

# Aquatic Invasive Species (AIS) Management on Lake Winnisquam





# Lake Winnisqua m

- Fourth largest lake in NH
- 4,214 acres
- 5 municipalities
- Located between Lake Winnepesaukee and Merrimack River – lots of aquatic habitat downstream!



- Founded in 2017 through grassroots effort
- Mission to preserve and protect Lake Winnisquam now and for future generations
- Coordination of water quality monitoring & invasive species management
- Watershed Management
- Education & Advocacy

# Aquatic Invasive Species in Winnisquam



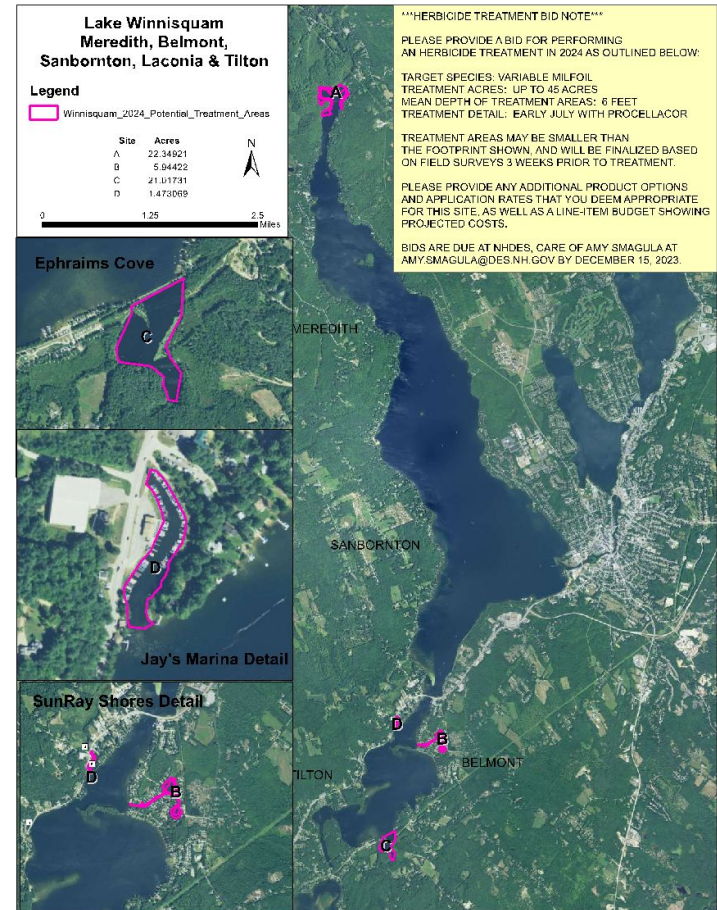
Variable Milfoil (*Myriophyllum heterophyllum*)



Photo Source: NHDES

# Comprehensive Long-Term Milfoil Management

- Coordinated, lake-wide approach
- Early detection (NHDES mapping and Weed Watchers)
- Consistent (annual) treatment with herbicide and/or diver/DASH
- Follow-up monitoring
- Funded by NHDES grant and local matches



