



Mattabeset River CT River Tributary – Hydrilla – Fall 2020 (CAES)

EXECUTIVE SUMMARY

TWELVE TOWN ENVIRONMENTAL REVIEW TEAM REPORT

Chester, Cromwell, Deep River, East Haddam, East Hampton, Essex, Haddam, Lyme, Middletown, Old Lyme, Old Saybrook, Portland

January 2021

CONNECTICUT RIVER AQUATIC INVASIVES

HYDRILLA MANAGEMENT COLLABORATIVE



Connecticut
Resource Conservation
& Development



CT River from Gillette's Castle – David Lloyd

Executive Summary

The primary objective of this Environmental Review Team (ERT) report is to understand the economic and ecological impacts, the landscape of collaboration by stakeholder organizations and assess leadership roles toward comprehensive management of aquatic invasive species, specifically hydrilla in the CT River. The twelve towns adjacent to the lower Connecticut River encompass over thirty six miles of river front from Cromwell and Portland to Long Island Sound. In March 2019, they collaborated to apply for support from the CT RC&D Environmental Review Team Program, a no-cost service to municipalities and land trusts. Again, the goal was to evaluate riverine resources and impacts from aquatic invasive plants, as part of an ongoing river management planning process, specifically the presence of hydrilla, a particularly costly and dangerous species.

ROLE OF CT RC&D ERT TEAM

The “Twelve Town ERT Request” was a unique application in its scope and purpose. Beyond a straightforward assessment of one or two parcels of property to catalog critical natural and cultural resources, this ERT review would encompass an expansive geographic area, a specific concern and recommendations for advocacy and funding. After discussion and evaluation of staff resources and the methodology to successfully deliver a credible assessment to the twelve towns, the CT RC&D Council approved the ERT application in April 2019. The first step was to secure funding for mapping and survey of the lower CT River.



Film Crew – Deep River Landing – J. Davies



Film Crew – CT River – J. Davies

As the ERT review process evolved, hydrilla became apparent as the primary source of concern to stakeholders and a growing focus for urgent attention and management. The need for river geospatial surveys and mapping, information sharing, and public education became of paramount importance. Given the time sensitive impact of hydrilla growth along with a critical need to quickly advance public knowledge in a year of COVID social distancing, CT RC&D adapted to host four public education webinars in June 2020 and wrote a script/plan to produce a public education film. In August 2020, CT RC&D hired a professional documentary filmmaker to capture and convey information to the public about hydrilla and its impact on the ecology and economy.

The ERT Report brings together eighteen months of data collection and expertise to highlight the riverine ecology and the economic and environmental impact from proliferation of aquatic invasive plants in the lower Connecticut River. The issue of hydrilla provided a template to understand the ability of evolving stakeholders to collectively advocate and secure funding for a hydrilla management plan in the Connecticut River. CT RC&D was able to convene over sixteen stakeholders, currently working to address hydrilla in roundtable discussions via webinars to evaluate the problem and their role in the management and funding of hydrilla proliferation. The ERT Report highlights findings and summaries of this collaboration, including scientists and economists who understand the impacts based on work in other states.

The twelve towns that abut the lower Connecticut River and its tributaries are a unique geographic enclave of similarly patterned communities in landscape and purpose. Apart from the small city of Middletown, the other eleven towns of this ERT report are ideally described as exurban, characteristically more rural more than suburban with low housing densities. Small historic village centers adjacent to the Connecticut River were built near riparian corridors and tributaries for optimal access for energy during the 18th and 19th century to power mills and factories. The twelve towns are part of a larger seventeen town region of similarly described towns, the Lower Connecticut River Valley Council of Governments. Common purpose and partnership between these twelve towns as well as their Council of Governments, along with existing stakeholders is an ideal template to address a regional concern such as hydrilla.

