Defending Our Lakes from Invasive Species

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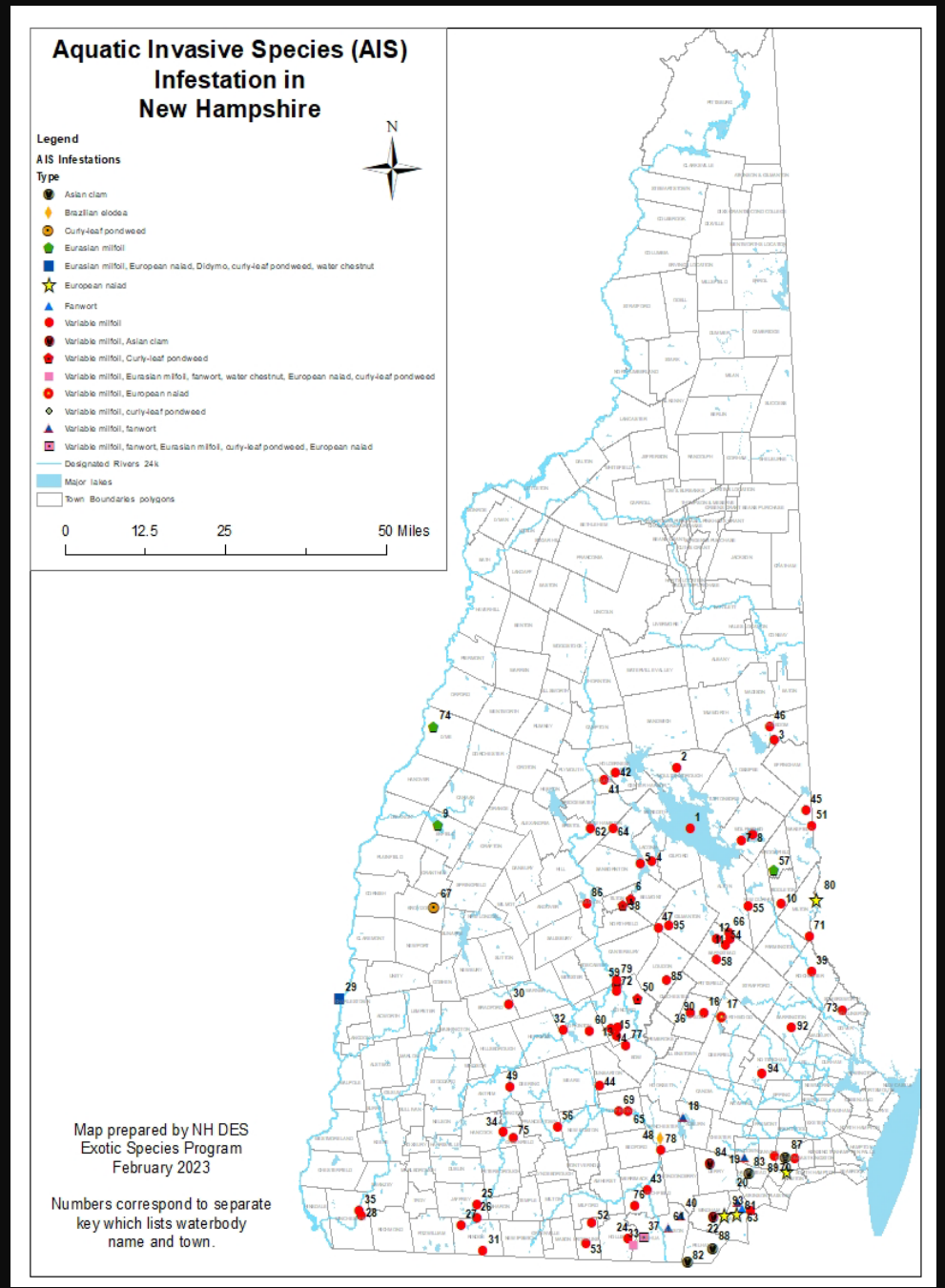


Status of Infestations

- 70+ variable milfoil infestations
- 5 Eurasian water milfoil infestations
- 9 fanwort infestations
- 2 water chestnut infestations
- 1 Brazilian elodea infestation
- 8 water naiad infestations
- 6 curly-leaf pondweed infestations
- 7 Asian clam infestations
- >80 Chinese mystery snail infestations
- 8 Asian clam infestations
- 2 spiny water flea infestations