# WWN Milfoil Management to Date

2017 – NHDES mapping

2018 – Solitude 19.5 acres w/ Navigate, Aqualogic 12.5 days diver/DASH

2019 – 29.9 acres w/ Procellacor, Aqualogic 12 days diver/DASH

2020 – 13 acres w/ Procellacor, Aqualogic 4.5 days diver/DASH

2021 – Aqualogic 6 days diver/DASH

2022 – Aqualogic 14 days diver/DASH

2023 – Aqualogic 17 days diver/DASH

2024 – Solitude 39.3 acres Procellacor, TSE 3 days diver/DASH



# Water Violet (*Hottonia palustris*)

In Jay's Marina area of Winnisquam since 2021

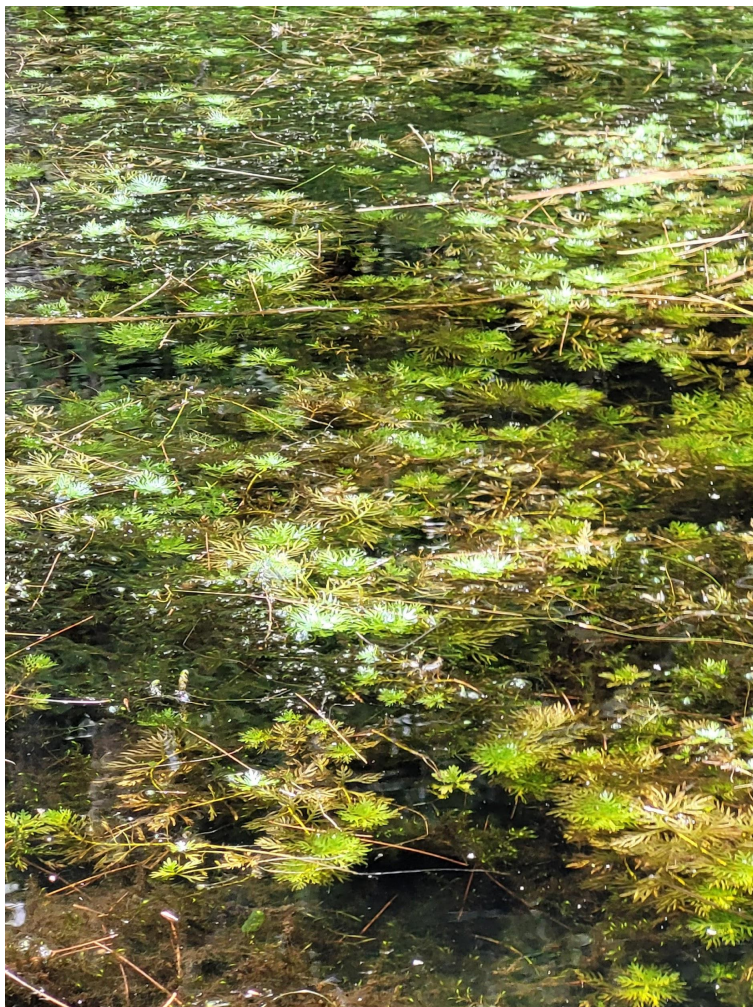


Photo source: NHDES

# Water Violet Management

- 1.65 acres treated in 2024 with Flumigard SC
- More effective than Procellacor
- Seeds still pretty viable, need additional monitoring



# Spiny Water Flea

First observed in Lake Winnisquam Oct  
2023

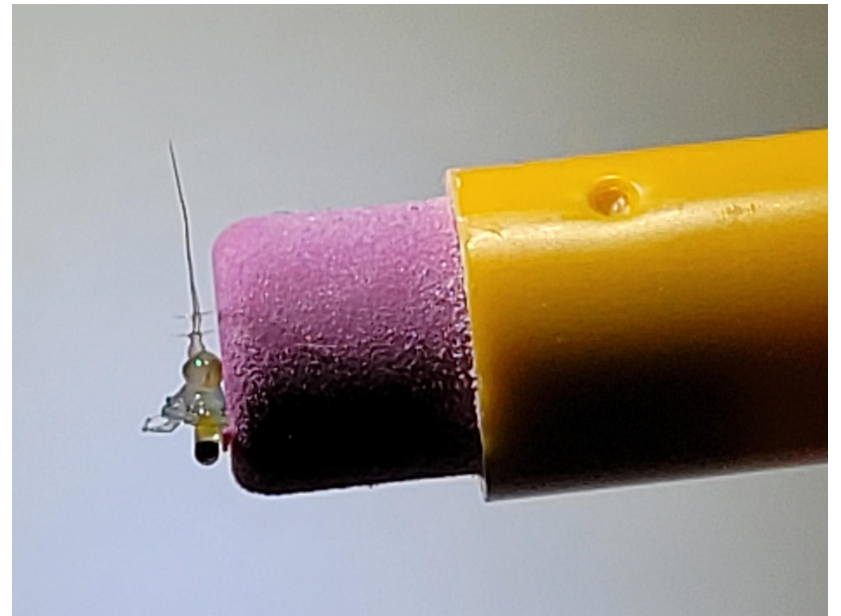
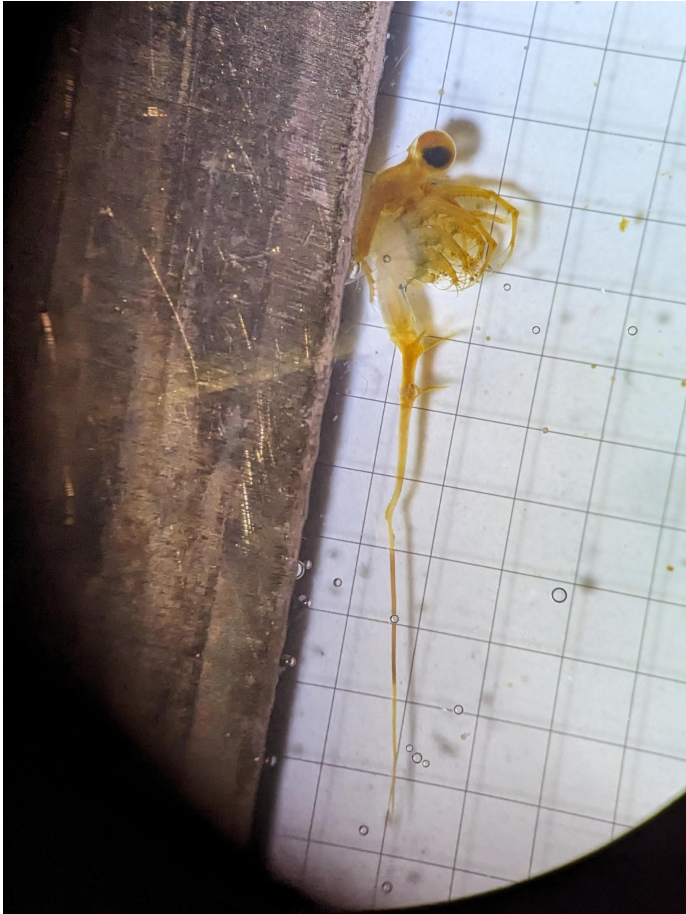


