashapaug	Grass Carp	5000.00
2014-AIS-13	Candlewood Lake Authority (Brookfield, Danbury, New Milford, New Fairfield, Sherman)	Stocking of triploid grass carp at Candlewood Lake for the control of Eurasian watermilfoil	Eurasian water milfoil	Candlewood Lake	Grass Carp	50000.00
2014-AIS-14	Coventry, Mansfield	Eagleville Lake Fanwort Management Project	fanwort	Eagleville Lake	herbicide	14000.00
2014-AIS-15	North Stonington	Control of Variable Leaf Milfoil and Fanwart/Cabomba in Lake Billings, North Stonington CT	variable-leaf milfoil, fanwort	Billings Lake	herbicide	5750.00
2014-AIS-16	Morris	Bantam Lake Watershed Fanwort Eradication Project	fanwort	Bantam Lake	Herbicide/hand-pulling	25000.00

STATE OF CONNECTICUT
DEPARTMENT OF AGRICULTURE
Office of the Commissioner

Steven K. Reviczky
Commissioner

860-713-2501
www.CTGrown.gov

December 14, 2016

Mr. Richard McAvoy, Chairman, Invasive Plants Council
c/o University of Connecticut, Dept. of Plant Science and Landscape Architecture
Box 4163, 1376 Storrs Road
Storrs, CT 06269-4163

Dear Chairman McAvoy:

Thank you for the opportunity to provide input to the Invasive Plants Council (IPC) 2016 Annual Report. DoAg continued to host and attend IPC meetings this year.

DoAg Regulation & Inspection staff continue to inspect licensed pet facilities and have been trained to look out for invasive plants. DoAg obtained copies of Connecticut's Aquatic and Wetland Invasive Plant Identification Guide by CT Agricultural Experiment Station (CAES) for distribution to staff and pet store owners, as needed. DoAg and CAES are working together to schedule a follow up training session at CAES.

DoAg's website features a link to the IPC website and other partner agencies under *Associated Agencies & Organizations, Collaborative Initiatives.* The Farmland Restoration Program and the weekly *Connecticut Weekly Agricultural Report* are available on our website.

An agricultural easement for 940 acres at Southbury Training School is complete. DoAg awarded five farmers 10-year permits for agricultural use of the land, and will be conducting extensive invasive plants removal as part of their restoration plans. DoAg's tenant dairy farmers at Lebanon Agricultural Reserve employ brush management prescriptions around field perimeters in accordance with conservation plans.

The Farmland Restoration Program, launched at the Governor's initiative, is active and has received a total of 195 restoration projects to reclaim up to 1,759 acres. The total combined estimated grant cost to the State of Connecticut is $2,732,948. Total estimated project cost is roughly $6,889,780. The total number of 2016 applications is 33. Many of the projects have a component that would include removal of invasive plants, though not all applications specifically list it as a treatment. Restoration plans are developed for each project.

Sincerely,

Steven K. Reviczky
Commissioner

cc: Linda Piotrowicz, Bureau Director, Agricultural Development & Resource Preservation

Connecticut Invasive Plant Working Group (CIPWG) 2016 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 19th 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) serves as CIPWG Co-Chair.

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, the Connecticut list of invasive plants, photos of invasive plants, invasive alternatives, resources, legislative updates, Early Detection and Research invasive plant lists, and Connecticut Invasive Plants Council activities. 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 accept additional 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 790 members from Connecticut and other states in the region. The CIPWG list serve also resides on the UConn server, and requests to subscribe to the list serve can be submitted online from the website.

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. Nationally-recognized speaker Jil Swearingen, co-author of *Plant Invaders of Mid-Atlantic Natural Areas* delivered the Keynote address, "*We're Moving on Up: Invasive Plants Heading North*". Karl Wagener, Executive Director of the Connecticut Council on Environmental Quality, spoke about "*Connecticut's Future: Rooted in Choice*". William Hyatt, Vice Chair of the Connecticut Invasive Plants Council, provided a legislative update. Charlotte Pyle, recently retired from the USDA Natural Resources Conservation Service delivered closing remarks. Concurrent afternoon sessions included a panel discussion with New England invasive plant experts, creating a balanced and healthy pollinator environment, success stories managing key invasives, biological controls as valuable invasive plant management tools, aquatic invasive plants, and new invasives that threaten our borders. Research and management posters, an invasive plant identification area, and other educational exhibits were featured throughout the day. Donna Ellis received the Leslie J. Mehrhoff Award. Symposium information is available on the CIPWG website.

A fall foliage guided tour, *Celebrating Connecticut's Landscape* occurred on October 2, 2016. Tour participants viewed Connecticut's fall foliage and visited habitat management projects. Participants learned about Connecticut's native plants, habitats, and invasive plant management. The tour leaders included Peter Picone [Wildlife Biologist, CT Department of Energy and Environmental Protection (DEEP)]; Jeff Ward (CT Agricultural Experiment Station); Charlotte Pyle (Ecologist); David Irvin (CT DEEP Forester); Bill Moorhead (Botanist); Jason Marshall (Conservationist/Sportsman); and Bob LaMothe (CT Sugar Mapling Industry).

CIPWG received the 2016 Environmental Organization Award from the Connecticut River Coastal Conservation District, November 5, 2016, "In recognition of CIPWG's extensive long-term efforts to raise awareness about the threat of invasive plants, and your support and promotion of our invasive plant guide".