Recent Trends with Infestations

Steady but slower increase in variable milfoil infestations

Increase in curly-leaf pondweed infestations

Increase in brittle naiad infestations

Increase in aquatic invasive animal infestations (multiple species)

All other invasives with generally stable trends

Weed Watcher Program

- Actually a “whatever watchers” program these days
  - Plants
  - Animals
  - Cyanobacteria
  - Anything else new, different or a concern
- Monitor once a month from May through September to look for new infestations
- Early detection is key
- If your lake doesn’t have a Weed Watcher Program, please contact me to get one started!

If you find something of concern, send a voucher specimen for identification:

BEST

Email a digital photo

- Place the specimen on a piece of white paper/paper towel
- Arrange it so leaves/flowers or animal etc can be seen clearly
- Place a coin, pen or ruler next to the specimen
- Take a digital picture
- Email it to Amy.Smagula@des.nh.gov for identification

Alternate

Snail Mail

- Wrap the specimen in a moist paper towel
- Seal it in a specimen bag/resealable bag
- Mail that in an envelope to Amy Smagula, NH DES, 29 Hazen Drive, Concord, NH 03301

New Hampshire's Newest Invasive: Spiny Water Flea

Spiny water flea slides provided by Kirsten Hugger at NHDES

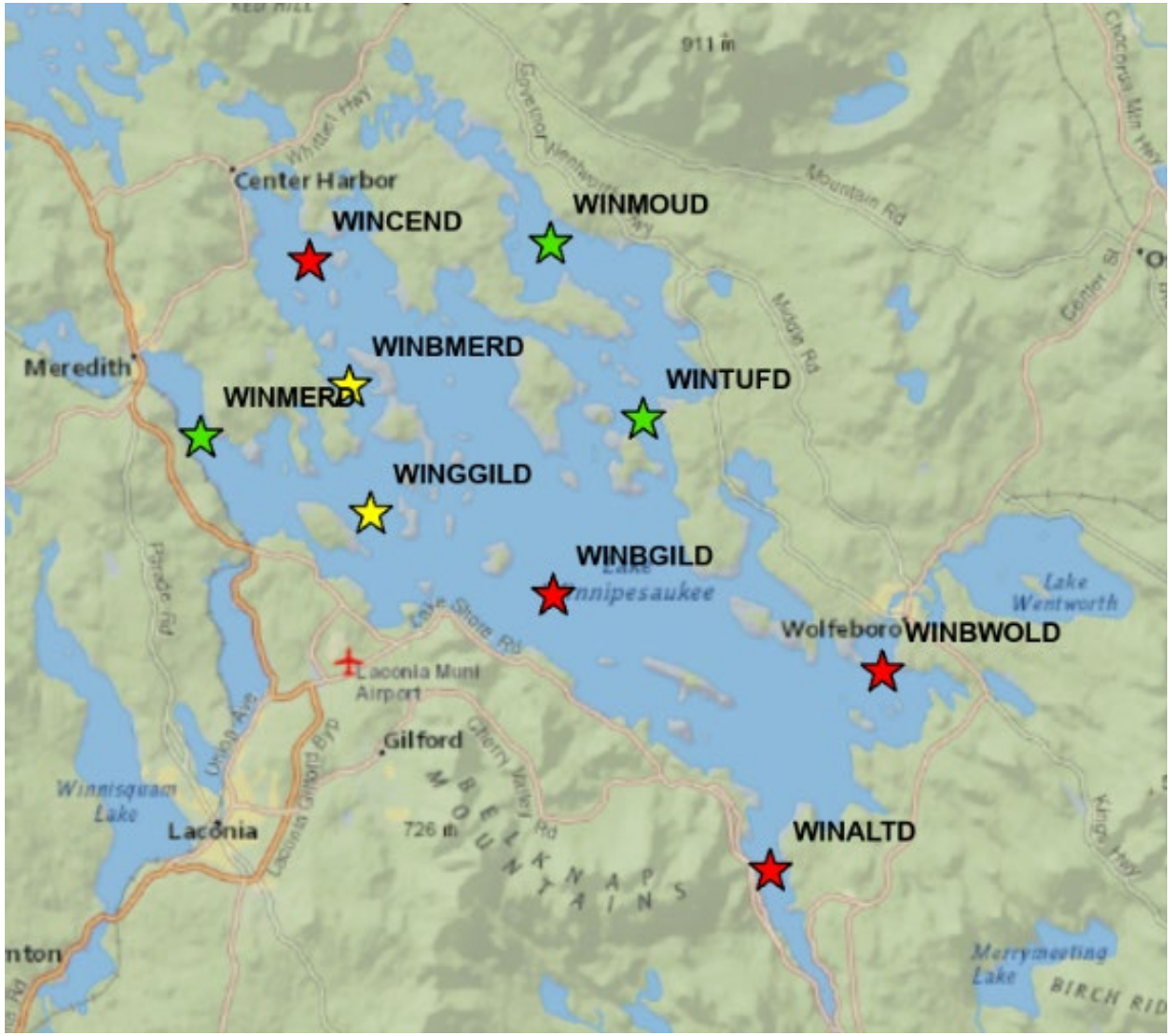
Spiny Water Flea

(***Bythotrephes longimanus)***

- Up to 15 mm (0.6 in) long
- Native to Europe and Asia
- Prefers large, low-nutrient, temperate lakes
- Not harmful to humans
- Changes food web
  - Eats other zooplankton
  - Reduces pressure on phytoplankton
  - Avoided by young-of-year fishes

