Invasive Plants on the Quinnipiac River

Issue

The mission of this project was to document the presence of **invasive plants** at the upper Quinnipiac River's three boat launches located in Southington, Cheshire and Meriden, Connecticut.

The **Quinnipiac River** is a popular recreation spot for boaters. Improper boat cleaning can lead to problems of distribution of invasive plants, which can result in significant environmental issues, in addition to a fine of $95.00 per piece of plant.

If a boat carries fragments of an invasive plant and then launches into another site, that invasive plant could spread to another system and out-compete plants native to that waterbody.

Figure 1. Data collection

Figure 2. Plant identification

References

- Bugbee, G., Barton, M., Gibbons, J. and Stebbins, S. (2020). Connecticut's Invasive Aquatic Plant, Clam, and Mussel Identification Guide. 3rd ed. [ebook] New Haven: https://portal.ct.gov/-/media/CAES/Invasive-Aquatic-Plant-Program/Publications/Plant-Identification/B1056.pdf?la=en. Available at: https://portal.ct.gov/-/media/CAES/Invasive-Aquatic-Plant-Program/Publications/Plant-Identification/B1056.pdf?la=en [Accessed 5 Mar. 2020].
- Connecticut Department of Energy and Environmental Protection (2020). 2020 Connecticut Boater's Guide Rules and Resources. [ebook] Hartford: Connecticut Department of Energy and Environmental Protection. Available at: http://turley.com/CTBoat/flipbooks/ctboat2020/index.html?page=1 [Accessed 5 Mar. 2020].

Objectives

- **Objective 1**: Survey three boat launches to determine what, if any, aquatic invasive plants are present
- **Objective 2**: Create educational materials about proper boat cleaning techniques for recreationalist
- **Objective 3**: Report findings to the Quinnipiac River Watershed Association and Quinnipiac River Trail community

Figure 3. Red Bridge site

Figure 4. Site setup

Methods

- The following three boat launch sites were selected: Red Bridge in Meriden, Route 322 on the Cheshire-Southington line and Quinnipiac Recreation Area in Cheshire
- A form was made using the Epicollect5 app to document plant species, and record conductivity values and temperature of the water
- Surveys were conducted in June, July and August of 2019
  - A kayak was used to access each site in order to conduct a visual inventory of aquatic invasive plants, paddling across the river from one bank to the other
  - An inventory of a 10'x10' area on the far side of the river bank for terrestrial plants was also done
  - Unknown plants were identified using the iNaturalist app
  - Water quality data was collected using an UBANTE TDS meter
- Data was compiled and analyzed

Figure 5. Curly-leaf pondweed

Figure 6. Cheshire Recreation Park site

Results

- **Major Finding 1**: Duckweed (genus *Lemna*) was observed floating near the edge of the river at the Red Bridge launch in Meriden
- **Major Finding 2**: Curly-leaf pondweed (*Potamogeton crispus*) was found at Quinnipiac River Park in Cheshire

Table 1. Aquatic invasive plants observed at three sites along the Quinnipiac River

Site	Aquatic Invasive Plants Observed		
	June	July	August
Site 1: Route 322	No invasives	Curly-leaf pondweed	No invasives
Site 2: Quinnipiac Recreation Area	No invasives	No invasives	No invasives
Site 3: Red Bridge	Duckweed	No invasives	No invasives

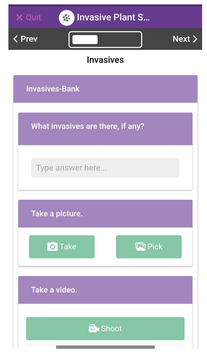

Figure 7. Epicollect5 screenshot

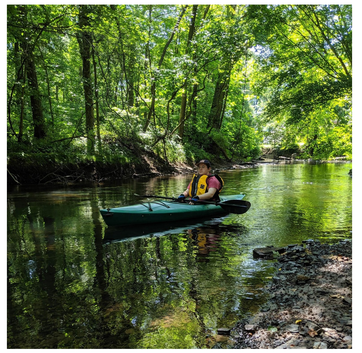

Figure 8. Route 322 site

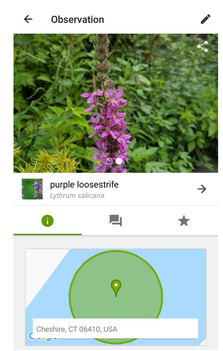

Figure 9. iNaturalist screenshot

Conclusions and Next Steps

Two aquatic invasive plant species were observed during this project: curly-leaf pondweed at the Route 322 site and duckweed at Red Bridge in Meriden.

However, this does not mean that the Quinnipiac River is completely safe from the threat of invasive aquatic plants. In order to prevent the spread of these, and other, invasive species boater education is important.

At this time, a poster still needs to be created and displayed to educate paddlers about the presence of aquatic invasives and the importance of cleaning their boating equipment.

My plan is to install poster kiosks at multiple river launch sites in order for people to follow proper precautions & use adequate cleaning procedures after paddling to minimize the spread of invasive aquatic plants.

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