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 2016. Two CIPWG exhibits that feature 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 2016 (All towns are in CT unless otherwise noted; activities occurred in 76 CT towns). The 303 activities reported below provided a minimum of 10,808 hours of invasive plant training and other educational outreach to 39,365 Connecticut citizens, agency and municipal staff, and others:

- Ashford, consultation; Lee (10 participants)
- Ashford, 4 management activities; Wrobel (on behalf of the Ashford Conservation Commission) (24 participants, 48 hours)
- Avon, 10 management activities; Moorhead (108 participants, 544 hours)
- Avon, video produced; Moorhead (5 participants, 52 hours, multiple days)
- Bethel, exhibit for local fair; Nelson and others (20 hours)
- Bolton, community meeting; Hiskes (50 attendees, 3 hours)
- Boston, MA, presentation, New England GROWS Sprint Session; Ellis (100 attendees, 50 hours)
- Bridgeport, poster presentation; Graves (100 attendees)
- Bridgewater, exhibit for town fair; Nelson (3 days)
- Bridgewater, management activities; Nelson (1 hour)
- Bridgewater, presentation; Bugbee and Fanzutti (30 attendees)
- Bristol, judging panel for Connecticut Envirothon Field Day; Ellis, Rowlands, Gumbart (65 participants, 450 hours)
- Brookfield, management activities; Nelson (2 hours)
- Burlington, Durham, and Newington, 5 training sessions; Donnelly, Picone, Pyle, and Villwock (102 participants, 510 hours)
- Burlington and Litchfield, 2 guided tours; Moorhead (27 participants, 177 hours)

- Cromwell, exhibit, Connecticut Grounds Keepers Association Turf and Landscape Conference; Ellis (300 attendees, 8 hours)
- Danbury, presentation; Bugbee (40 attendees)
- Danielson, exhibit for town fair; Lee (200 attendees, 6 hours)
- Durham, exhibit for town fair; Barsky (100 attendees)
- Eastford, exhibit for town fair; Lee (200 attendees, 5 hours)
- Eastford, management activities; Lee (5 participants, 15 hours)
- East Granby, 19 management activities; Clifford (on behalf of the East Granby Land Trust) (52 participants, 106 hours)
- East Haddam, presentation; Bugbee (90 attendees)
- East Hartford, 2 workshops; Bugbee and Fanzutti (85 participants)
- England, poster presentation at conference; Graves (200 attendees)
- Fairfield, 9 management activities; Brodlie (on behalf of the Aspetuck Land Trust) (44 participants, 23 hours)
- Falls Village, exhibit for symposium and workshop; Nelson (130 attendees)
- Falls Village, presentation, Housatonic Valley Regional High School Envirothon; Zetterstrom and Allyn (on behalf of the Elm Watch Invasive Initiative)
- Farmington, Science Olympiad proctoring; Bugbee and Cavadini (35 participants, 16 hours)
- Goshen, exhibit for town fair; Nelson (3 days)
- Granby, exhibit, Connecticut Nursery and Landscape Association Summer Symposium Day; Ellis and Brennan (300 attendees, 16 hours)
- Grand Rapids, MI, award recipient for invasive plant article; Bugbee
- Hamden, exhibit, Plant Science Day, The Connecticut Agricultural Experiment Station; Ellis (1,183 attendees, 8 hours)
- Hampton, workshop, Robinson (8 participants, 2 hours)
- Hartford, exhibit, Connecticut Flower and Garden Show; 20 volunteers worked 51 hours (30,000 attendees)
- Hartford and Storrs, administrative support for Invasive Plant Council meetings; Ellis (9 members, 50 hours, multiple days)
- Hartford, poster presentation; Graves (200 attendees)
- Hartford, presentation; Bugbee (12 attendees)
- Litchfield, guided tour; Ward (31 participants)
- Litchfield, presentation; Ward, Barsky, and Massa (18 attendees)
- Litchfield and Norfolk, 2 training workshops; Moorhead (9 participants, 27 hours)
- Madison, exhibit for Earth Day; French and Weissbach-Licht (34 attendees, 10 hours)
- Madison, WI, poster presentation at national convention; Ward
- Manchester, consultation; Ward and Barsky (4 participants)
- Middlefield, workshop; Robinson (8 participants, 2 hours)
- Middlefield, workshop; Zetterstrom
- Middletown, management activities; Hall (160 participants, 50 hours, multiple days)
- Milford, consultation; Ward (2 participants)
- Milford, presentation; Sirch (25 attendees, 3 hours)
- Millerton, NY, management activities; Nelson
- New Fairfield, exhibit for opening day event; Nelson (200 attendees, 8 hours)
- New Haven, presentation; Bugbee (50 attendees)
- New Haven, presentation; Dreyer (50 attendees)

- New Haven, presentation; Ellis and Cheah (60 attendees)
- New Haven, presentation, Saunders (8 attendees)
- New Haven, training; Lee (40 participants, 5 hours)
- New London, presentation; Bugbee (40 attendees)
- New London, presentation; Dreyer (12 attendees)
- New Milford, exhibit for local fair; Nelson (16 hours, 2 days)
- New Milford, 12 management activities; Nelson (2 participants, 39 hours, multiple days at 14 properties)
- New Milford, presentation; Bugbee and Fanzutti (14 attendees)
- New Milford and Bridgewater, management activities; Nelson (9 participants, 22 hours, 2 days)
- Niantic, workshop; Ellis (105 participants, 53 hours)
- North Branford, guided tour; Ward (4 participants)
- North Canaan, 3 management activities; Zetterstrom and Allyn (on behalf of the Elm Watch Invasive Initiative) (3 days)
- North Guilford, presentation; Bugbee (30 attendees)
- Norwich, presentation; Bugbee and Fanzutti (35 attendees)
- Norwich, training; Lee (35 participants, 5 hours)
- Philadelphia, PA, presentation, Northeastern Plant, Pest, and Soils Conference; Ellis (60 attendees)
- Plantsville, exhibit, Connecticut Nursery and Landscape Association Winter Symposium and Expo; Ellis (250 attendees, 8 hours)
- Plantsville, presentation, Connecticut Nursery and Landscape Association Winter Symposium and Expo; Ellis (100 attendees)
- Redding, consultation; Williams (2 participants)
- Rockfall, workshop; Zetterstrom (on behalf of the Elm Watch Invasive Initiative)
- Rocky Hill, presentation, Connecticut Association of Conservation and Inland Wetlands Commissions Annual Conference; Hiskes (73 attendees)
- Roxbury, exhibit for local fair, Nelson (150 attendees, 4 hours)
- Roxbury, 4 management activities; Nelson (2 participants, 18 hours, multiple days at 6 properties)
- Salisbury, management activities; Zetterstrom (on behalf of the Elm Watch Invasive Initiative)
- Salisbury, workshop; Zetterstrom (on behalf of the Elm Watch Invasive Initiative)
- Sharon, presentation; Zetterstrom (on behalf of the Elm Watch Invasive Initiative)
- Sharon, student orientation; Zetterstrom and Allyn (on behalf of the Elm Watch Invasive Initiative)
- Simsbury, 2 management activities; Rieger (8 participants, 16 hours)
- Simsbury, presentation; Hiskes (14 attendees)
- Southbury, presentation and poster, Connecticut Association of Wetland Scientists Annual Meeting; Evans (215 attendees, 3 hours)
- Springfield, MA, presentation; Williams (50 attendees)
- Stamford, 30 management activities; McCann and Piselli, Mill River Park Collaborative (800 participants; 2,025 hours)
- Stamford, training; Lee (26 participants, 5 hours)
- Statewide, 2 invasive plant publications; Rowlands
- Statewide, mentoring for UConn undergraduate students and a high school student; Ellis (4 participants, 400 hours, multiple days)
- Storrs, CIPWG Symposium; 29 speakers and moderators, 10 poster presenters, 9 exhibitors, and 20 staff (490 attendees/participants, 3,920 hours)
- Storrs, demonstration, CIPWG Symposium; Bugbee and Fanzutti (490 participants, 6 hours)