Economic Impacts

Unchecked, hydrilla will generate significant ecological impacts to natural habitats, native flora and fauna species and endangered wildlife, specifically birds and fish populations in the Connecticut River. Equally important and less evaluated are the economic impacts to municipal assessment revenues and tourism based economics along the full length of the Connecticut River. The region's tourism market is driven by its cultural, water-driven, and natural resource assets. An in depth economic analysis of this sector is warranted; however, a high level estimate suggests a range of 5,000 to 7,000 jobs with a payroll range of \$120 to \$170 million. (*LCRVCOG GrowSmart Region Report*)

Proliferation of hydrilla will create non-navigable waterways in the Connecticut River and its tributaries yielding a significant impediment to economic growth and the balance sheet of revenue systems of water-related and tourism based business within this region and the twelve towns.

The Lower CT River “Lifestyle” Economy

“The high quality of life in the region attracts people who could work and live anywhere. The first and second home residents in the region are also contributors to this economy. An estimated 13,000 to 15,000 jobs are tied to the lifestyle economy. At least \$450 million in wages is associated with this group. Many of these jobs exist because people want to live in the region to benefit from its natural resources and recreation amenities and are in jobs that can be done from anywhere e.g. professional/technical services, software services. Other jobs such as those in construction and other services support these households and businesses.” (*LCRVCOG GrowSmart Region Report*) In other words, many residents have a choice to live in the region. They choose to live here in no small part because of the ecology and beauty of the Connecticut River.

As such, proliferation of hydrilla and its impact on the quality of access to the Connecticut River and its tributaries have the potential to seriously impact the economic structure of housing values, property assessments and tourism dollars derived from proximity and use of the river.



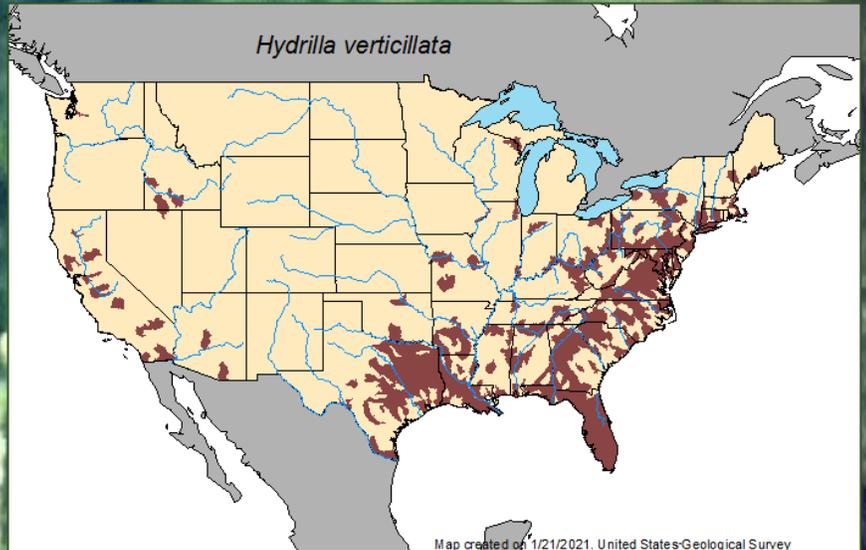
Hydrilla Challenges

UNITED STATES

Hydrilla is an aquatic plant that has earned the illustrious title “world’s worst invasive aquatic plant”. Listed as a federal noxious weed, hydrilla has made its home in just about every conceivable freshwater habitat including rivers, streams, lakes, ponds, marshes, canals, ditches and reservoirs. Hydrilla was first discovered in the United States in the 1960s in Florida. Since then, it has spread to many parts of the U.S.

Dense infestations of hydrilla can shade or crowd out all other native aquatic plants, alter water chemistry, cause dramatic swings in dissolved oxygen levels, increase water temperatures, and affect the diversity and abundance of fish populations. Hydrilla is a troublesome, invasive aquatic plant, which crowds out native vegetation, harms fisheries, limits recreation, impedes navigation and reduces property values.

