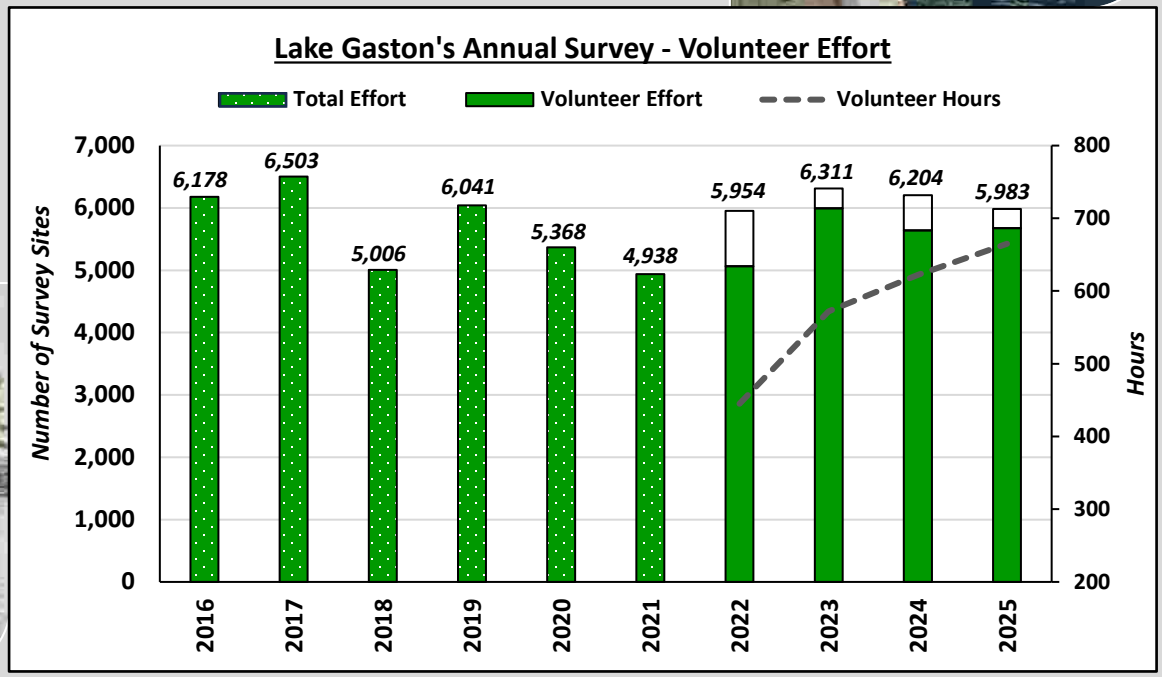
Lake Gaston
Technical Advisory Group Meeting
2026

Jessica R. Baumann and Dr. Rob J. Richardson
Aquatic Plant Management Program
North Carolina State University