- Storrs, exhibit, UConn Garden Conference; Ellis (150 attendees)
- Storrs, exhibit, UConn Sustainable Landscape Conference; Ellis (187 attendees)
- Storrs, presentation; Bugbee (25 attendees)
- Storrs, presentation; Ellis (20 attendees)
- Tolland, presentation; Ellis (60 attendees)
- Tolland, presentation; Ward (33 attendees)
- Torrington, training; Lee (30 participants, 5 hours)
- Various locations, mile-a-minute weed biological control project, 26 release and monitoring sites visited in CT; Cheah, Ellis, Nelson, Varricchio (4 participants, 736 hours, multiple days)
- Various locations, purple loosestrife biological control project, 13 release and monitoring sites visited in CT; Ellis (50 hours, multiple days)
- Various locations, research; Moorhead (5 participants, 20 hours)
- Vernon, presentation; Hiskes (44 attendees)
- Vernon, training; Lee (32 participants, 5 hours)
- Wallingford, 15 management activities, Saunders (34 participants, 180 hours)
- Wallingford, research; Smith (multiple days)
- Washington, guided tour; Ellis (15 participants, 50 hours)
- West Hartford, guided tour; Ellis (17 participants, 40 hours)
- West Hartford, presentation; Williams (60 attendees)
- Weston, 12 management activities; Brodlie (on behalf of the Aspetuck Land Trust) (74 participants, 41 hours)
- Westport, consultation; Ward and Massa (3 participants)
- Westport, 8 management activities; Brodlie (on behalf of the Aspetuck Land Trust) (40 participants, 33 hours)
- Windsor, guided tour; Robinson (6 participants, 2 hours)
- Windsor and Storrs, CIPWG Symposium Planning Committee, 13 meetings; Ellis and Picone (Committee Co-chairs) (20 members, 800 hours, multiple days)
- Woodstock, 2 exhibits for town fairs; Lee (950 attendees, 38 hours, 5 days)

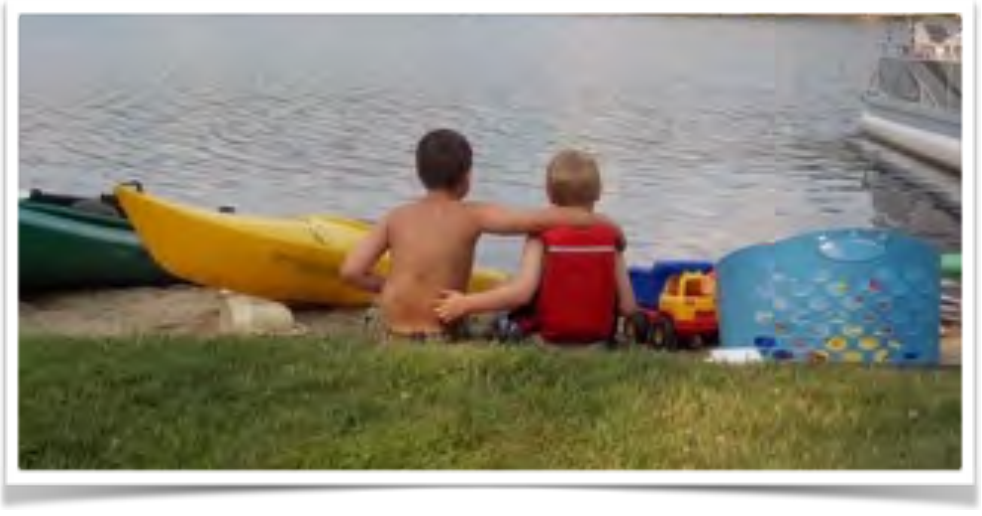
Submitted by Donna Ellis (UConn Department of Plant Science and Landscape Architecture; CIPWG Co-chair), with contributions from many other CIPWG members included above.