<https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=6>



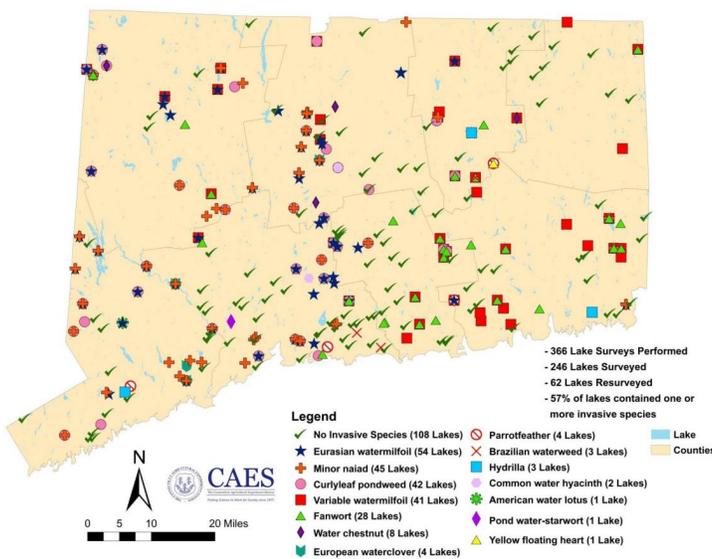
CONNECTICUT

With ongoing reports of hydrilla occurring in the southern portion of the Connecticut River, a task force led by the Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) was formed.

From the Connecticut border with Massachusetts southward, hydrilla has become prevalent. Portions of the river and its coves downstream from Hartford were alarmingly choked with the weed. In some coves, hydrilla spread over the surface making access by boat impossible. In addition to damage to the CT River and its tributaries, the spread of the hydrilla to other waterbodies by fragments on boat trailers or waterfowl is a grave concern.

A comprehensive survey of the Connecticut section of the river using established CAES IAPP protocols and CT RC&D worked to obtain funding from the CT River Gateway Commission to map the extent of the infestation.

Locations of Invasive Plants Found by CAES IAPP 2004-2019



Over the course of the ERT review, roles and responsibilities of each stakeholder were discussed and evaluated. The extent and spread of aquatic invasive plants in the lower Connecticut River has been surveyed and mapped by the Connecticut Agriculture Experiment Station's Invasive Aquatic Plant Program (CAES-IAPP). To date, many local partnerships have evolved to address the water chestnut invasive concern and have managed the problem through harvesting by local volunteer teams. The issue of hydrilla proliferation was at the forefront of concern to many of these volunteers and nonprofit organizations due to its ability to spread exponentially through mishandling. It is too extensive and costly a concern to be addressed by separate organizations, large or small. It will take a collective and collaborative approach to stem the tide of a particularly aggressive hydrilla infestation within the Connecticut River and prevent its spread to other lakes and rivers in Connecticut.

As noted in the final report from CAES-IAPP, "managing nuisance aquatic vegetation in the Connecticut River will be challenging because the river has extensive areas of desirable native vegetation such as eel grass and numerous listed species. River flow and tidal movement will also enhance movement and establishment of plant propagules. In addition, large numbers of residents utilize the river's numerous boat launches. Movement of invasive species by boat trailering is likely making introductions at other launch sites particularly acute. Management options include preventing offsite movement through education and launch site monitors as well as in "situ" controls such as harvesting, herbicides, bottom barriers, and biological controls (Cooke et al., 2005). "The CAES Report further states that "the management of hydrilla which "is the dominant species in the Gateway Conservation Zone occupying 189 acres will present the greatest challenge in funding and management planning.

