Roxanne Maher

From:	Lantern Hill Valley Association <thelhva@gmail.com>
Sent:	Monday, July 15, 2024 9:08 AM
To:	Attorney General William Tong; Catherine Osten; Senator Heather Somers; Commissioner Katie Dykes, CT DEEP; Representative Greg Howard; Representative, Brian Lanoue; Representative, Kevin Ryan; Aundré Bumgardner; Representative Christine Palm; Director PETER FRANCIS, CT DEEPBoating Division; Adminstrator Edith Pestana, Dept Environmental Justice; Fred Allyn, III; First Selectman Bob Carlson; Town Council Group; Brett Mastroianni, NS Board of Selectmen; Nicole Porter, NS Board of Selectmen; Michael E. Marelli; NS Conservation Commission, Bill Ricker, Chair; President James Fischer, CT Federation of Lakes; James Fischer
Cc:	David Keehn; Graham Betsy; johnrodolico@gmail.com; Lisa Brownell; Debby Keehn; Robert G Graham; Sandy Fedors; Steve Fagin; Terry Fedors; Warren Speh
Subject:	Lantern Hill Valley Alliance support request
Attachments:	Unique strain of worst water weed 'known to man' set for treatment at Selden Cove.pdf; HC 7_8_24_Scientists gear up for CT fight against terrible weed.pdf

From: Lantern Hill Valley Alliance,
Betsy Graham, Secretary,
c/o 72A Long Pond Rd S, Ledyard, CT 06339;
c860-608-5620; TheLHVA@gmail.com,
July 15, 2024

TO: Connecticut Governor Ned Lamont; Attorney General William Tong; Senator Cathy Osten; Senator Heather Somers; Commissioner Katie Dikes, CT DEEP; Representative Greg Howard; Representative Brian Lanoue; Representative Kevin Ryan; Representative Aundré Bumgardner; Representative Christine Palm; Director Peter Francis, CT DEEP Boating Division; Administrator Edith Pestana, CT DEEP Environmental Justice; Mayor Fred Allyn III, Ledyard; First Selectman Bob Carlson, North Stonington; Ledyard Town Council; North Stonington Board of Selectmen; Ledyard Conservation Commission; North Stonington Conservation Commission; James Fischer, President, Connecticut Federation of Lakes:

Hello Everyone, and thank you each for your time,

The Lantern Hill Valley Alliance (LHVA), previously known as the Lantern Hill Valley Association, is writing to stress the need for both the towns of Ledyard and North Stonington and the State of Connecticut to recognize the severity of the threat posed to our local lakes and streams by the recent invasive aquatic plant Connecticut River hydrilla (hydrilla verticillata). I've attached copies of recent articles from The Day and Hartford Courant explaining why this threat must be taken seriously.

The LHVA is asking our towns and the State of Connecticut to prioritize funding support to safeguard these critical water resources in Lantern Hill Valley: Lantern Hill Pond, Long Pond, and Bush Pond. Since Connecticut State does not have a mandatory boat launch inspection program, it relies on locally organized programs, many of which are volunteer-based. While the LHVA is willing to coordinate and participate in this program, as a small volunteer-based organization, a core base of paid staff is essential to ensure adequate and reliable staffing of boat launch monitors. Most volunteer-based lake organizations cannot self-fund this program.

The financial support of the towns and the State of Connecticut is an invaluable investment in supporting prevention measures such as a boat launch stewardship program, educational materials, and public engagement, which are essential in reducing the risk of introducing Hydrilla into the water bodies. Preventing hydrilla from getting established is far less expensive than the cost of long-term treatment and potential economic losses. Hydrilla has been found just five miles away, posing a significant threat to the shared and regional water resources of Ledyard and North Stonington.

Education is crucial in protecting our water resources as many people who use them are unaware of the threats posed by aquatic invasive species (AIS), such as plants and animals. We need to inform our fellow citizens about this issue. The Connecticut River Conservancy has comprehensive information and resources about the ongoing battle against hydrilla.