20 December 2016

East Haddam Lakes Association (EHLA)
2016 – 2017 Fiscal Year
Budget Request

"A Healthy Ecology is the Basis for a Healthy Economy"
~Claudine Schneider

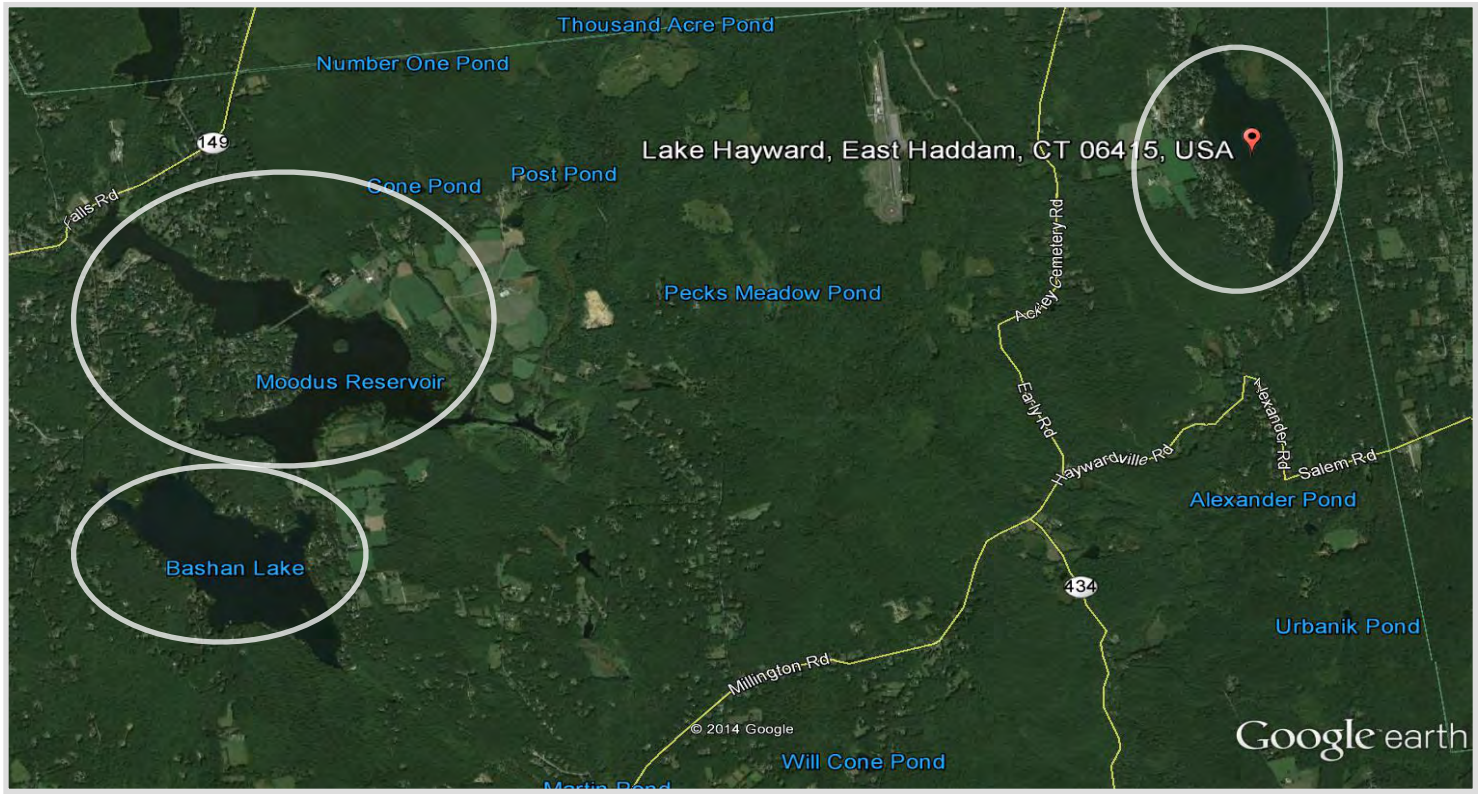
Table of Contents



East Haddam's 3 Lakes

Bashan Lake	273 acres	35 MPH limit
Lake Hayward	174 acres	No internal combustion engines permitted
Moodus Reservoir	486 acres	35 MPH limit

State Boat Launches at All 3 Lakes



Lakes *Are Critical* to East Haddam

East Haddam's lakes are environmental, recreational, tourism and economic assets.

This document:

- Defines the economic value of Bashan Lake, Lake Hayward and Moodus Reservoir;
- Highlights key problems facing the lakes and lake community homeowners;
- Requests Town financial support consistent with maintaining lake values and addressing problems.

I. Economic Value of East Haddam's Lakes

Lakes are a significant component of East Haddam's Grand List and tax revenue!

Why is lake protection important?

Poor lake water quality leads to decline in taxable real estate values resulting in upward pressure on the mill rate and/or decreased municipal expenditures/services.

Grand List / Tax Revenue

- Properties in lake zones represent almost 20% of the Real Estate Grand List and over 17% of the Total Grand List
- Commercial and industrial properties are less than 5% of the Total Grand List

Lake Zone Real Estate

Lake	#	Grand List	% of R/E Grand List	% of Total Grand List
Bashan	298	$40,792,910	5.35%	4.78%
Hayward	729	60,090,460	7.89%	7.05%
Moodus	582	47,176,010	6.19%	5.53%
TOTAL	**1,609**	**$148,059,380**	**19.43%**	**17.36%**

Based on Grand List as of April 1, 2015	
Real Estate	$761,963,239
Motor Vehicle	70,094,310
Personal Property	20,698,465
Total	$852,756,014

Economic Value Conclusions

1. East Haddam's lakes are a tremendous economic multiplier for the Town!

2. As documented in a 1999 UCONN study, the economic value of lakes is dependent on their being attractive places to live and vacation.*

3. Unless the lakes are being maintained and protected, East Haddam stands to lose a sizable portion of its tax base and local spending by lake residents.

4. No educational cost is incurred by the Town (65% +/- of overall Town budget) for children of seasonal residents. Seasonal properties comprise approximately 70% of all lake zone properties.

* 1999 Economic Study conducted by UCONN and the CT DEP entitled *How Much Is a Lake Worth To You (*http://www.coventryct.org/DocumentCenter/View/518). Corroborated by 1998 study by CT DEP entitled *Economic Evaluation of Connecticut Lakes With Alternative Water Quality Levels,* 2003 study by Bemidji State University in Minnesota entitled *Lakeshore Property Values and Water Quality,* and a 1996 Report by the Maine Agricultural Experiment Station entitled *Water Quality Affects Property Prices*.

II. Threats to Economic Value of Lakes and Lake Properties

- Invasive aquatic species (existing and potential: fanwort, milfoil, Brazilian water weed, hydrilla, zebra mussels and … what's next?) and excessive algal blooms
- Storm water runoff/erosion from private/municipal sources
- Introduction of invasive species to the lakes by public boat launch users with no "stake" in lake health/survival

Fanwort at Lake Hayward

Threats to Economic Value of Lakes and Lake Properties (con't.)