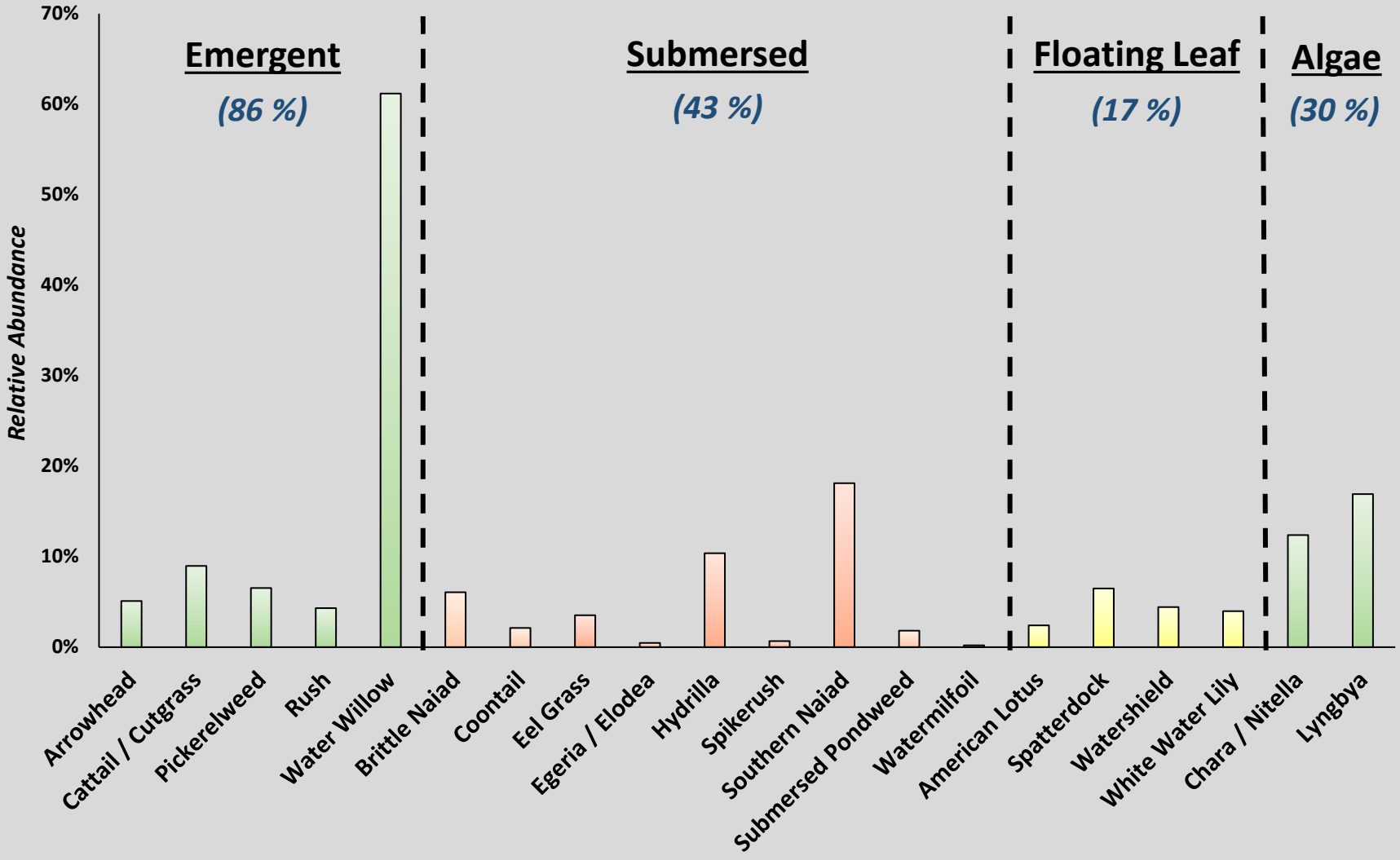
- TAG Voting Members
- State Agencies
  - NCDEQ
  - NCWRC
  - VADWF
- Dominion
- NCSU
- Stakeholders / LGA
- SePro