The costs of combating hydrilla in the Connecticut River are already staggering, with millions of dollars spent researching the biology and management of this strain of hydrilla and the economic losses its presence has created. This hydrilla's behavior is markedly different from the two other hydrilla strains that have been here for years. Connecticut River Hydrilla has spread over 70 miles and almost 800 acres of the Connecticut River in just over six years. It has been transported to over a half dozen lakes from the Connecticut River, establishing new colonies. Hydrilla spreads through fragmentation, as do other invasive plants such as fanwort and watermilfoil. However, it is a significantly more aggressively growing plant. Each of its numerous shoots can grow more than an inch a day! This rapid growth creates a vast blanket under and over the water, blocking sunlight from other plants, decreasing oxygen levels needed for life, killing native plants and other aquatic life, and destroying the lake's ecosystem by smothering the lake. It can grow in depths of up to thirty feet, is hardy for hours out of water, and is easily transported by boating and fishing gear to another location.

The Connecticut State Agriculture Office of Aquatic Invasive Species (OAIS) has prioritized the Connecticut River hydrilla because it is a significant environmental threat to the health of all freshwater bodies and their plant and animal life. Along with monitoring waterbodies, the OAIS's mission is to educate the public about all invasive plants and animals and how to prevent their spread. The OAIS staff is willing to provide presentations upon request.

LHVA members are pleased that so many people – not just those who live around the lakes – take advantage of the state boat launches on Lantern Hill Pond and Long Pond to enjoy kayaking, fishing, and swimming. These ponds are not private waters but vital public recreational resources. The presence of a CT DEEP-certified boat launch monitor staff will go a long way in deterring the introduction of invasive plant and animal hitchhikers. Our volunteer-based lake organization cannot self-fund this program.

We understand that this is a statewide issue. Our organization aims to participate in a prevention program rather than dealing with the problem of hydrilla infestation. Long and Bush Ponds are home to over 100 homes, and the Eastern Pequot Tribal Nation reservation, which uses the ponds for fishing, borders the east shores. Protecting these water resources for the well-being of Southeast Connecticut residents, the general public, and future Connecticut citizens is essential.

We invite everyone to share their ideas and suggestions for a collective endeavor to safeguard our communities and the state's water resources. We understand it is not feasible to implement a plan for the 2024 boating season. We would like to ask you to respond within the next few weeks to kickstart a cooperative effort for a practical Boat Launch Invasive Management plan for the 2025 boating season.

With regards,

Betsy Graham,
Secretary, Lantern Hill Valley Alliance, Inc.

Lantern Hill Valley Alliance, Inc
% Betsy Graham, Secretary
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The Day

Local News

Wednesday, July 10, 2024

Unique strain of worst water weed 'known to man' set for treatment at Selden Cove

Mark Bellaud, a biologist and applicator with Solitude Lake Management, applies rhodamine dye, a nontoxic red dye, to Selden Cove in Lyme, Tuesday, Aug. 29, 2023, to study how best to apply the pesticide to eradicate the invasive aquatic weed hydrilla from the cove. (Dana Jensen/The Day file photo)

July 09, 2024 5:33 pm • Last Updated: July 10, 2024 6:43 am

By **Elizabeth Regan**
Day Staff Writer

e.regan@theday.com (mailto:e.regan@theday.com)

Lyme — In a state that's been described as ground zero for a unique strain of the pernicious aquatic weed known as hydrilla verticillata, Selden Cove remains on the front lines of efforts to better understand and eradicate the threat.

Jeremiah Foley IV, an assistant agricultural scientist with the Connecticut Agricultural Experiment Station, said contractors with Massachusetts-based SOLitude Lake Management will apply an herbicide treatment to Selden Cove and four other sites on the lower Connecticut River starting in late July through early August.

The hydrilla strain was first discovered in the Connecticut River in 2016, according to a study by Foley and his colleagues on the spread of the weed. By 2021, the northern strain was found in over 70 miles of the Connecticut River.