- Nonpoint source pollution (poorly functioning septic systems, fertilizers, pesticides, detergents)
- Reduction of lakefront native plant buffers
- Lack of understanding by residents of owner responsibilities
- Over development or out of character development
- Projects that affect lake ecology (i.e. dam repair)

Catch basin mapping

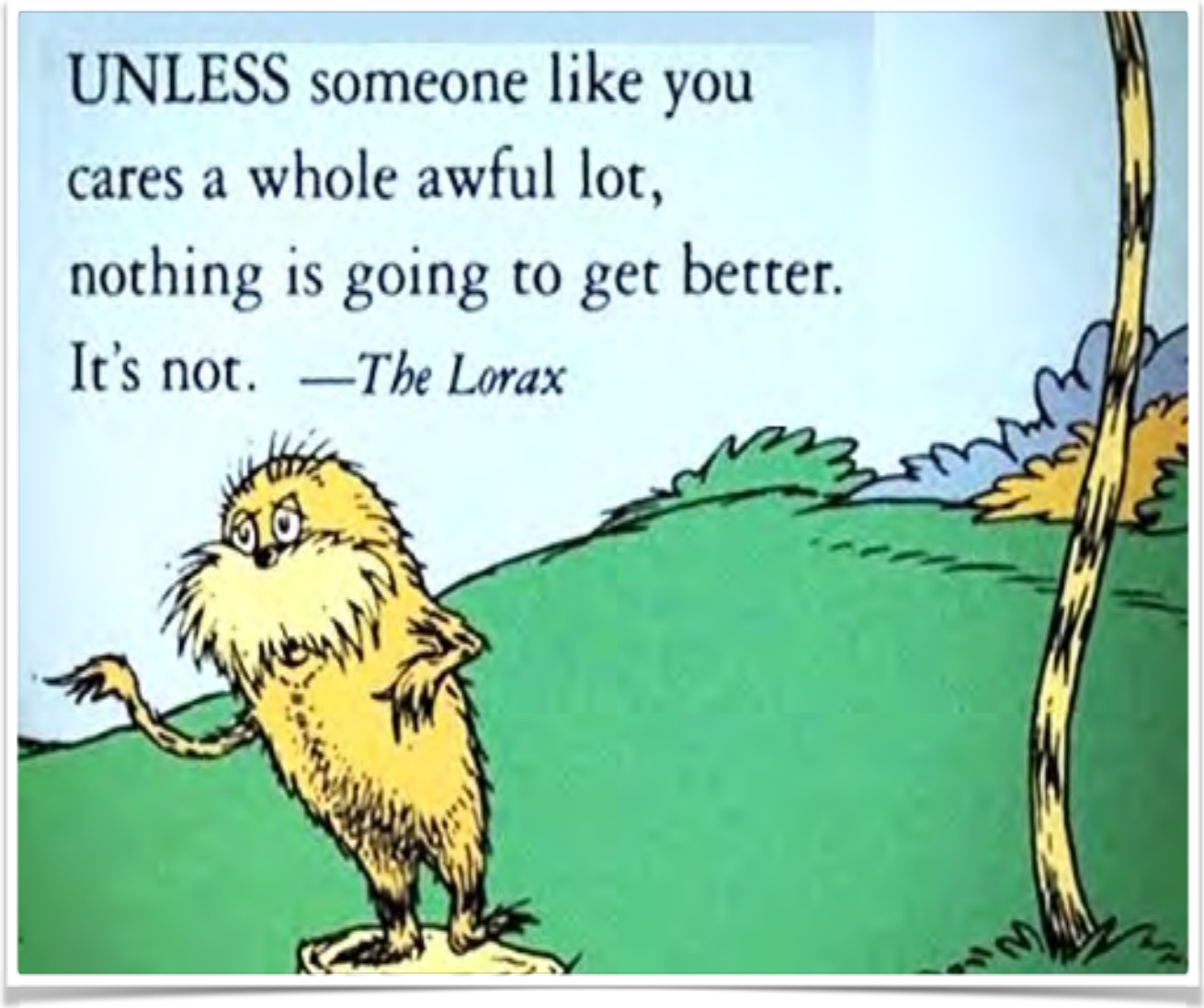
III. Role of the Town

To protect the economic value generated by the lakes, the Town should financially support:

- Mitigation and elimination of invasive species in the lakes and their watersheds;
- Boat launch monitors;
- Monitoring for sources of pollution (septics, nonpoint sources, storm water runoff);
- Education and outreach for lake property owners and other stakeholders concerning environmental best management practices:
  - Low impact development
  - Storm water management
  - Erosion control

Role of the Town (con't)

  - Septic system maintenance and repair (Chatham Health District)
  - Responsible landscaping and riparian buffers
  - Reduce impervious surface cover/promote pervious surface cover
  - Control/eradication of invasive species
  - Impact of the use of fertilizers, pesticides, detergents etc.;
- Preservation of open space in watersheds;
- Ensuring all onsite septic systems in lake watersheds function properly to protect ground, well and lake water (Chatham Health District);
- Ensuring all new projects in lake watersheds and maintenance of existing storm water facilities use best practices (conform to CT Stormwater Quality Manual –2004 http://www.ct.gov/deep/lib/deep/water_regulating_and_discharges/stormwater/manual/Table_of_Contents.pdf).


UNLESS someone like you
cares a whole awful lot,
nothing is going to get better.
It's not. —*The Lorax*

IV. EHLA Budget Request

Basis for Request

- Based on the 1999 Economic Study conducted by UCONN and the CT DEP (funded by the U.S. EPA's Clean Lakes Program) entitled *How Much Is a Lake Worth To You*:
  - If water quality issues are ignored, tax revenue from the lakes will decrease in direct relation to the deteriorating water quality of the lakes; and
  - If water quality drops to the point where it is unsafe to swim and/or eat fish caught in the lake, lake property values will drop in the range of 36% - 43%.

Budget Request (con't)

Impact of water quality decrease on town property tax revenues

In East Haddam the *financial relationship of water quality to tax revenue is in the range of $1.53M – $1.83M, or 7.0% – 8.3% of annual town property tax revenue!*

"Landscaping for a Better Lake" presented by Kathy Connolly on July 25, 2015

Total lake taxes are > than 3 times the taxes from businesses.

Primary Budget Request Components

- Lake Restoration

  Includes professional herbicide treatment of aquatic invasive plants.

- Phragmites/Other Weed Mitigation

  Includes professional mitigation of phragmites and other weeds emanating from 2014-2015 dam repair by State of CT/DEEP.

- Aquatic Plant Monitoring

  Periodic professional monitoring of invasive weed growth/regrowth, evaluation of prior herbicide and mechanical weed treatment/removal operations and levels of bacteria and certain other elements in the lakes. Necessary to determine further treatments required. Inspections to determine the presence of algal blooms, especially the toxic blue-green algal blooms.