Photo source:  
NHDES

# Invasive Species Prevention

WWN Lake Host program



Questions?





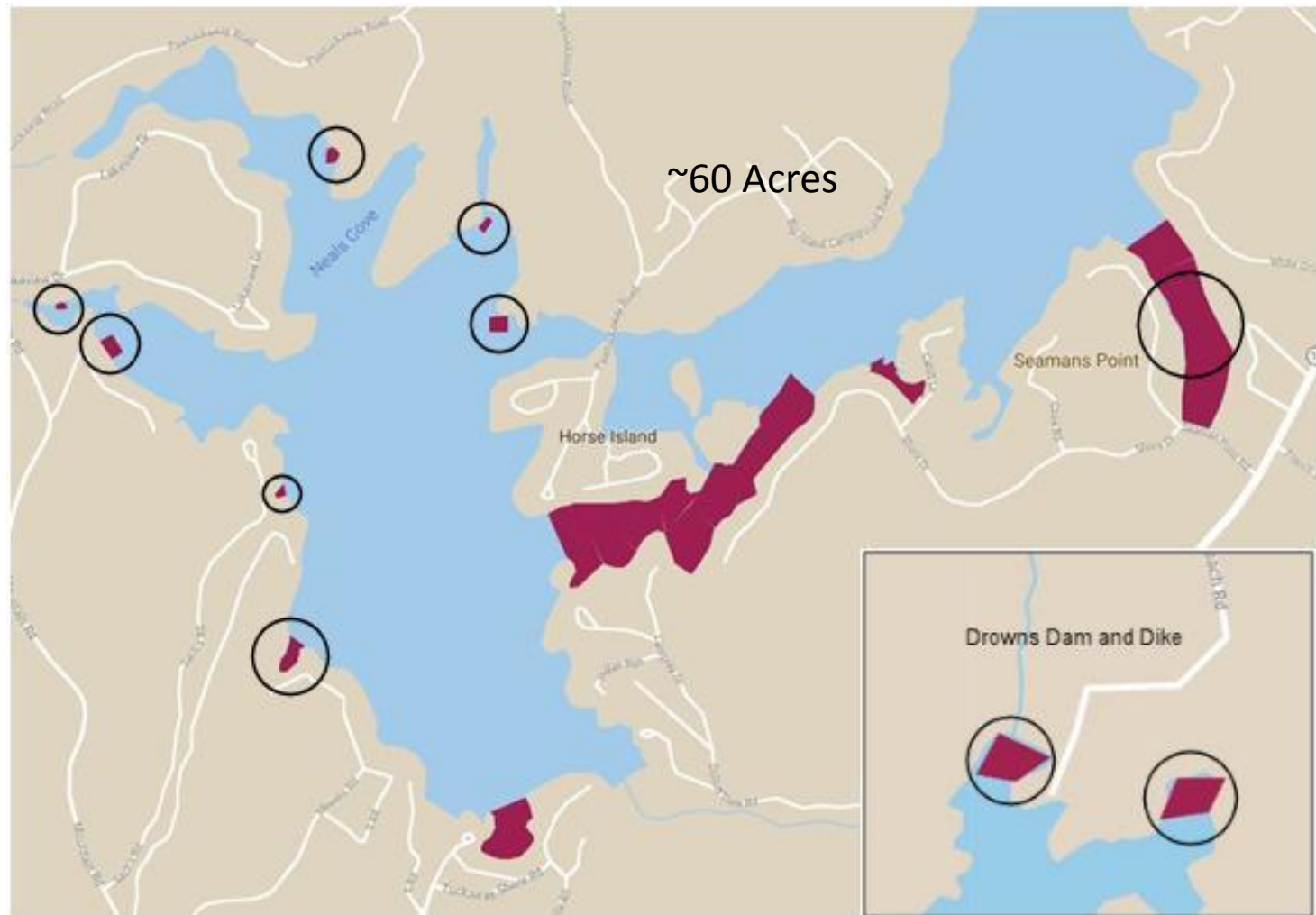
# Pawtuckaway Lake Management of Variable Milfoil with ProcellaCOR

