

Aquatic Invasive Species (AIS) in MA: Who, What, Where, When, Why?

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DCR Lakes & Ponds Program

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dcr
Massachusetts



DCR's Lakes & Ponds Program

WHO WE ARE

- Div. of Water Supply Protection's Office of Water Resources
- OWR Director – Anne Carroll
- OWR Deputy Director – Vanessa Curran
- L&P staff – Kara Sliwoski, Jim Straub, Tom Flannery, Toni Stewart

WHAT WE DO

- AIS management at DCR waterbodies
- Public education, outreach, and guidance
- AIS surveys
- Interagency, state and federal collaboration on existing and emerging AIS issues
- The lead freshwater invasive contact for MA

Waterbodies

Total number in MA: 3,500

Number owned by DCR: 300

Number of Great Ponds*: 250

*A Great Pond is any pond or lake that was at least 10 acres in size in its natural state;
MGL Ch. 91 Sec. 35

Please note: all numbers are approximate.

Primary AIS in MA

Eurasian watermilfoil



Variable watermilfoil



Curlyleaf pondweed



Asian clam



Brittle naiad



Fanwort



Water chestnut



Hydrilla



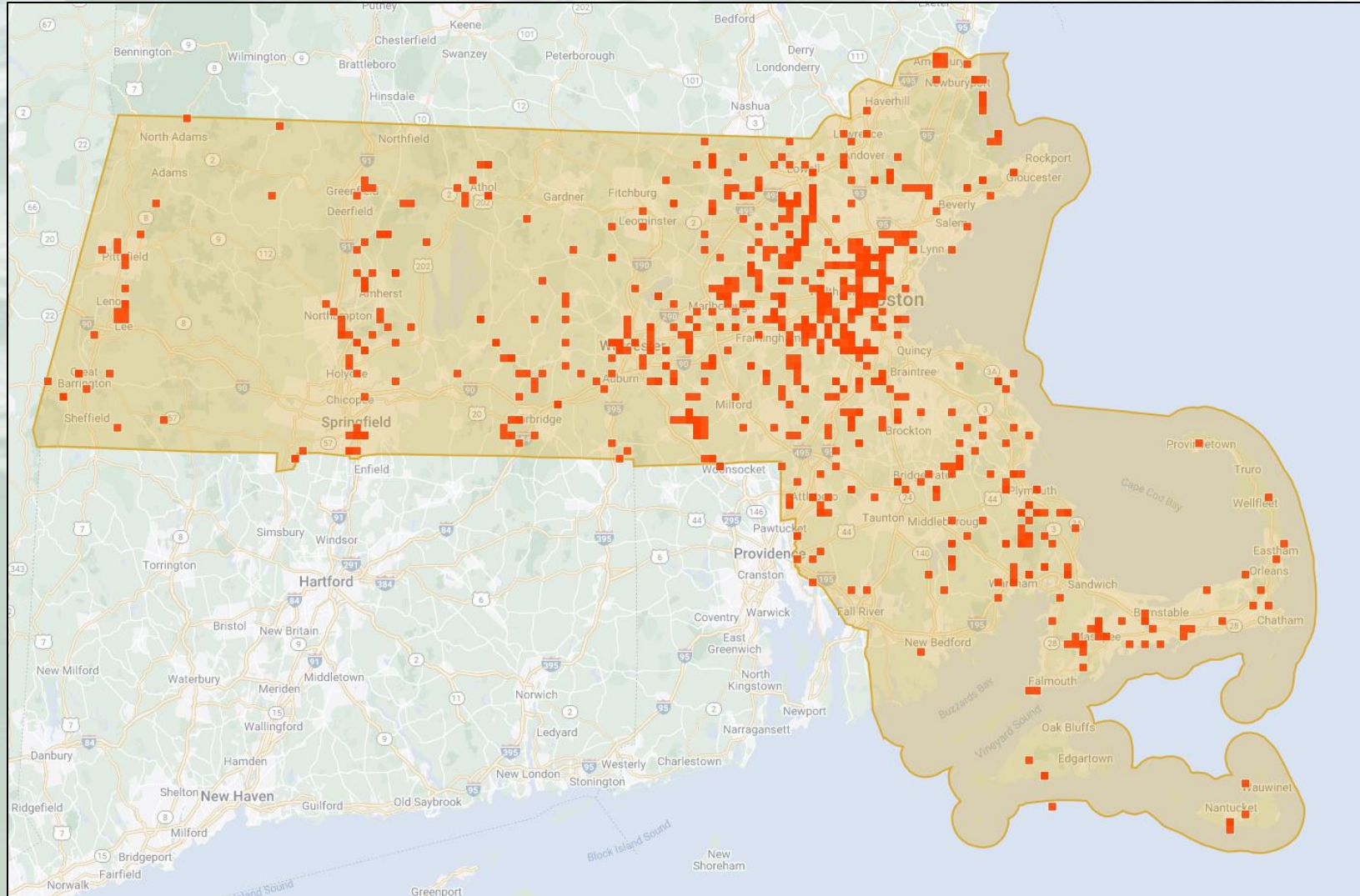
Zebra mussel



Lotus



Where are they?



Note: this shows observation locations of 23 different current and potential aquatic invasive species, from iNaturalist as of 11/11/24.

How...

...DO THEY GET HERE?

- Oversea ships' ballast water
- “Accidental” release from aquariums or water gardens
- Mixed in with other plant/organism shipments (i.e., pet stores, water garden plants)



How...

...DO THEY SPREAD?



- Mostly by people
 - Mainly by non-decontaminated equipment
 - Hitchhiking on boats, trailers and gear
 - In bait buckets, live wells and cooling water
- Some by wildlife
 - Primarily waterfowl
- Downstream water flow

STOP AQUATIC HITCHHIKERS!™



Prevent the transport of nuisance species.
Clean all recreational equipment.
www.ProtectYourWaters.net

When you leave a body of water:

- **CLEAN, DRAIN** and **DRY** anything that came into contact with water and remove all plants and other debris from boats, trailers, equipment, etc.