2025 Vegetation Survey

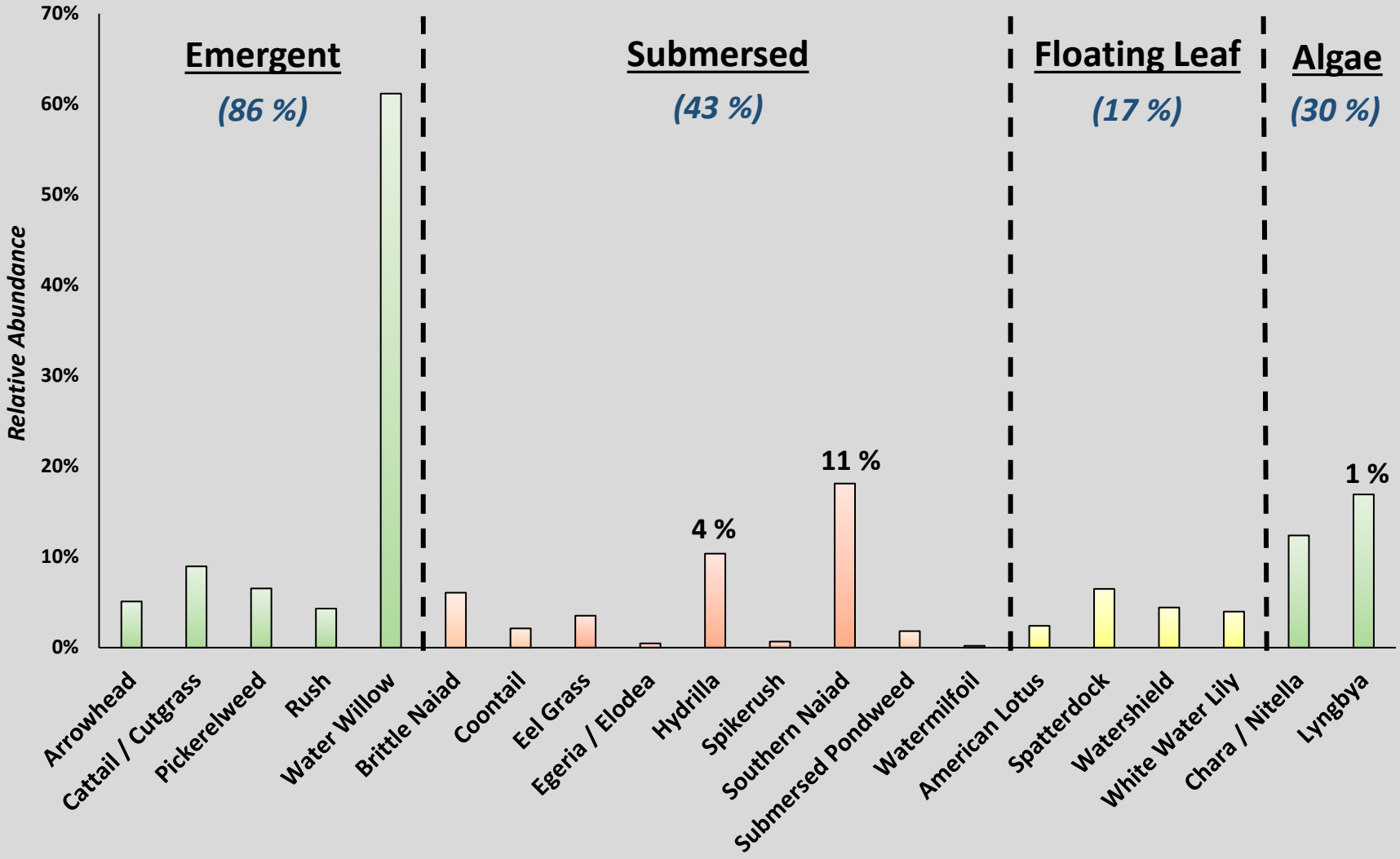
- Almost 200 Individual Volunteers
  - 556 Active Survey Volunteer Hours
- Conducted from August 16th to October 29th
- 5,938 Points Collected
  - Goal Every 200 ft
- 86% of sites contained vegetation