Foley emphasized this new strain of hydrilla is uncharted territory. That's because it's genetically distinct from other known subspecies.

"We've got to write the book of knowledge on what the biology of this plant is, and the types of management that are going to be used," he said.

The dense mats of vegetation — decried by U.S. Sen. Richard Blumenthal, D-Conn., at a June press conference as "the worst invasive aquatic species known to man" — have rendered the cove impassable during late summer for the past several years, according to residents. Power boating, fishing and swimming have fallen victim to the invasion.

Hydrilla degrades water quality, chokes out native plant species and can destroy the habitat for migratory fish like shad and herring, according to the Connecticut River Conservatory.

The Connecticut River Hydrilla project, overseen by the U.S. Army Corps of Engineers in partnership with the Connecticut Agricultural Experiment Station and the Lower Connecticut River Valley Council of Governments, is intended to determine which herbicides — and in what quantities — will best control the spread. All herbicides being used are registered for aquatic use by the U.S. Environmental Protection Agency.

Foley said the most appropriate herbicides and how they're administered will vary in locations ranging from Portland Boat Works on the main trunk of the river to areas like Selden Cove, where the freshwater gets closer to the sea.

Last year, the cove briefly ran red as an airboat commissioned by the Army corps pumped **fluorescent rhodamine dye (https://www.theday.com/local-news/20230829/lyme-%e2%80%95-an-airboat-more-commonly-associated-with-the-florida-everglades-was-in-selden-cove-tuesday-as/)** through hoses into the weed-choked cove to mimic the flow of herbicide. The length of time the colorant remained in the water helped determine the concentrations that would attack hydrilla without risking beneficial native plants such as eel grass, coontail and pickerel weed.

Foley said the cove will be treated with dipotassium of endothall, which he identified as one of roughly a dozen aquatic herbicides approved for use by the U.S. Environmental Protection Agency. Several state and federal permits are required to ensure the project does not negatively affect wildlife and native plants.

According to the state Department of Energy and Environmental Protection's Nuisance Aquatic Vegetation Management manual, the chemical does not have any apparent short-term effects on fish and has no significant adverse effects on aquatic invertebrates.

Questions of hydrilla and climate change

Among the little-understood aspects of this unique hydrilla plant is one that could contribute to global warming if left unchecked, according to Foley.

He said work by Michigan State University biochemistry professor Kelly Aho revealed the northern hydrilla is able to thrive in areas where native plants aren't as successful, such as parts of the Connecticut River where the weathering of rocks produces carbon in the form of bicarbonate rather than the carbon dioxide typical in water systems.

Data so far indicates hydrilla is "tremendously" able to use bicarbonate in a way most native plants can't, Foley said. The bicarbonate is absorbed into the hydrilla, which grows all season and then dies out before releasing bicarbonate as carbon dioxide through decomposition.

He said a grant from the National Science Foundation for $190,000 will allow Michigan State University and the Connecticut Agricultural Experiment Station to capitalize on the Army Corps herbicide study by looking at the effect hydrilla is having on the carbon cycle. Monitoring stations will document carbon dioxide and bicarbonate levels at sites

treated with herbicides and sites that have not been treated.

"Our hypothesis is the quicker we treat hydrilla, the quicker we can get ahead of it before it starts to alter the carbon cycle that much more and contribute to climate change," he said.

The experiment station is also hoping to benefit from the $5 million in funding in the 2024 federal budget to address hydrilla infestations in Lake Champlain and the Connecticut River.

Environmental advocates have cited the strain's arrival in water bodies outside of the Connecticut River — including Amos Lake in Preston and Lake Pocotopaug in East Hampton — as evidence of the urgent need to get the situation under control.

Hydrilla can spread to other water bodies on boats if the vessels aren't properly cleaned, drained and dried before being placed in the water.

"Make sure as a hobbyist lobbyist to clean, drain and dry your boat," Foley said. "It's up to the public to prevent the spread of this plant. Preventing that establishment is a lot cheaper than actually treating an established population."