- **NEVER** release plants, fish or animals into a body of water unless they came from that body of water.

IT'S THE LAW!

Up to \$5,000 fine

MGL c. 27A, § 37B
302 CMR 18

To Report Violations: Contact your Local Harbormaster or
Massachusetts Environmental Police at (800) 632-8075
www.mass.gov/lakesandponds

What can be done?


ENFORCEMENT

- There are laws against buying, selling and transporting aquatic invasive species
 - 302 CMR 18 Aquatic Nuisance Control Program
 - MDAR's prohibited plant list can be found here: www.mass.gov/info-details/massachusetts-prohibited-plant-list
- Enforcement can be difficult for many reasons

What can be done?

EDUCATION

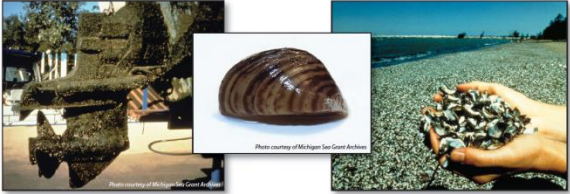
- Education can spread greater awareness to do the right thing
- Needs to happen on local and waterbody levels as well as state and regional levels
- Messaging should be universal
- L&P hosts Weed Watcher classes to educate the public on aquatic plant identification
 - Educational materials and hands-on lessons provided



STOP AQUATIC HITCHHIKERS!
Prevent the transport of nuisance species.
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CAUTION! INVASIVE ZEBRA AND QUAGGA MUSSELS HAVE BEEN SPOTTED IN NEARBY WATERBODIES

DO NOT: RELEASE ANYTHING INTO THIS WATER BODY THAT DID NOT COME FROM THIS WATER BODY
EMPTY BAIT BUCKET, BILGE, OR LIVEWELL WATER INTO THIS WATER BODY




DO:

- ▶ Wash the exterior of your boat and trailer and flush the engine, bilge, and live well with tap water. Hot or high pressure rinse (power washer, car wash, etc.) is best. Keep rinse water away from all water bodies and storm drains.
- ▶ Let all equipment dry for at least 72 hours before using it in another water body.

To report a sighting, please contact:
MassDCR Lakes and Ponds Program
(617) 626-4975
www.mass.gov/lakesandponds

CAUTION!



What can be done?

**CLEAN.
DRAIN. DRY.**

Protect Our Natural State.



Stop the Transport of Invasive Species:

- **CLEAN** boots, gear, boat, trailer & vehicle of plants, fish, animals & mud.
- **DRAIN** bilge, ballast, wells & buckets before you leave the area.
- **DRY** equipment before launching watercraft into another body of water.