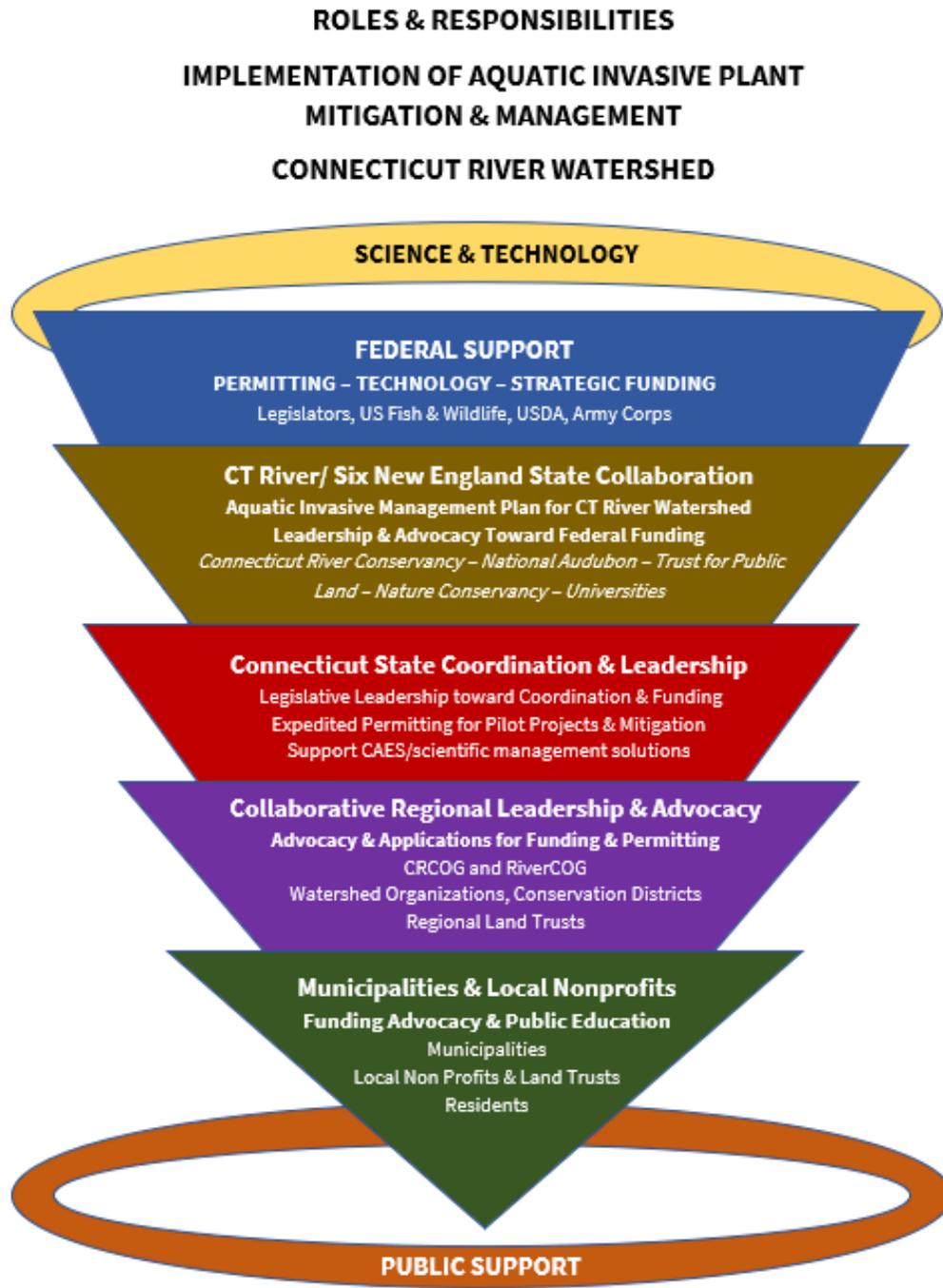
ROLES OF STAKEHOLDERS

The following diagram outlines recommended roles of various organizations to build a plan and secure funding for management of hydrilla in the Connecticut River. Currently, multi-level coordinated public policy and science based research is ununified in approach and coordination. During the ERT process, it was apparent that multiple stakeholders and staff from varied local, regional, state, and multi-state organizations are dedicated to finding a solution. Engagement of leadership and commitment toward a concerted management plan by stakeholder is required. Unlike smaller rivers and lakes in Connecticut supported by local resident associations, the Connecticut River is a "public trust" river and advocacy must fall to larger entities and state governments with the oversight to implement solutions.