Aquatic Plant Community - 2025

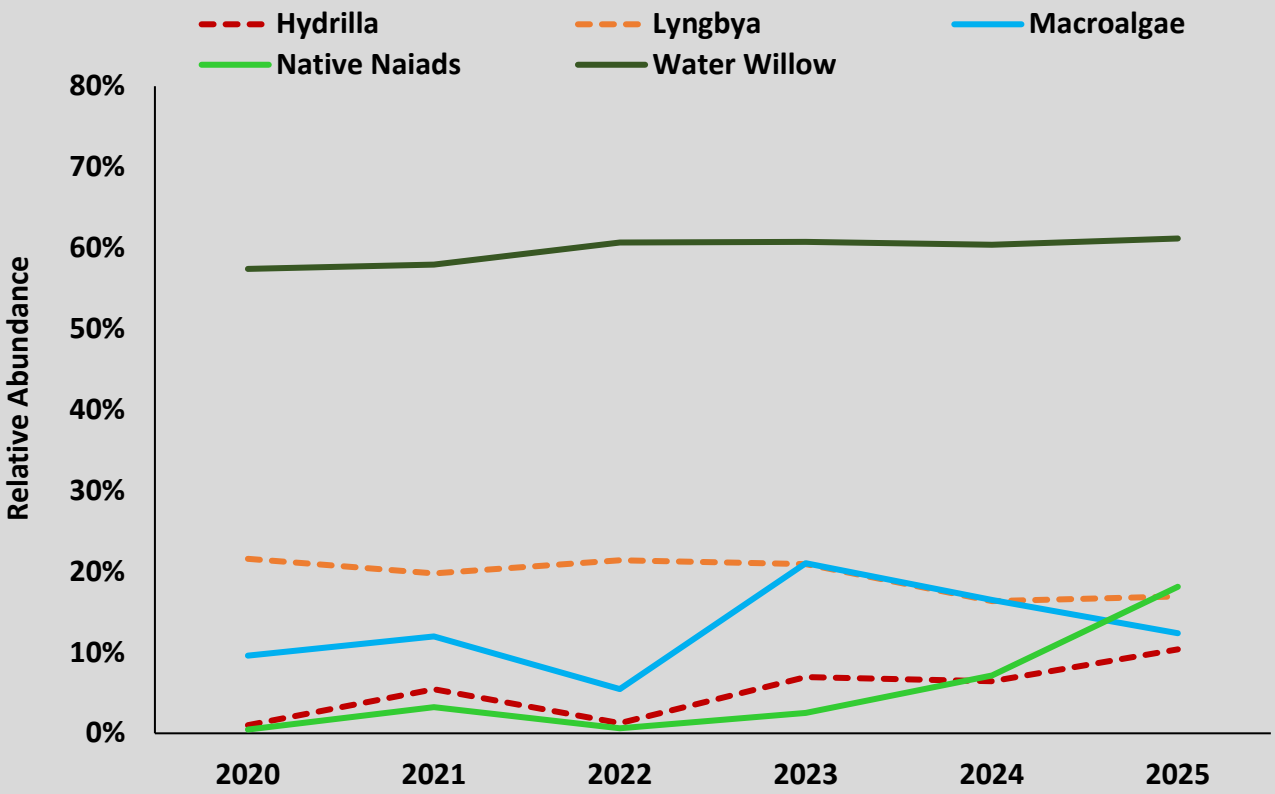


Aquatic Plant Community - 2025



Aquatic Plant Community

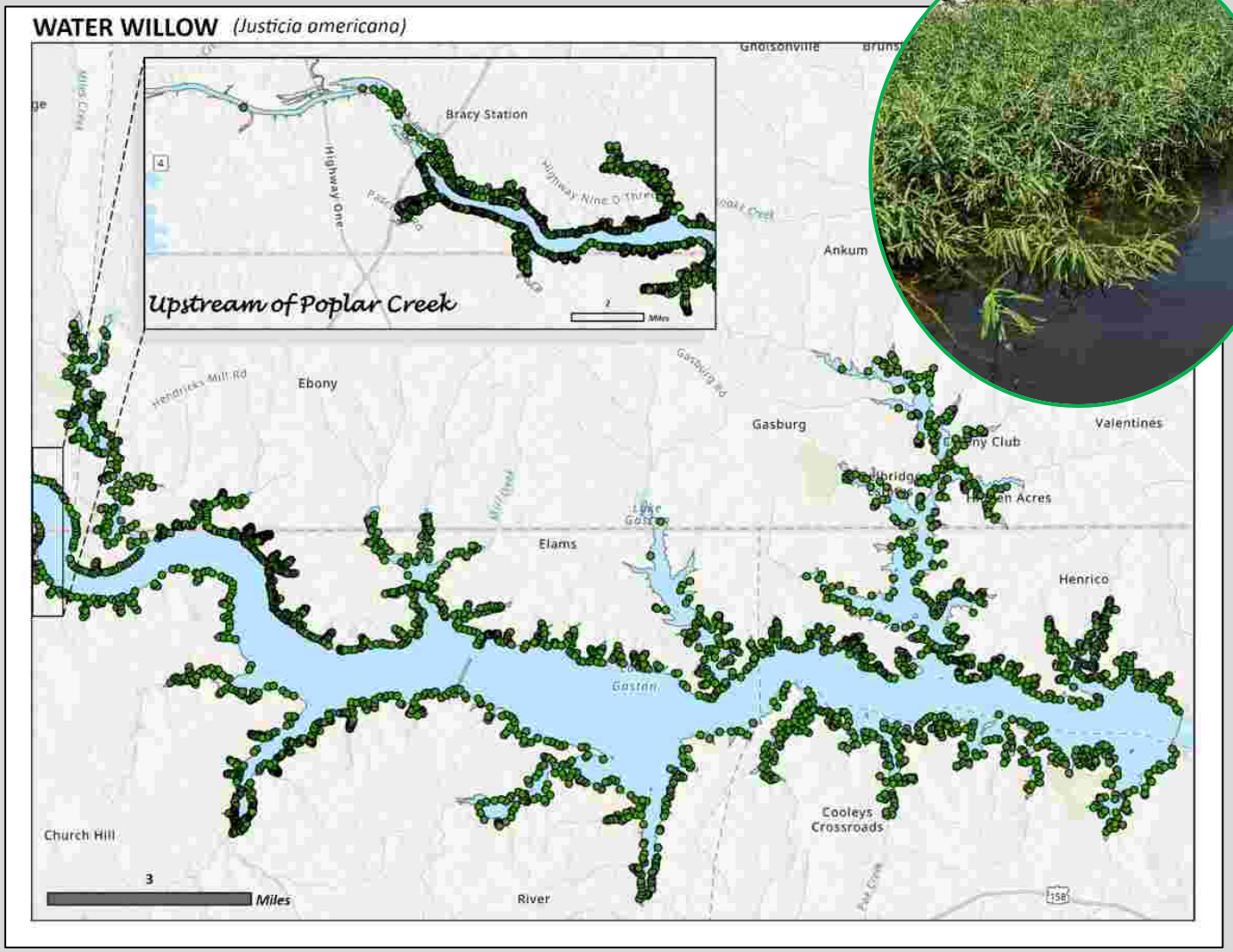