**STOP AQUATIC
HITCHHIKERS!**
Be A Good Steward.
Clean. Drain. Dry.
StopAquaticHitchhikers.org

- **CLEAN** off visible aquatic plants, animals and mud from all equipment before leaving
 - Rinse all equipment, hulls, interior compartments and motor with hot ($>140^{\circ}$)
 - Other cleaning solutions are available options
- **DRAIN** motor, bilge, livewell, and other water containing devices before leaving
- **DRY** everything for at least 5 days (may be longer depending on the season)
- This should be done after every single use!

Boat Ramp Monitor Program

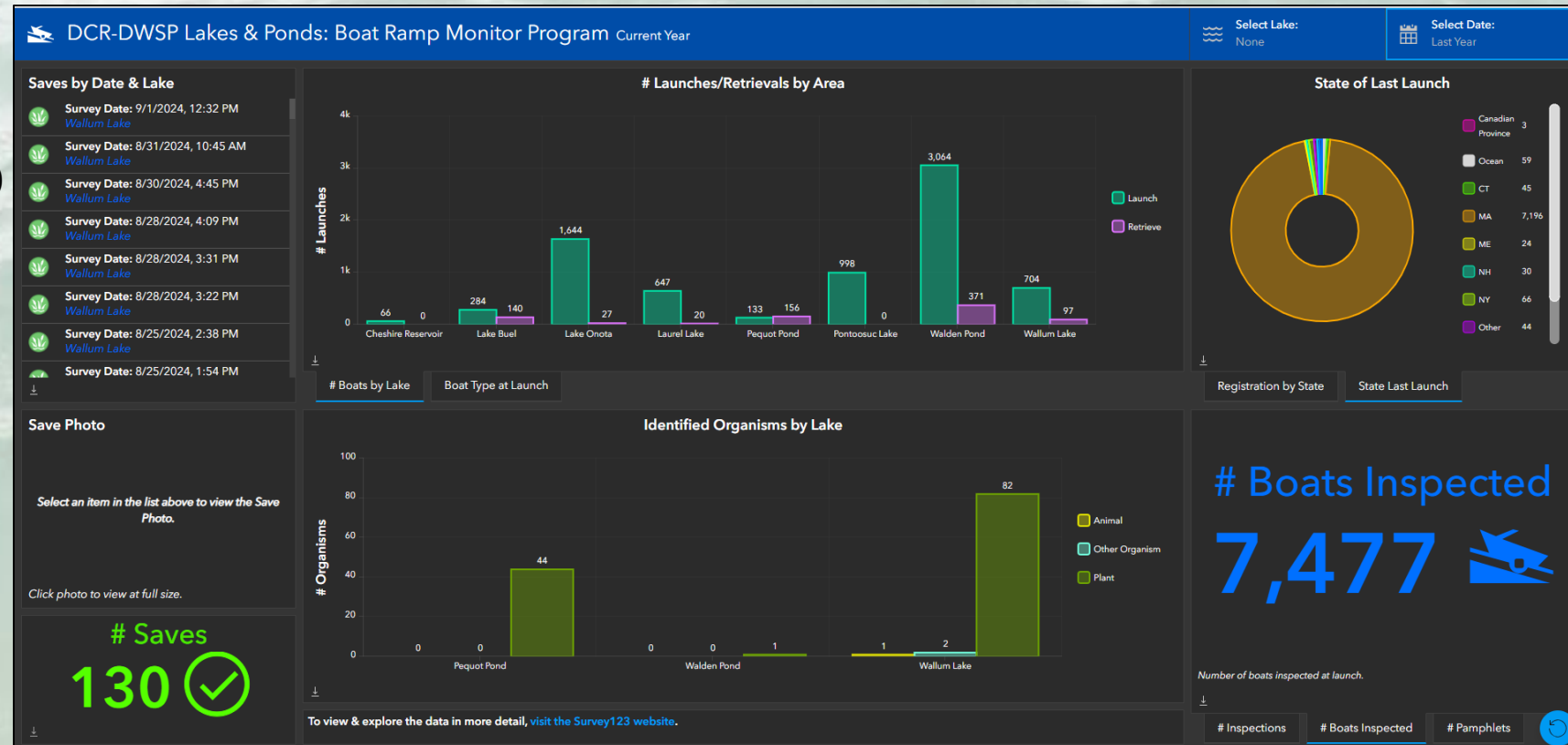
- DCR seasonal staff equipped with tablets survey boaters at:

- Walden Pond (Concord)
- Wallum Lake (Douglas)
- Laurel Lake (Lee/Lenox)
- Cheshire Reservoir (Cheshire)
- Lake Buel (Monterey)
- Pequot Pond (Westfield/
Southampton)

- All done within Survey123 by ArcGIS

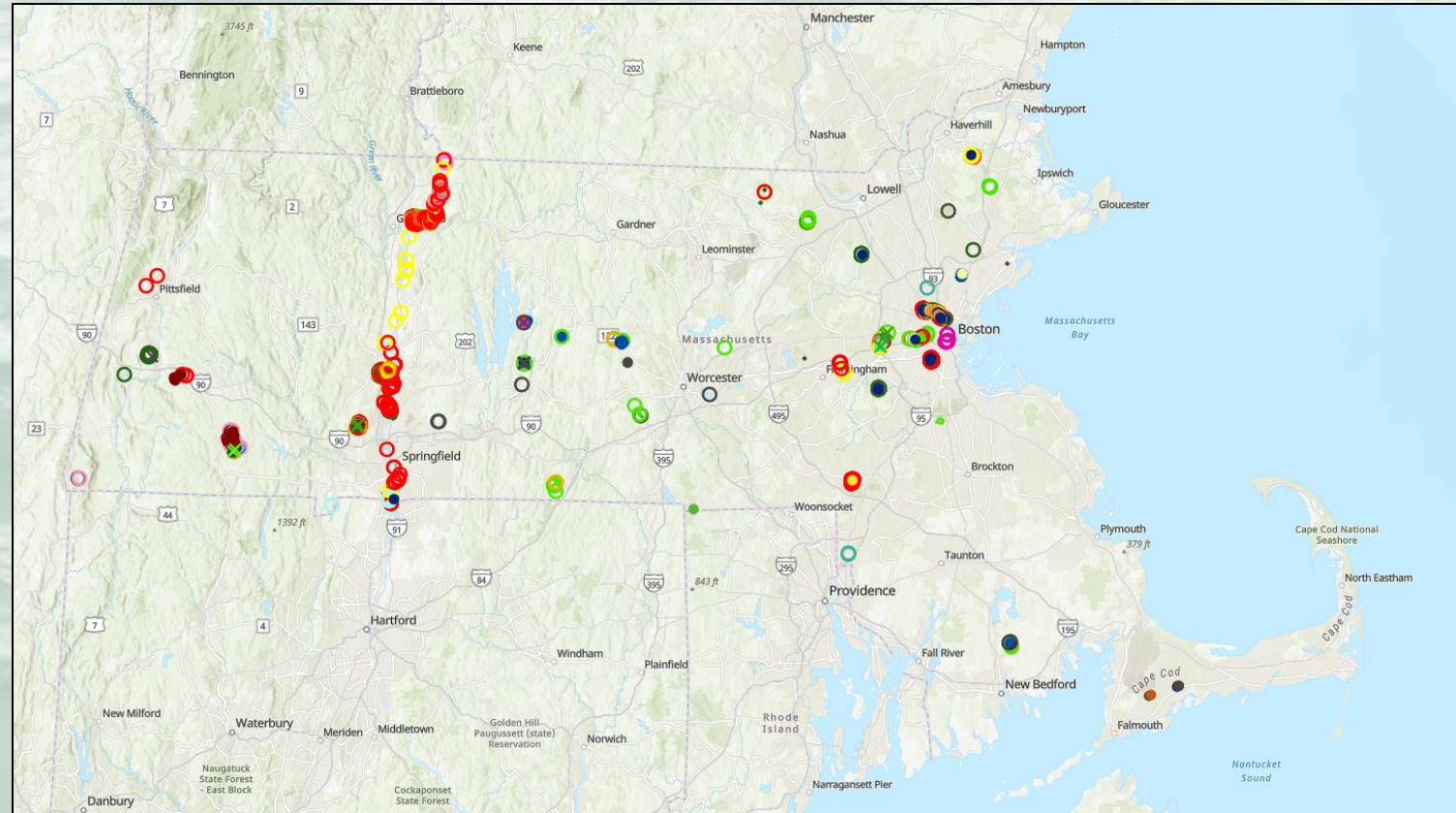
- Boaters are asked questions relating to their boating purposes, last waterbody visited, and if their equipment has been properly decontaminated

- City of Pittsfield also uses our survey for Onota and Pontoosuc Lakes



Tablets and ArcGIS

- L&P staff also equipped with tablets utilize Field Maps by ArcGIS while on the water
- Can take points or polygons of specific species (native or AIS)
- Allows for easy visualization of distribution and spread, analysis, data export, and input of public sighting reports
- Our vendors have begun to utilize it so staff can see data uploading in real-time



Data Sharing

Lakes & Ponds collaborates with DCR's Division of Water Supply Protection AIS staff (both Wachusett and Quabbin), as well as MassWildlife and other state and federal agencies and municipalities.