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Unique strain of worst water weed 'known to man' set for treatment at Selden Cove
Lyme — In a state that's been described as ground zero for a unique strain of the pernicious aquatic weed known as hydrilla verticillata, Selden Cove remains on the front lines of efforts to better un...
(https://www.theday.com/local-news/20240709/unique-strain-of-worst-water-weed-known-to-man-set-for-treatment-at-selden-cove/)

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'Custodians' of the past: Montville flea market vendors peddle memories

Montville — Hillery Errett, a vendor at a Sunday flea market in the parking lot of the PAST Antiques Marketplace, said she appreciates how flea markets can bring out customers' memories. "Like they'll...

(https://www.theday.com/local-news/20240707/custodians-of-the-past-montville-flea-market-vendors-peddle-memories/)

SUBSCRIBER ONLY

Saving a CT waterway: Scientists gear up for summer-long fight against noxious, destructive weed

Hydrilla plants can be seen near the shore at Selden Cove in Lyme, a cove that is part of the Connecticut River on Tuesday, Sept. 26, 2023. (Aaron Flaum/Hartford Courant)

By EDMUND H. MAHONY | emahony@courant.com |
Hartford Courant
PUBLISHED: July 8, 2024 at 5:30 a.m. | UPDATED: July 8, 2024 at 5:31 a.m.

When scientists begin applying herbicide to selected stretches of the Connecticut River in coming weeks, they hope to do more than control the noxious weed hydrilla.

They will be looking for clues to how, in less than a decade, an ornamental plant someone dumped out of an aquarium has choked a river and threatened a half-century-long environmental turnaround.

What is known already about hydrilla, an invasive aquatic weed from Eurasia, is frightening. It has demonstrated, according to scientists who have studied it, that it can adapt to or in some cases control its environment in self-serving ways that cripple long-established native plants and animals.

It blocks sunlight from penetrating beneath the water's surface, killing off plants like eel grass that makes the river an important spawning ground for fish like the menhaden, which has been called the most important fish in the sea because of its abundance and role as a food source for predators such as striped bass, bluefish, mackerel, flounder, tuna, drums, and sharks.

Hydrilla plants can be seen along the surface of the water at Selden Cove in Lyme, a cove that is part of the Connecticut River. (Aaron Flaum/Hartford Courant file photo)

Hydrilla can raise water temperature and reduce water flow, potentially turning shallow tributaries and adjacent lowlands into acres of mosquito breeding ground.

Remarkably, it has developed an ability to tap an alternate source of carbon, an element essential to photosynthesis and plant growth, when water chemistry fluctuates and decreases carbon dioxide in the water to levels that cause the growth rates of native plans to slow or stop.

While native plants shut down, waiting for carbon dioxide levels to return, Hydrilla keeps growing, expanding its advantage over the natives by utilizing another source of carbon, the bicarbonate produced by the slow, geologic weathering or rocks.

A sign warns of the hydrilla at Rock Landing in Haddam Neck, Connecticut

"It is like the Swiss Army knife of plants," said Jeremiah Foley IV, a plant scientist with the state Office of Aquatic Invasive Species, created two years ago in response to the hydrilla problem. "It has many biological attributes that give it an advantage over native species. And, although it has yet to be documented, there are no natural enemies of this plant."

Foley spent much of last week wading through Connecticut River creeks and coves, measuring water chemistry and establishing monitoring stations in preparation for the start of herbicide application in coming weeks by the U.S. Army Corps of Engineers.

Based on a three-year survey by the Office of Aquatic Invasive Species, state and federal scientists selected five, hydrilla infested sites, between Glastonbury and Deep River for treatment over the course of the summer with an herbicide approved by state and federal environmental agencies.

The locations,Keeney Cove, Portland Boat Works, Chapman Pond, Chester Boat Basin and Selden Cove, were selected for a variety of reasons including the hydrilla concentration and river characteristics such as water depth, current flow and tidal action.