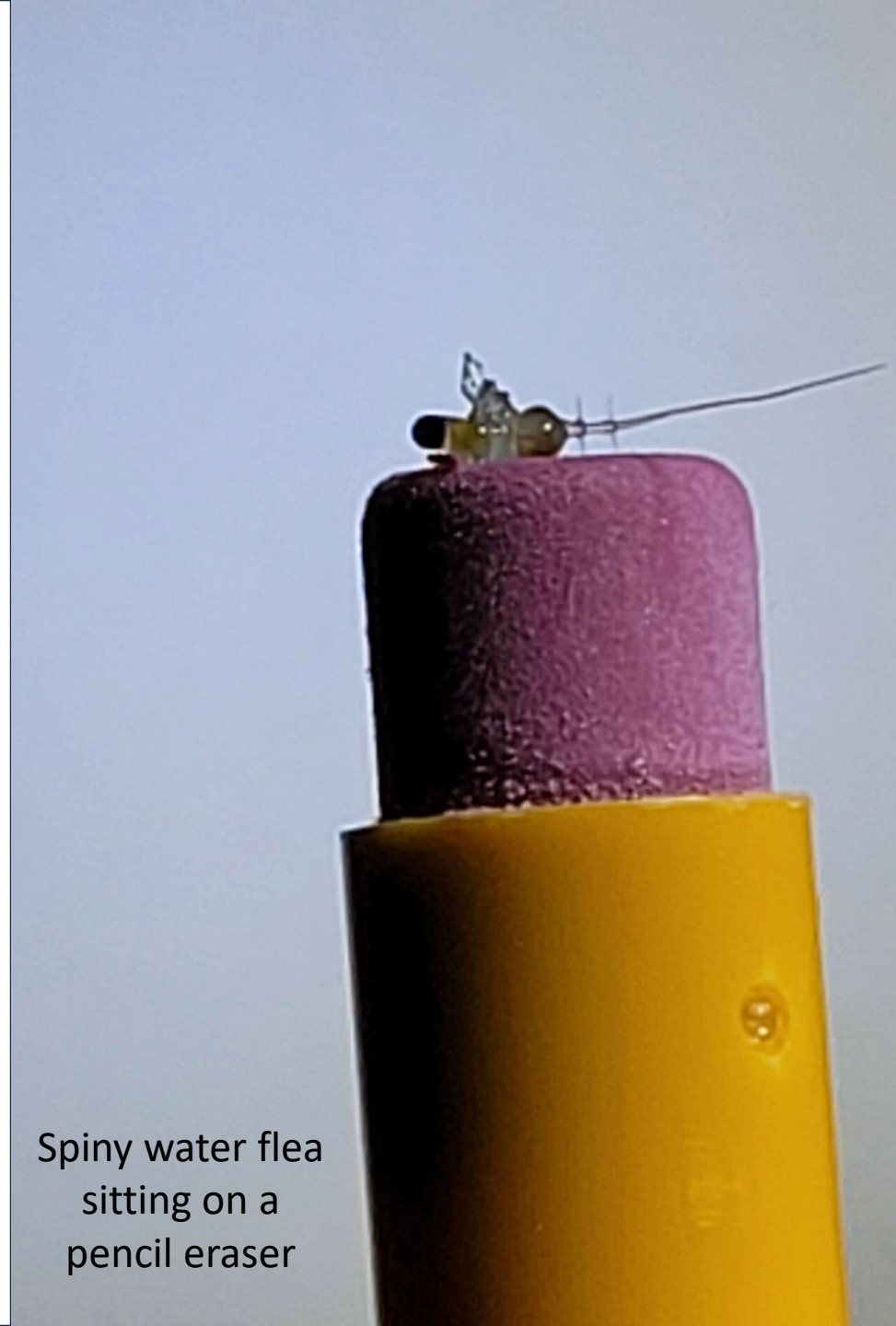
Monitoring History

- Started in 2016
- Nine deep spot locations on Lake Winnipesaukee
- Once a year, target late summer
- Spiny Water Flea detected in 2023
- First reported by fisherman
- Still spreading throughout lake
  - Green – no SWF found in sample
  - Yellow – SWF spine observed in sample
  - Red – SWF observed in sample
- Confirmed in Lake Winnisquam same year
- Too soon to know impacts



How do I monitor for SWF on my lake?

- Talk to your local fishermen!
- Almost always first detectors
- Know what you're looking for
  - Long, spiny tail
  - Large black eyespot
  - Clumping on fishing line or rope
  - Most common in late summer



Spiny water flea sitting on a pencil eraser

How do we prevent SWF from spreading?

- Clean transient boats and trailers
  - High pressure (2500 psi)
  - Hot water (140°F)
  - Clean away from the lake
  - 10 seconds for boat & trailer
  - 2 minutes to flush your motor, bilge, live well, ballast, etc.
- Soak your gear in hot water (140°F)
- Dry for several days
- Report sightings to Amy.P.Smagula@des.nh.gov

Spiny water flea held by tail with forceps

Invasive Species Mantra

Prevention	• Signage at launch • Lake Host • Education/outreach
Early Detection	• Weed Watchers- 1x/month from May through September • General monitoring- during VLAP/LLMP/other
Rapid Response	• Notify NHDES immediately if you suspect you found something • We will assess and implement a rapid response if appropriate
Long-Term Management	• For those waterbodies with existing/established infestations • Routine monitoring, management, assessment

Lake Hosts are the first line of defense in keeping our lakes free of invasive plants and animals.

NH LAKES

These simple steps prevent the spread:

- **Clean** off all plants, animals, and debris from boats, trailer, and recreational gear. Cleaning is the law in NH.
- **Drain** all water and open drain plugs. Draining is the law in NH.
- Allow to **dry** for five days in the sun.

Looking for Suspicious Specimens

We partner with lake associations, municipalities, and towns to staff public ramps with volunteer and paid Lake Hosts

NH LAKES

Since 2002, the Lake Hosts Across New Hampshire have:

- Worked with hundreds of partnering groups
- Record 1,665 total saves of aquatic invasive species during inspections across 77 different lakes
- Given 1,537,350 complimentary boater inspections

Newfound Lake Invasive Species Pressure

Third largest lake in New Hampshire

- 22 miles of Shoreline, ± 1000 acres of suitable habitat

Large day use and resident boating community

- Two active public boat launches
  - 10-15% of boats are coming from infested waterbodies
  - 20% of tailored boats are ballasted

Lake Host
Prevention & Boater Education

- Prevention is paramount!
- Regular presence at launch facilities
- Public engagement