MASSWILDLIFE



**US Army Corps
of Engineers®**



OAIS

Office of Aquatic Invasive Species
Connecticut Agricultural Experiment Station

dcr
Massachusetts



iNaturalist

WHAT IT IS

- iNaturalist is an online social network of people sharing biodiversity information to help each other learn about nature.
- Essentially is a crowd sourcing species identification system and an organism occurrence recording tool.
- Data can be exported into ArcGIS

WHAT IT DOES

- Allows users to upload photo(s) of any organism they have observed
 - Along with site- and organism-specific information
- Provides suggestions for species ID based on the photos (if not already known)
- Allows other users to confirm ID or suggest a different ID



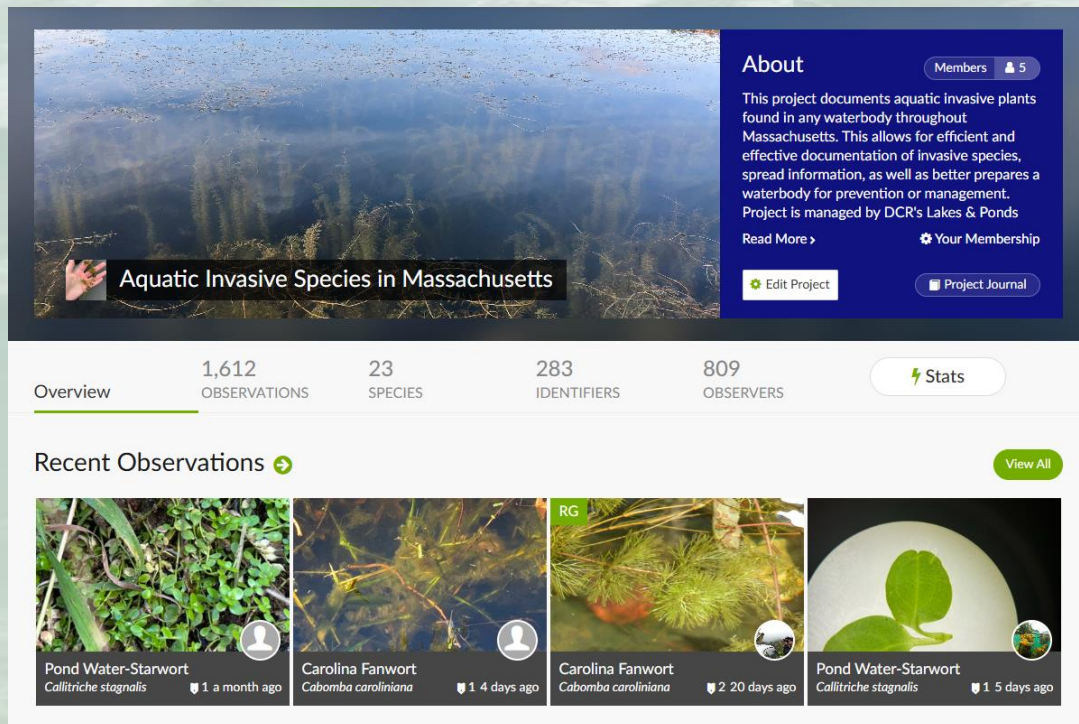
iNaturalist

OUR PROJECT

- Automatically adds qualifying observations based on location and species observed

HOW TO FIND IT

- Search 'Aquatic Invasive Species in Massachusetts'
- Scan the below QR code



The screenshot shows the iNaturalist project page for 'Aquatic Invasive Species in Massachusetts'. The header features a large image of a pond with a title overlay. Below the header, there is an 'About' section with a description of the project's goals and a 'Members' count of 5. A statistics bar shows 1,612 observations, 23 species, 283 identifiers, and 809 observers. The 'Recent Observations' section displays four recent entries with photos and species names: Pond Water-Starwort (*Callitriche stagnalis*), Carolina Fanwort (*Cabomba caroliniana*), and another Pond Water-Starwort (*Callitriche stagnalis*).