There are very specialized talents within each of the organizations and stakeholders listed who can contribute their expertise to obtain funding and design a management plan. A coordinated effort will require an experienced facilitator and the leadership to optimize efficient use of stakeholder contributions and funding toward pilot projects, management strategies for hydrilla, and permitting for mitigation efforts.

It is recommended that current efforts to address the issue of aquatic invasive plants in the CT River, specifically hydrilla, begin at the Connecticut legislature with leadership from the Environment Committee and supported as appropriate by the Lower Connecticut River Valley Council of Governments (RiverCOG) and the Capitol Regional Council of Governments (CRCOG). The two regional Councils of Government would lead the public policy efforts accompanied by the Connecticut Agriculture Experiment Station as science advisor, and CT DEEP for expedited permitting and oversight in control measures undertaken. The larger regional nonprofit organizations and universities can provide

public outreach and education support to the efforts as well as advocacy. Smaller nonprofit organizations and municipalities can support the efforts with localized public education and advocacy. The municipalities, specifically, have a role in advocacy within their representative Council of Governments and legislators.



J. Davies, CT RC&D

COSTS TOWARD HYDRILLA MANAGEMENT

Funding for an initiative as broad as managing hydrilla in the Connecticut River will be costly. There is a current program enacted by the State of Connecticut. This source of funds are competitive and inadequate to manage the problem within the Connecticut River. That said, the funding within the CTDEEP program will be ideal for a pilot project to test control methods or the development of a management plan outline.

Relevant Cost Factors

“Controlling hydrilla is extremely difficult as it spreads by propagules called turions and tubers that fall to the sediment and remain viable for many years. Fragments also spread the plant, and the CT surveyors witnessed large quantities of hydrilla fragments floating downstream. Coventry Lake, with a surface area of 378 acres and a five mile shoreline, is currently using a management strategy to manage a less aggressive form of hydrilla, including aquatic herbicides costing in excess of **\$100,000** per year.

“DEEP currently has up to **\$360,000 in 2021** for eligible control, research and education and outreach projects. The maximum grant award is \$50,000. Requests for larger grants (up to \$75,000) may be considered, but only for exceptional and well-justified proposals. Matching funds are required and must equal or exceed 25% of the total amount of funding received from DEEP under this grant program.

Links/ Websites CAES Documents and Mapping

The Connecticut Agriculture Experiment Station

https://portal.ct.gov/-/media/CAES/Invasive-Aquatic-Plant-Program/Publications/Survey-Information/CTRiverReport_2019_Final.pdf

<https://caes.maps.arcgis.com/apps/webappviewer/index.html?id=007f6ee203b74bcbb1d6e68a953d8baf>

<https://portal.ct.gov/CAES/Invasive-Aquatic-Plant-Program/IAPP/Aquatic-Plant-Survey-Program-for-Connecticut-Lakes>