NH Lakes Congress  
June 5, 2025

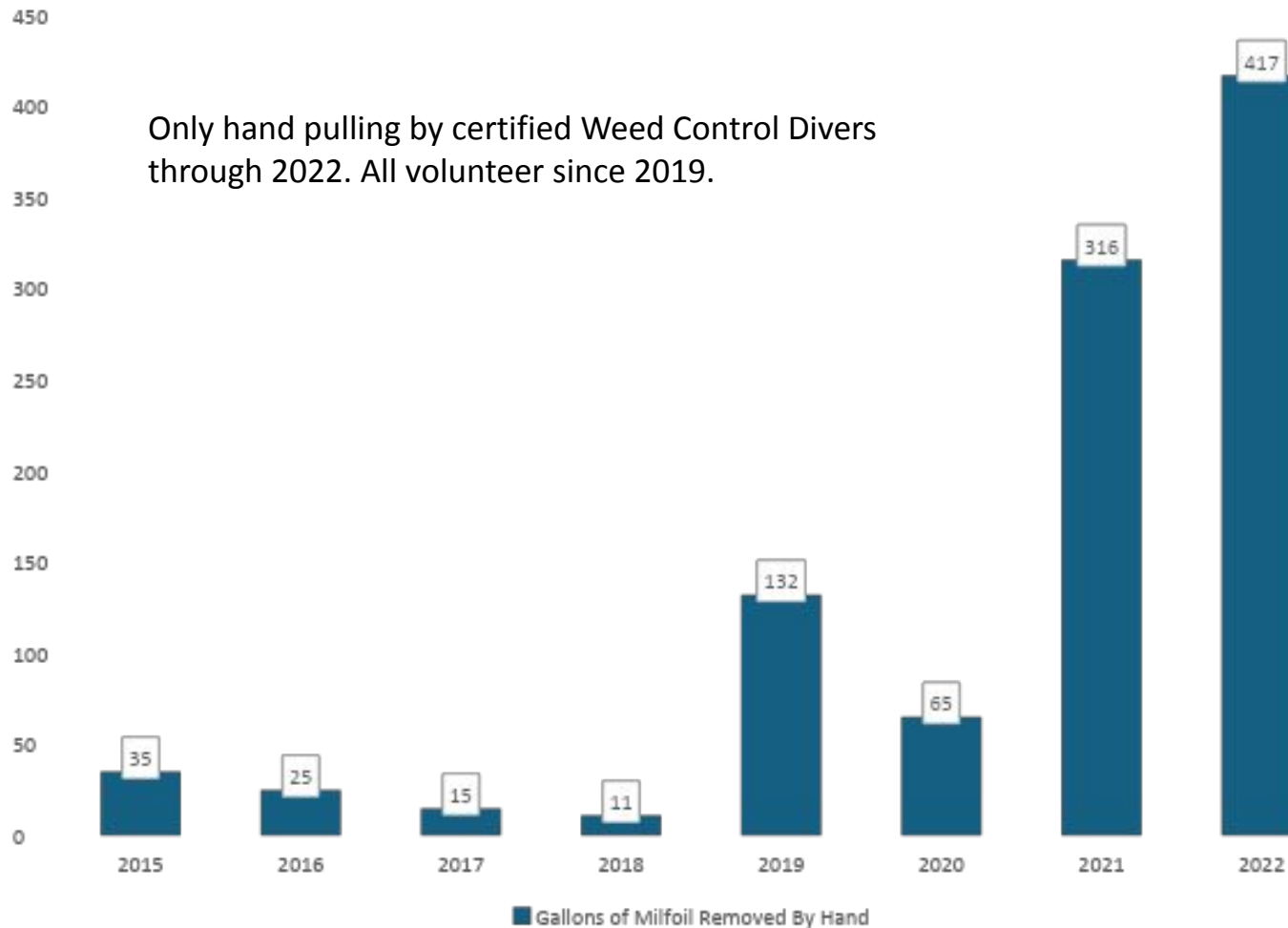
# Milfoil 2017



# 2023 Milfoil Areas



# Milfoil Amounts by Year



# 2022 Actions and 2023 Outlook

- Expected significant increase in milfoil in 2023
- Expected several new milfoil areas
- Applied for remediation grant from NH DES in Fall 2022
- Had provided ongoing detailed reports/maps with NH DES since 2015
- NH DES concurred that a grant was justified and recommended ProcettaCOR be applied on up to 60 acres of lake

# ProcellaCOR

- Synthetic plant growth hormone
  - Systemically absorbed by milfoil and other target plants
  - Causes plants to “blow up” and die
- Approved for use in NH in 2019
- Used in over 50 NH lakes for milfoil control
- More effective on milfoil than previous chemicals
- Less side effects on native plants
- Less lake community water use restrictions
- NH DES preferred chemical treatment for milfoil