- Public Education

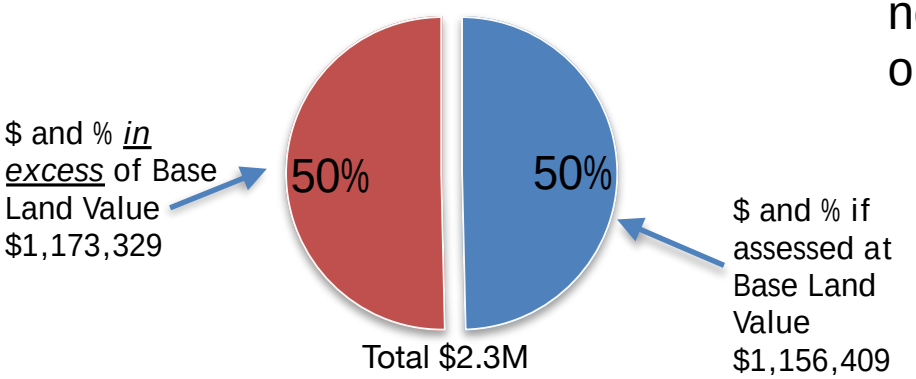
  Education of lake and area residents on topics such as aquatic invasive species, septic regulations and pumping, lake buffer planting, drainage practices and the negative effects of chemical lawn and yard products. Dissemination of this information is through in-person presentations, newsletters (hard copy and email) and websites.

EHLA Budget Request 2016 - 2017

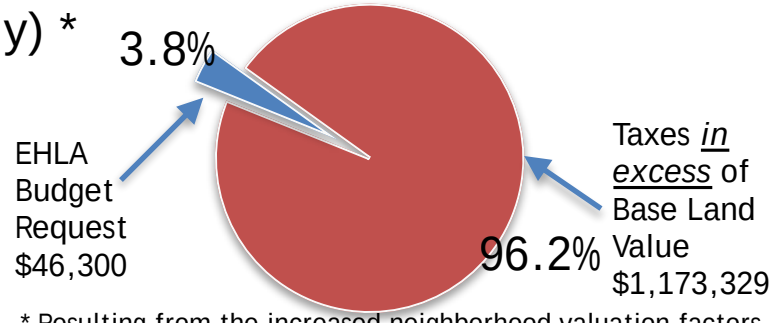
	Bashan Lake		Lake Hayward		Moodus Reservoir		Total	
Expense	**Projected Expense**	**Requested from Town**	**Projected Expense**	**Requested from Town**	**Projected Expense**	**Requested from Town**	**Projected Expense**	**Requested from Town**
Lake Restoration	$3,000	$1,500	$15,250	$7,625	$20,000	$10,000	$38,250	$19,125
Phragmites/other weed mitigation	40,000	20,000					40,000	20,000
Aquatic Plant Monitoring	1,500	750	3,500	1,750	2,000	1,000	7,000	3,500
Lake Water Monitoring			350	175			350	175
Public Education	250	125	4,000	2,000	250	125	4,500	2,250
Benthic Barriers					2,500	1,250	2,500	1,250
Total	$44,750	**$22,375**	$23,100	**$11,550**	$24,750	**$12,375**	**$92,600**	**$46,300**

It's Only a Sliver …

EH Lake Neighborhoods Property Tax Revenue (Land Only)



EHLA Budget Request is only a sliver (3.8%) of the *INCREMENTAL* lake neighborhoods property taxes (Land only) *



* Resulting from the increased neighborhood valuation factors

LAKE ZONED PROPERTY TAXES COMPARED TO BASE VALUE TAXES - LAND ONLY - 2015 data - 28.68 mils

	Valuation Factor	Land - Assessed	Property Taxes (28.68 mils)	Base Land Value	Property Taxes @ Base Land Value
BASHAN LAKE WF *	3.60	$18,888,440	$541,720	$5,246,789	$146,385
BASHAN LAKE LZ **	2.00	6,041,490	$173,270	3,020,745	84,279
LAKE HAYWARD WF *	3.10	13,412,500	$384,671	4,326,613	120,713
LAKE HAYWARD LZ **	1.25	18,816,280	$539,651	15,053,024	419,979
MOODUS RESERVOIR WF *	2.50	14,446,170	$414,316	5,778,468	161,219
MOODUS RESERVOIR LZ **	1.20	9,627,250	$276,110	8,022,708	223,834
TOTAL		**$81,232,130**	**$2,329,737**	**$41,448,347**	**$1,156,409**
Base Land Value Property Taxes			**$ (1,156,409)**		
Lake Zoned Property Taxes Exceed Base Land Value By			**$1,173,329**		

***WF = Waterfront land only** ****LZ = Other lake zoned property land only**

***** Base Land Value** is the "base" or "average" land rate for East Haddam per the East Haddam Valuation Parameters (10/01/12). Positive or negative neighborhood adjustments (Valuation Factors) are made to this base corresponding to the degree of difference from the base.

V. 2015 - 2016 Accomplishments

	Objectives	Success in meeting objective		Other 2015-2016 Accomplishments/ Achievements
Bashan Lake	1. While the water is down due to dam repair, have CAES do a comprehensive mapping of Bashan Lake so that we will be able to identify and treat to achieve a significant reduction in the milfoil and fanwort weed beds	1. CT Agricultural Experiment Station (Greg Bugbee) did mapping of Bashan Lake's milfoil and fanwort, along with a herbicide treatment, in Oct. 2015.		
	2. Continue to encourage all lake waterfront property owners and lake associations to muck out and remove debris as permitted by the Inland Wetlands and Watercourses Commission	2. Much of the litter and debris was picked up by waterfront homeowners. There was minimal muckout done because there was no access for vehicles to remove it.		
	3. Continue water sampling for coliform indicator bacteria at 4 beaches and 3 stream inlets	3. Due to the drought-like conditions, the beaches and streams were dry, so there was no water sampling done.		
	4. Continue Secchi dsk measurements	4. Due to the dry coves, there was no way to reach the Secchi disk measurement site.		
	5. Continue to work with DEEP, the CT Federation of Lakes and state representatives on lake initiatives (e.g. weed control, launch monitors, gas road tax etc.)	5. Significant work done with State Rep. Ziobron, East Haddam officials, CT DEEP, and CT Federation of Lakes focused on problems emanating from Bashan Lake's 2014-2015 dam repair.		

