Aquatic Invaders in RI

Current as of 12/18/2010
Objective
Map the distribution and monitor the spread of aquatic invasive species in Rhode Island freshwaters
What Do We Survey?

Primary targets have been flowing or standing waters

Flowing or Standing Waters  Vegetated Wetlands  Floodplains & Riverbanks
Surveys focus on floating and submergent plants.
Since 2007, OWR has surveyed 107 freshwater lakes.

Rhode Island has 145 freshwater lakes > 20 acres
• We have surveyed 85 (59%) of these
What Have We Found?

Mishnock Lake
71 freshwater lakes have at least one invasive species
Variable Milfoil (\textit{Myriophyllum heterophyllum})

Documented by RIDEM-OWR in Rhode Island Freshwaters

50 freshwater lakes have variable milfoil

47\%
Fanwort (Cabomba caroliniana)

41 freshwater lakes have fanwort
### Other Invaders

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of Lakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curlyleaf pondweed</td>
<td>6</td>
</tr>
<tr>
<td>Water chestnut</td>
<td>5</td>
</tr>
<tr>
<td>Mudmat</td>
<td>5</td>
</tr>
<tr>
<td>Eurasian milfoil</td>
<td>4</td>
</tr>
<tr>
<td>Inflated bladderwort</td>
<td>4</td>
</tr>
<tr>
<td>Spiny naiad</td>
<td>3</td>
</tr>
<tr>
<td>Brazilian elodea</td>
<td>2</td>
</tr>
<tr>
<td>Yellow floating heart</td>
<td>2</td>
</tr>
<tr>
<td>Parrot feather</td>
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</tbody>
</table>
Water Chestnut Populations

Porter's Pond
Discovered 2008

Chapman Pond
Discovered 2009

Central Pond & Turner Reservoir
Discovered 2009

Belleville Pond
Discovered 2007
Water Chestnut Control at Chapman Pond (top row) and Belleville Pond (bottom row)

Water chestnut pull at Belleville Pond organized by RINHS. Pull at Chapman Pond organized by the Westerly Land Trust with technical assistance from RINHS.
New for 2010!

Yellow floating heart
(Nymphoides peltata)
AIS in the Rivers
• RIDEM has checked **80** rivers and streams at some point along their course
• AIS has been documented in **14**
Why So Low?

**Headwater Streams**
- Shaded
- Rocky
- Low nutrients
- Intermittent flow

Not good for AIS
Bigger Rivers, Bigger Opportunities

- More nutrients
- More light
- More muck (sedimentation)
- Slower moving (low gradient)
- More stable flow
- More sources of AIS from upstream impoundments
Major Rivers With AIS

- Blackstone River
- Branch River
- Chipuxet River
- Clear River
- Millers River
- Moshassuck River
- Pawcatuck River
- Pawtuxet River
- Saugatucket River
- Ten Mile River
- West River
- Wood River
- Woonasquatucket River
AIS Observed at ARM Stations in the Woonasquatucket River Watershed During Summer 2009

- Red dot: ARM station; AIS observed
- Black dot: ARM station; No AIS observed
- Blue area: Water body
Management Implications

- Rivers transport AIS from lake to lake
- Infested lake can be a source of AIS to downstream water bodies
- Management in downstream water body ineffective unless upstream infestations are controlled
- AIS control on a watershed-scale
Public Access

64 lakes that we have surveyed have public access

43 surveyed lakes with public access have AIS

67%
## Types of Public Access

<table>
<thead>
<tr>
<th>Access Type</th>
<th># surveyed</th>
<th># with AIS</th>
<th>40%</th>
<th>44%</th>
<th>85%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishing Access</td>
<td>12</td>
<td>4</td>
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<tr>
<td>Smallcraft Launch</td>
<td>19</td>
<td>8</td>
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<tr>
<td>Trailer Ramp</td>
<td>33</td>
<td>29</td>
<td></td>
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</tbody>
</table>

- Fishing Access: 40% with AIS
- Smallcraft Launch: 44% with AIS
- Trailer Ramp: 85% with AIS
Not all lakes with AIS have public access

Lakes with AIS

44%

Lakes with public access

56%

Lakes without public access

How did they get there?!
Other Means of Introduction

- Wildlife
- Boats on private lakes
- Aquariums and water gardens
- Planting
Neither Arnold Pond nor Hundred Acre Pond have public access, yet the only two populations of Brazilian elodea are in these lakes. Brazilian elodea is a common aquarium plant and was likely introduced as the result of someone dumping their aquarium tank into the lake.
What You Can Do

- Check boat before and after use for plant fragments and remove all.
- Drain water from boat after use and allow to dry before putting in new water body.
- Do not empty bait buckets or release bait into water bodies.
- Do not dump your aquarium or water garden into a lake.
- Do not plant in your lake.
- Become familiar with common aquatic invasive species in RI (fact sheets available on DEM website).
- Learn what water bodies in your watershed are infested.
- Report AIS infestations.
Questions?

Evan Ross
RIDEM-OWR
(401) 222-4700 ext. 7728
evan.ross@dem.ri.gov