Because of the water volume and flow rate, Keith Hannon, the Army Corps' Connecticut River project manager, told a group of river enthusiasts in East Haddam last month, that herbicide is expected to be quickly diluted to insignificance. But he said the plan is to study its effect on the immediate area of application for clues to long term solutions.

While ideally producing a means of controlling hydrilla, Foley said he hopes the herbicide applications provide insight into how the weed thrives and its effect on the river environment..

"We're trying to capitalize on the ecosystem scale herbicide application," Foley said. "And that is going to be, effectively, our control sites in a sense where we are going to be able to determine the alterations to the environment where hydrilla is removed from the system as opposed to sites where they are not treating. So we hope to answer that soon after this field season."

Hydrilla has long been a problem in the south, but is a recent arrival to the river. It was first detected in Keeney Cove in Glastonbury in 2016 by a group of amateur scientists on a field trip. A scientific analysis showed that what has now spread in the river from Essex to Agawam is genetically distinct from hydrilla elsewhere in the country.

Scientists believe the unique local strain, now referred to in scientific literature as Connecticut River Hydrilla, originated somewhere in Eurasia and entered the U.S. as a decorative aquarium plant. In recent months, it has turned up in seven lakes and ponds across the state, probably transported on boat trailers by fisherman.

Foley recently said his tests showed levels of carbon dioxide in the river water were low but hydrilla was flourishing at the expense of native plants.

"It is able now, because of that, to get into new environments, to get a foothold," he said. "And from there, switch back and forth between carbon dioxide use and bicarbonate use. It has a competitive advantage just from that point of view."

Hydrilla can grow in fresh and brackish water in depths of up to 25 feet. The tips of each branch can grow three inches a day and a plant can double its biomass every two weeks. When plants reach the surface, they branch out, lie flat and shut off the light necessary for photosynthesis to the water column.

Mats of hydrilla lying on the surface at the height of summer make it difficult or impossible to swim, paddle, run a boat engine or get a fish hook below the water's surface.

Just as it can switch between carbon sources, hydrilla has shown an ability to thrive in the low light conditions it creates.

"It likes the shallow water," Foley said. "But it can do well in deep waters because it can use low energy bands of the spectrum and still be able to photosynthesize. But it really likes shallow, high-light environments. And once it is at the top, you can see the bright green tips and that is where the photosynthesis is occurring. And it can lay sideways, exposing all those leaves to sunlight and it is able to grow that much better."

Hydrilla also raises the water temperature. It grows into such thick barriers that it tends to stagnate water by reducing flow. And Foley said the process of photosynthesis contributes to temperature rise by accumulating heat energy.

"Temperatures at the surface are definitely increased. You can feel it as you walk around," he said.

During the summer growing season, hydrilla produces oxygen, as do all plants do, and its stems and branches provide a refuge for fish. But at the end of the season, when the 1,000 or so acres of hydrilla in the lower river die off and drift away, the decomposition process sucks oxygen from the water.

"This historically has been the case with hydrilla in the south and it has been associated with large fish kill offs," Foley said. "Fish like structure. Hydrilla provides a lot of structure, a lot of places to hide, a lot of places to get oxygen during the season. But once the plants die, so do the fish and oftentimes these fish kills go unreported because the fish get tangled up in the mats of hydrilla and then sink with it."

If there is anything good about hydrilla from the standing of the $1 billion economy that has grown around the river as a result of its environmental rehabilitation, it is what it may not do. And that is to kill off the bald eagles and ospreys that have repopulated the lower river valley.

The southern hydrilla strain, about which much more is known after years of study, harbors an algae-like cyanobacteria that produces a neurotoxin that gets into the food chain and kills birds. So far, the cyanobacteria has not been found in the Connecticut River strain.

"That's a positive," Foley said. "We don't have baseball card stats on Connecticut River hydrilla yet. But I think there are silver linings to be had, one of which is we have yet to see any proof that is able to harbor the cyanobacteria."