2015 - 2016 Accomplishments (con't)

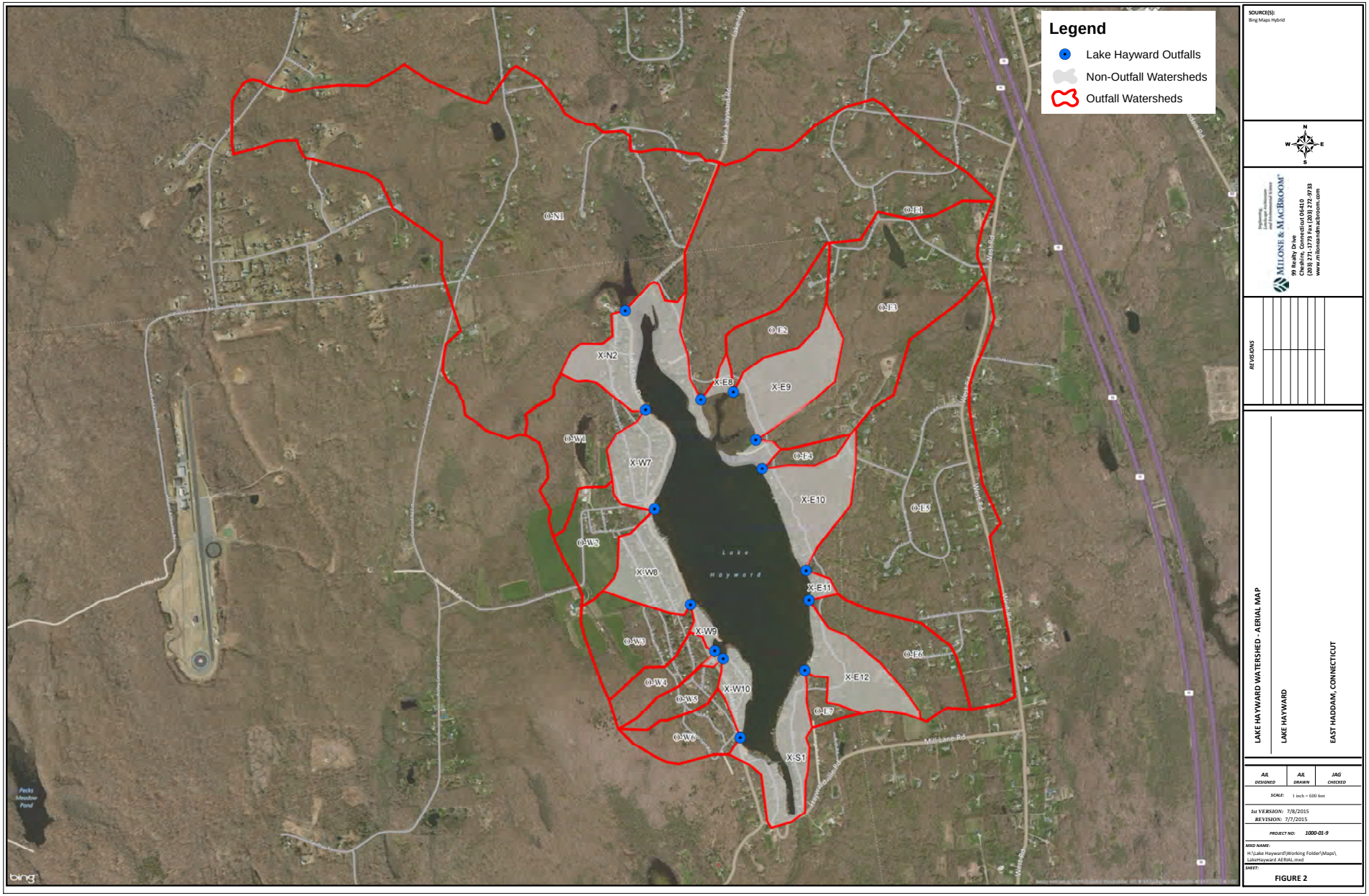
	Objectives	Success in meeting objective		Other 2015-2016 Accomplishments/ Achievements
Lake Hayward	1. Maintain ongoing invasive aquatic weed mitigation program	Spot treatments performed to mitigate milfoil and fanwort. Posted weed mitigation report on POALH website. 2016 treatment scheduled June 2016.		I. In July 2015 the Lake Quality Improvement Committee presented the Watershed Management Plan to the Lake Hayward community. 2. Kathy Connolly, landscape designer, presented "Landscaping for a Better Lake" on July 25, 2015 to the East Haddam lake community. 3. Successful completion of CT DEEP AIS Grant. 4. Published the first East Shore seasonal newsletter. 5. Commenced bi-weekly secchi disk measurements.
	2. Continue development of Lake Hayward Watershed and Lake Management Plan	Wesleyan Environmental Geochemistry and GIS classes performed lake studies in Fall 2015 (see slide 21). Completed west side GIS mapping for catch basins and outfalls (slide 22), and east side is in process.		
	3. Determine implementation process, and implement as feasible, testing of water for phosphorus, nitrogen and chlorophyll	Implemented regular monitoring by volunteers taking samples and UCONN analyzing samples for Total Phosphorus and Chlorophyll a.		
	4. Continue weekly in-season newsletters	Educational articles published in weekly in-season newsletters and electronic newsletters published throughout the year.		
	5. Continue to screen for E.coli bacteria	Regular bacteria screening occurred during Spring and Summer		

2015 - 2016 Accomplishments (con't)

	Objectives	Success in meeting objective		Other 2015-2016 Accomplishments/ Achievements
Moodus Reservoir (MRPG)	1. Continue to expand membership	Membership remained flat at 48 members from FYE 2014 to 2015.		
	2. Finalize the initial weed treatment pilot	While the actual weed treatment occurred in August 2015, preparations took place in FYE 2015 for a 25 acre application.		
	3. Evaluate and publish treatment trial results (mechanical and chemical)	Northeast Aquatic Research conducted both pre and post application surveys and provided a white paper to MRPG for review.		
	4. Expand matching grant fundraiser efforts	During FYE 6/30/15 grants totaling $16,300 were received from Town of East Haddam, State of Connecticut, Environmental Professionals of Connecticut, and an anonymous donor.		
	5. Continue to manage relationships wth CT DEEP and CAES	Favorable relationships continue with both departments as evidenced by their participation along with the Town and MRPG at a Public Hearing conducted in July 2015.		
	6. Continue to pursue water drawdowns	Efforts were made to request the State to allow drawdowns but the State will not allow such actions.		
	7. Work with the Town to implement a boat launch monitoring program	The First Selectman has implemented actions from the Animal Control Officer to spot check the launches and monitor boaters bringing in or removing invasive weeds to / from the lake.		
	8. Expand MRPG visibility via local newsletter and local publication articles	MRPG continues to publish articles in the various Town periodicals. A Facebook page and website have been created.		