Aquatic Invasive Species in Massachusetts

About Members 5

This project documents aquatic invasive plants found in any waterbody throughout Massachusetts. This allows for efficient and effective documentation of invasive species, spread information, as well as better prepares a waterbody for prevention or management. Project is managed by DCR's Lakes & Ponds

Read More > Your Membership

Edit Project Project Journal

Overview 1,612 OBSERVATIONS 23 SPECIES 283 IDENTIFIERS 809 OBSERVERS Stats

Recent Observations View All

Pond Water-Starwort *Callitriche stagnalis* 1 a month ago

Carolina Fanwort *Cabomba caroliniana* 1 4 days ago

Carolina Fanwort *Cabomba caroliniana* 2 20 days ago

Pond Water-Starwort *Callitriche stagnalis* 1 5 days ago



USGS NAS Database

The screenshot displays the USGS Nonindigenous Aquatic Species (NAS) Database web interface. The top navigation bar includes links for Home, Alert System, Database & Queries, Taxa Information, Report a Sighting, and Screening Tool (SEINed). The main content area is divided into a search sidebar and a map. The sidebar on the left contains a search bar, a 'Map' tab, and a 'Specimen Records' tab. Below the search bar, there are filters for State (Massachusetts), Group (Plants), and Freshwater/Marine (Freshwater). There are also options to search by area (Draw Polygon, Draw Circle, Polygon from WKT) and buttons for Search and Reset. The map shows a geographical view of New England with numerous colored dots representing species sightings. The USGS logo is visible in the bottom left corner of the map area.

- USGS Non-indigenous Aquatic Species database allows you to:
 - Search by location, taxa, species, etc.
 - Report a sighting
 - Setup custom email alerts

Northeast Aquatic Nuisance Species Panel

- Regional panel of the Federal ANS Task Force
- Coalition of state, provincial, and federal agencies, industry, private stakeholders, non-government organizations and others.
- Mission is to protect the marine and freshwater resources of the Northeast from invasive aquatic nuisance species.
- Allows MA to collaborate easily with regional entities on current and emerging AIS challenges.
- MA was a founding member in 2001 and the first state in the country to have an approved AIS management plan
 - Receive approx. \$90k/year for AIS coordination, outreach, education, etc.



“New” sightings in MA in 2024

ZEBRA MUSSELS
BERKSHIRE REGION



WATERWHEEL
ANDOVER



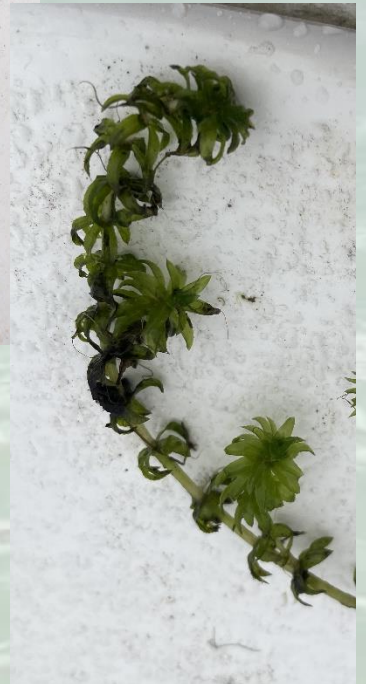
SWOLLEN
BLADDERWORT
SAUGUS



What can you do to help?

REPORT ANY SIGHTINGS

- Take your photo(s) on a white or light solid color background
- Only include 1-2 plant stems with leaves easily visible
- Include something to show the scale, like your hand
- If you're an iNaturalist user, upload your observation(s) there and we'll see them!
- If you're not an iNaturalist user, you can email your photos to: dcr.lakesandponds@mass.gov
- Limit your photos to ONE email
- Include the waterbody name and town
 - As well as the general location in the waterbody
 - And an approximation of size of plant area
- Don't worry about submitting photos if you're unsure it's invasive or not!



Future Lakes & Ponds Program AIS Goals

- Expand our external partner use of the boat ramp monitor survey to gather more data
- Incorporate a Survey123 submission form for observations into our website
 - Would allow for streamlined tracking of information and locations
- Create greater awareness of reporting sightings across the state
- Develop an interactive map viewer for our website to show which waterbodies have AIS

Where to find us

WEBSITE

www.mass.gov/lakes-and-ponds-program



EMAIL

dcr.lakesandponds@mass.gov

- All staff have access to this email and can respond accordingly