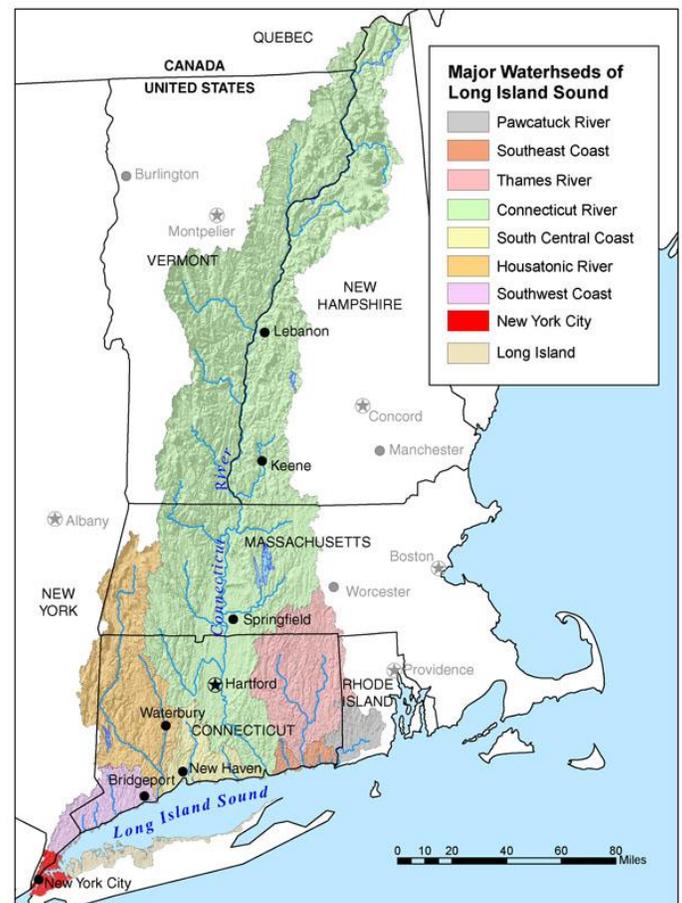
CTRC&D YouTube Channel

[CTRC&D CT River Hydrilla Education Webinars](#)

https://www.youtube.com/playlist?list=PLFq47OebWyyCjquf_5dTxRw3Ib8zwwqY8V

[CT River Hydrilla Public Education Documentary – Emily DeLuca -Crosscourt Media](#)

<https://www.youtube.com/watch?v=OZ2baYSgl8Y&feature=youtu.be>



American Rivers.org

Acknowledgments

This report is the product of a request by a consortium of twelve towns whose lands areas encompass the lower Connecticut River to CT Resource Conservation and Development's (CT RC&D) Environmental Review Team (ERT) program. The CT RC&D Environmental Review Team program is a service for Connecticut municipalities and land trusts to obtain baseline environmental data and best management practices for town properties and properties of significant interest for existing or future development or conservation. The ERT program is funded by the Passport to Parks Program as referenced in Sec. 23-15h of the Connecticut General Statutes,

CT RC&D would like to acknowledge and express their appreciation for the important work of the following volunteer professional consultant and organizations who contributed their time to this unique Environmental Review Team project. Their professionalism and expertise were critical to the analysis of the hydrilla and aquatic invasive situation and understanding the roles of each organization in the management of this critical concern in the lower Connecticut River. Funding for the survey and mapping of the Lower CT River by the Connecticut Agriculture Experiment Station was provided by the Connecticut River Gateway Commission and the Eightmile River Wild and Scenic Watershed. Analysis and investigations of the lower Connecticut River as well as research and public information webinars were conducted from July 2019 through December 2020.

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The full ERT report represents an examination of knowledge sources and information on the issue of aquatic invasive plant infestation in the lower Connecticut River. It is not meant to compete with private consultants by providing site plans or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project – all final decisions toward management and solutions to the concerns noted in this report are the purview of the rest with the town and property owner. This report identifies the existing resource base and evaluates its significance to potential development and suggests considerations that should be of concern to the town. The results of this Team action are oriented toward the development of better environmental quality and the long-term economics of land use.

The CT RC&D Council hopes you will find this report of value and assistance in providing information to this issue for the lower Connecticut River and the requesting twelve towns and Lower Connecticut River Valley Council of Governments. If Should you require additional information, please contact:

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