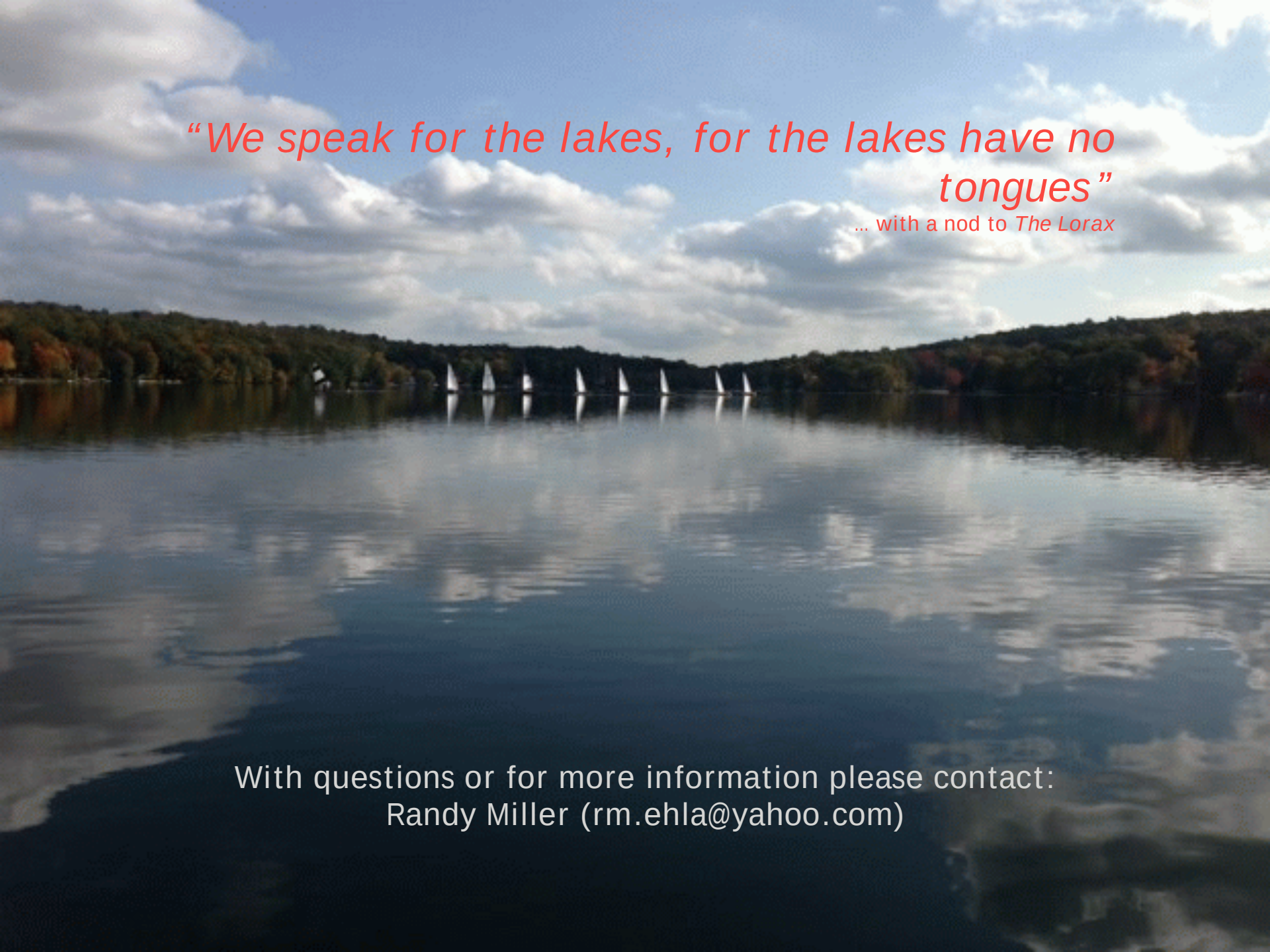
Wesleyan Environmental Geochemistry Class
Fall 2015

Lake Hayward Sub Watershed Map



VI. 2016 – 2017 Goals and Objectives

Bashan Lake	1. Place No Parking signs at the end of the State boat launch on East Haddam Town Rd. so it can be monitored by the town
	2. Resume water sampling of streams and beaches
	3. Resume Secchi Disk measurements
	4. Resume mapping of milfoil and fanwort, along with herbicide treatments to these weeds
	5. Control and eliminate Phragmites and other weeds in the shallow areas due to the drawdown
	6. Work with the Town to provide boat launch monitors for the State boat launch
Lake Hayward	1. Maintain ongoing invasive aquatic weed mitigation program
	2. Continue bi-weekly secchi disk measurements
	3. Continue to survey and monitor invasive aquatic plants
	4. Continue development of Lake Hayward Watershed and Lake Management Plan
	5. Continue monitoring program for total phosphorus and chlorophyll a
	6. Continue weekly in-season newsletters
	7. Continue East Shore seasonal newsletter
	8. Continue to screen for bacteria
	9. Investigate use of hand-held water quality monitoring instrument
	10. Investigate measuring dissolved oxygen
	11. Work with the Town to provide boat launch monitors for the State boat launch
Moodus Reservoir	1. Continue efforts to expand Moodus Reservoir Preservation Group membership
	2. Continue publishing articles / newsletters to inform the Town residents of MRPG's efforts / goals
	3 . Begin development of a Lake Management Plan
	4. Continue grant application and other fund raising efforts
	5. Based on the success of the 2015 pilot herbicide application, research target area(s) for a 2016 herbicide application
	6. Manufacture and test Benthic Barriers as another method of weed remediation in the lake. After determining effectiveness, consider selling barriers to lakefront owners around Moodus Reservoir
	7. Work with the town to provide boat launch monitors for the two State boat launches



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