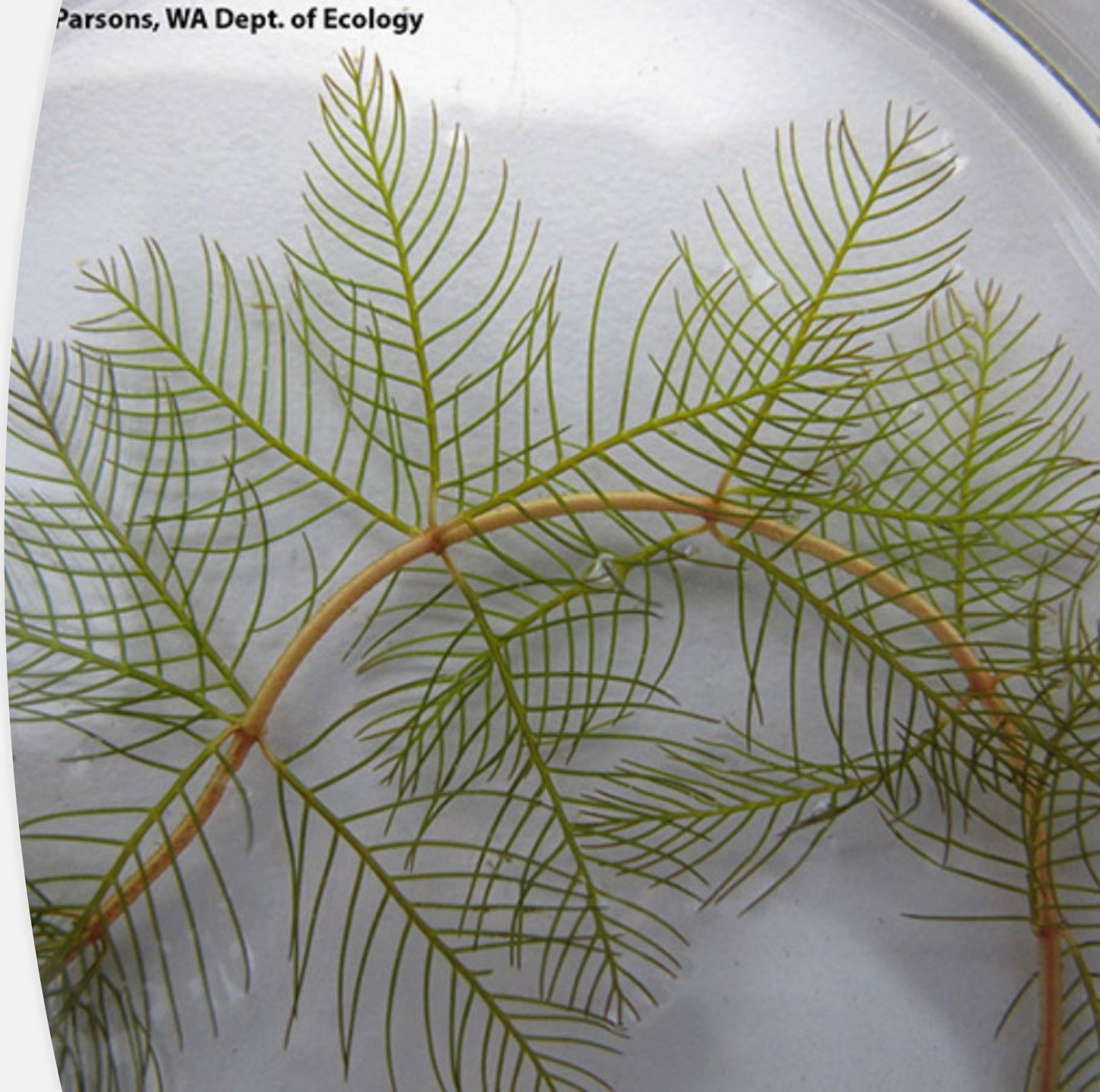
- **Program Summary**
- 2002 to present
- 72 Individual lake hosts
- + 56,000 boat inspections
- 29 Confirmed saves

Weed Watchers
Early Detection, Rapid Response

- Flexible volunteer commitment
- Community awareness
- Connecting to natural habitats
- Response ready

- **2023 Program Highlights**
- 6 Training Events
- 31 Weed Watcher Volunteers*
- 78 Survey Hours
- 96 Miles Paddled
- 2nd annual Newfound Lake Weed Stampede

EURASIAN WATER MILFOIL



EURASIAN WATER MILFOIL

Response

July 24

Suspicious Plant Pulled From Boat Trailer

July 25-28

Habitat by all boat lunches surveyed

August 14

NH DES confirms identification and call goes out to Weed Watcher volunteers 30% on Newfound Lake surveyed

August 26-27

Newfound Lake Weed Stampede: Volunteers survey 78% of nearshore area (94% in total)

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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