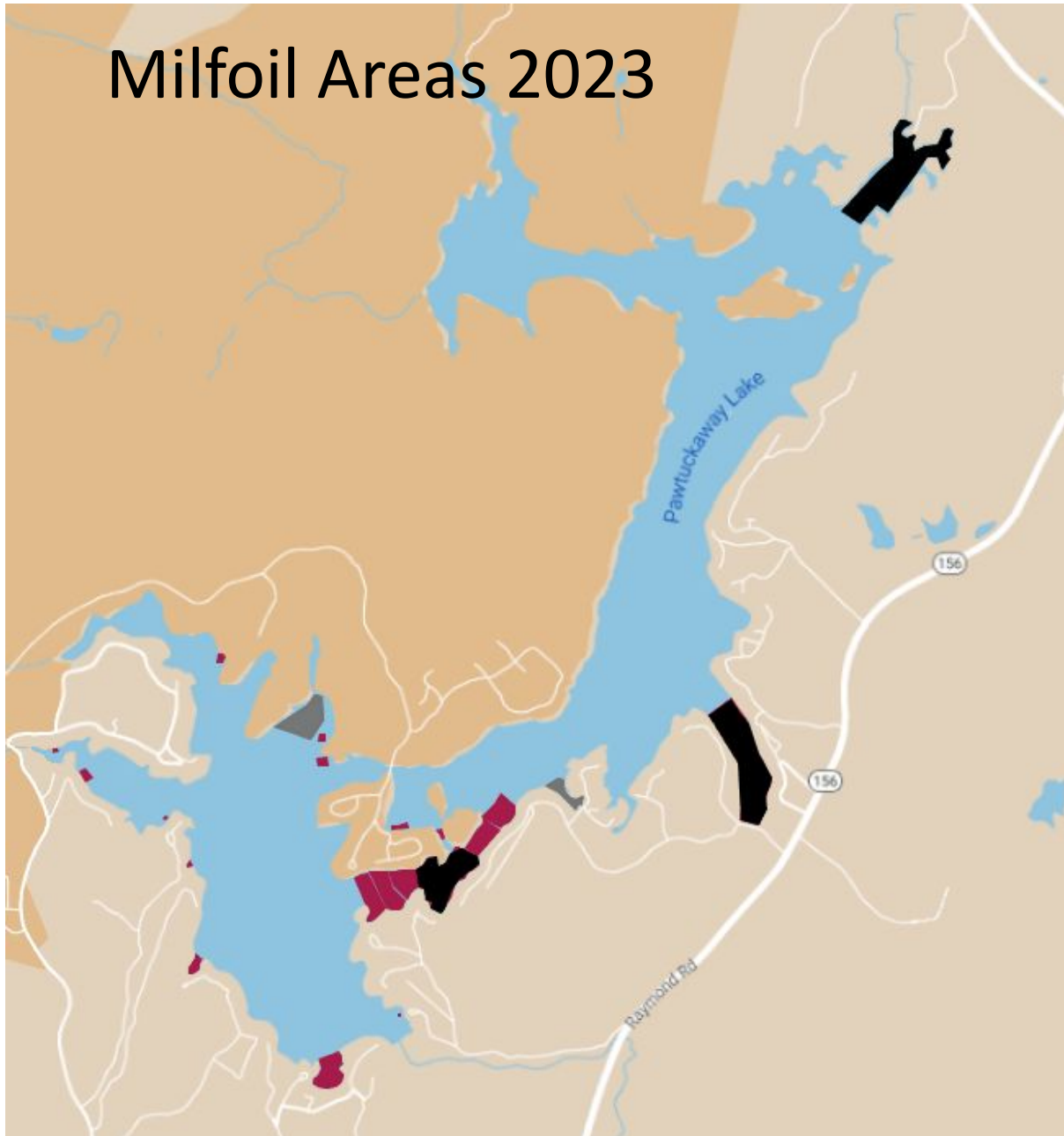
# 2023 Actions

- NH DES approved \$50K grant
- Treatment plan announced to lake community in Spring 2023 through Facebook and lake association mail distribution
  - Lake community aware of milfoil since 2015 through Facebook posts, email distributions, annual meeting presentations, markers in water and milfoil signs



- General support from lake community with a few notable critics
- NH DES presented at lake association annual meeting in June
- ProcellaCOR applied in early July (Solitude Corp)

# Milfoil Areas 2023

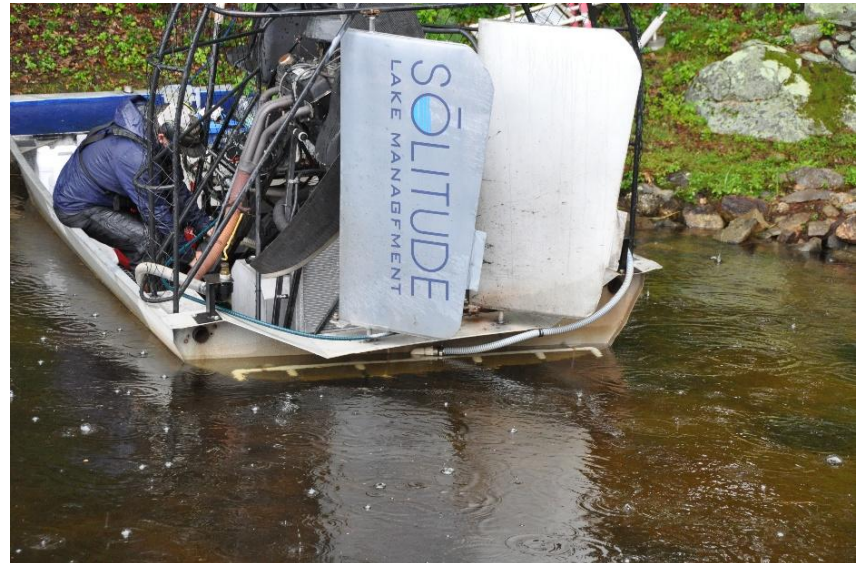


Black – Densest Areas  
Treated with ProcellaCOR

Gray- Less Dense Areas  
removed by hand pulling by  
professional DASH crew

Red- Least Dense Areas  
Searched and hand pulled by  
lake volunteer divers

# ProcellaCOR Application



# ProcellaCOR Application



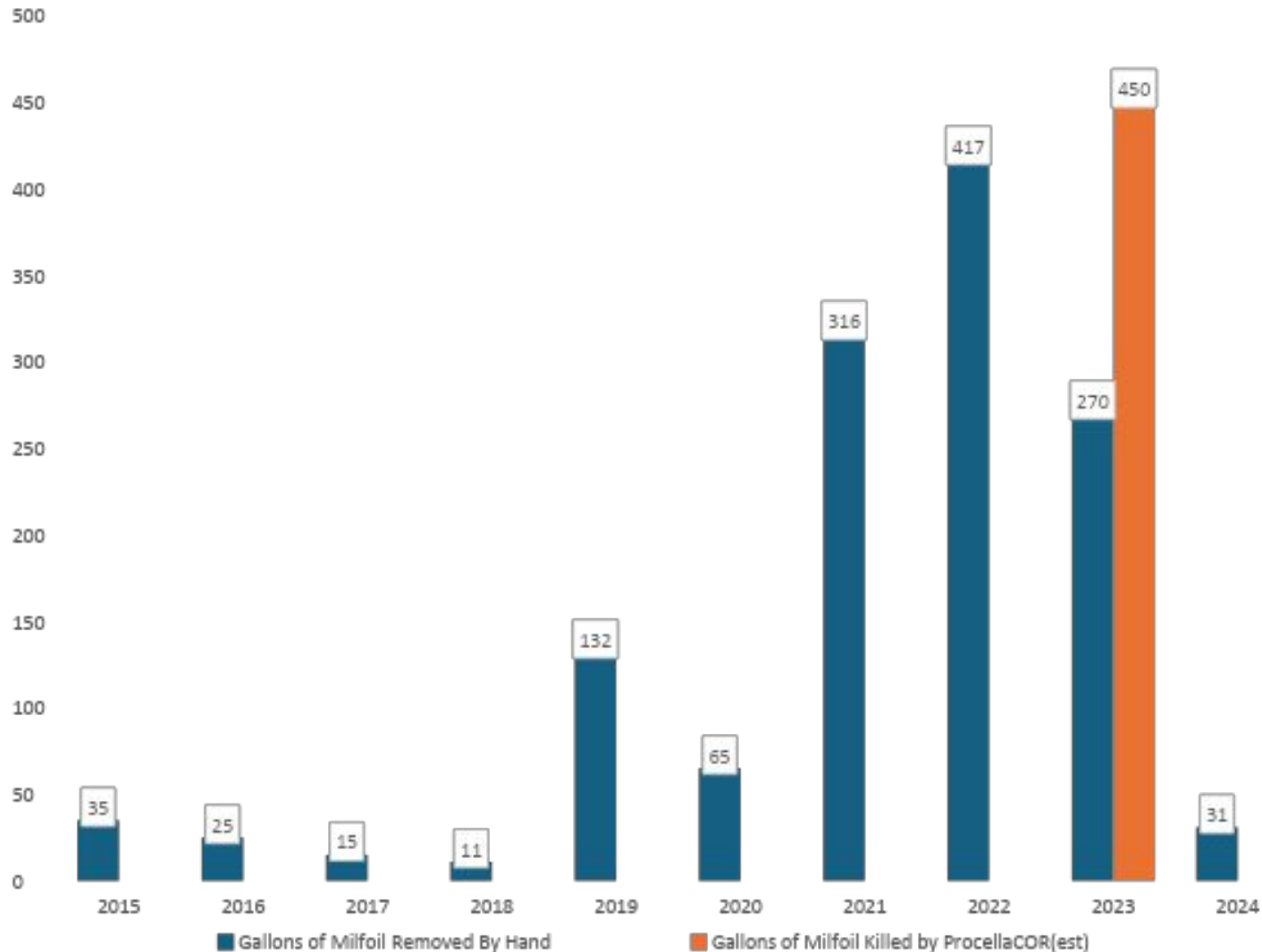
Pre Treatment



3 Weeks Post Treatment

- 48 hour post-treatment test showed minimal residual chemical or chemical by-products
- ~42 acres treated at a cost of \$37,000

# Milfoil Amounts by Year





# ProcellaCOR Alternatives

- Professional Divers
  - Less costly?
    - \$150/diver hour plus support ~\$400/hr
  - Easy to miss plants in low visibility water
  - High regrowth potential
- DASH Crew
  - ~\$2K/6 Hour dive day plus travel expenses
  - Easy to miss plants
  - Some regrowth potential
- Other Chemicals
  - Per NH DES ProcellaCOR heavily preferred

# Summary/Pros

- Milfoil in treated areas dramatically reduced(98+% reduction)
- Kills milfoil down to the roots
  - Essentially no regrowth
- Minimal effect on native vegetation
  - No visible effect on most native vegetation, primarily bladderwort, elodea, tape grass, large leaf pondweed
- Minimal Disruption to Lake Activities

# Summary/Cons

- Some milfoil still present in treated areas
- Some observed effect on coontail in and adjacent to treated areas
- “Costly” (depends on milfoil density/area and availability of volunteer divers)
- May cause complacency in eradication efforts
- May raise issues with lake community
  - General concern about chemicals in water
- Decay will reduce dissolved oxygen