5 Most Abundant Species - 2025



Aquatic Plant Community

5 Most Abundant Species - 2025

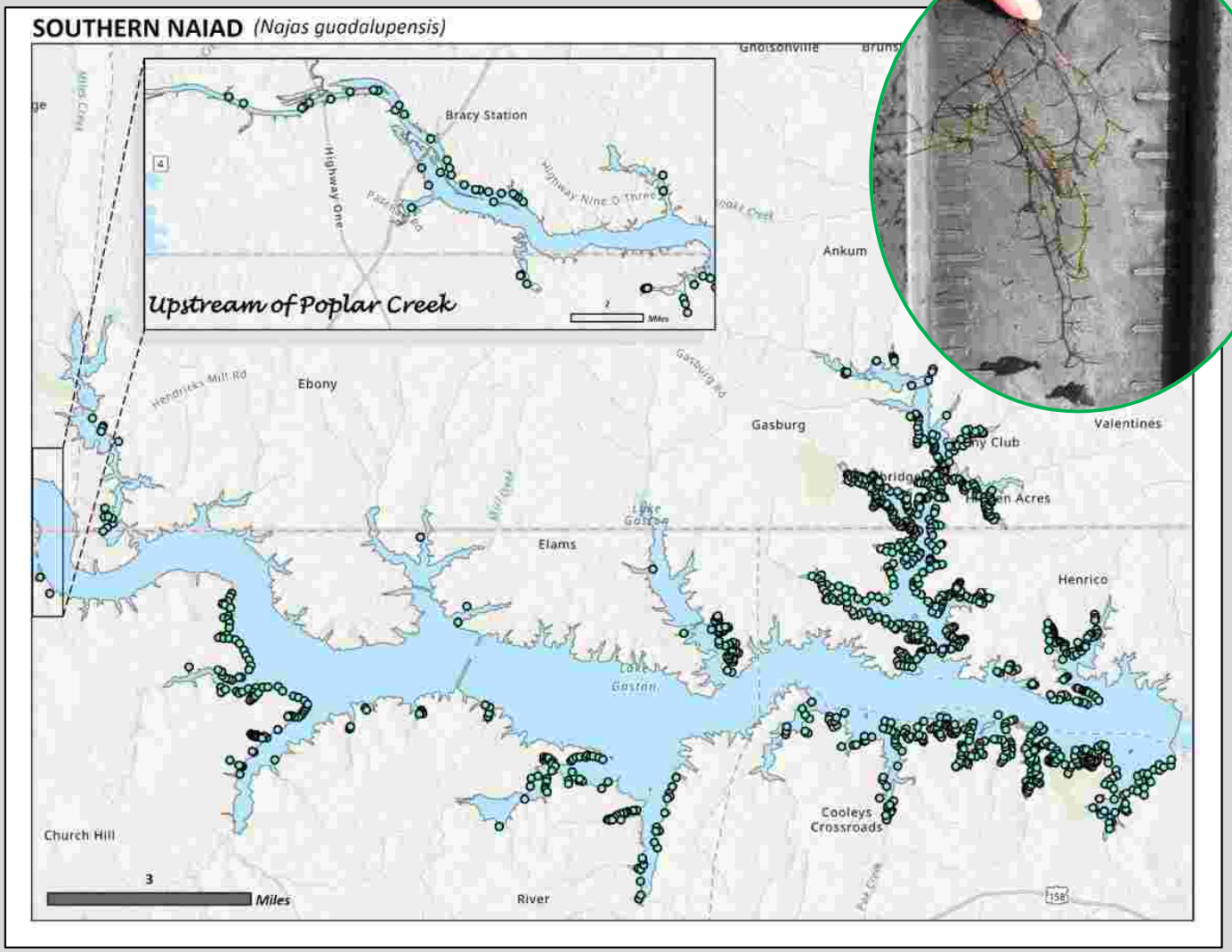
#1



Aquatic Plant Community

5 Most Abundant Species - 2025

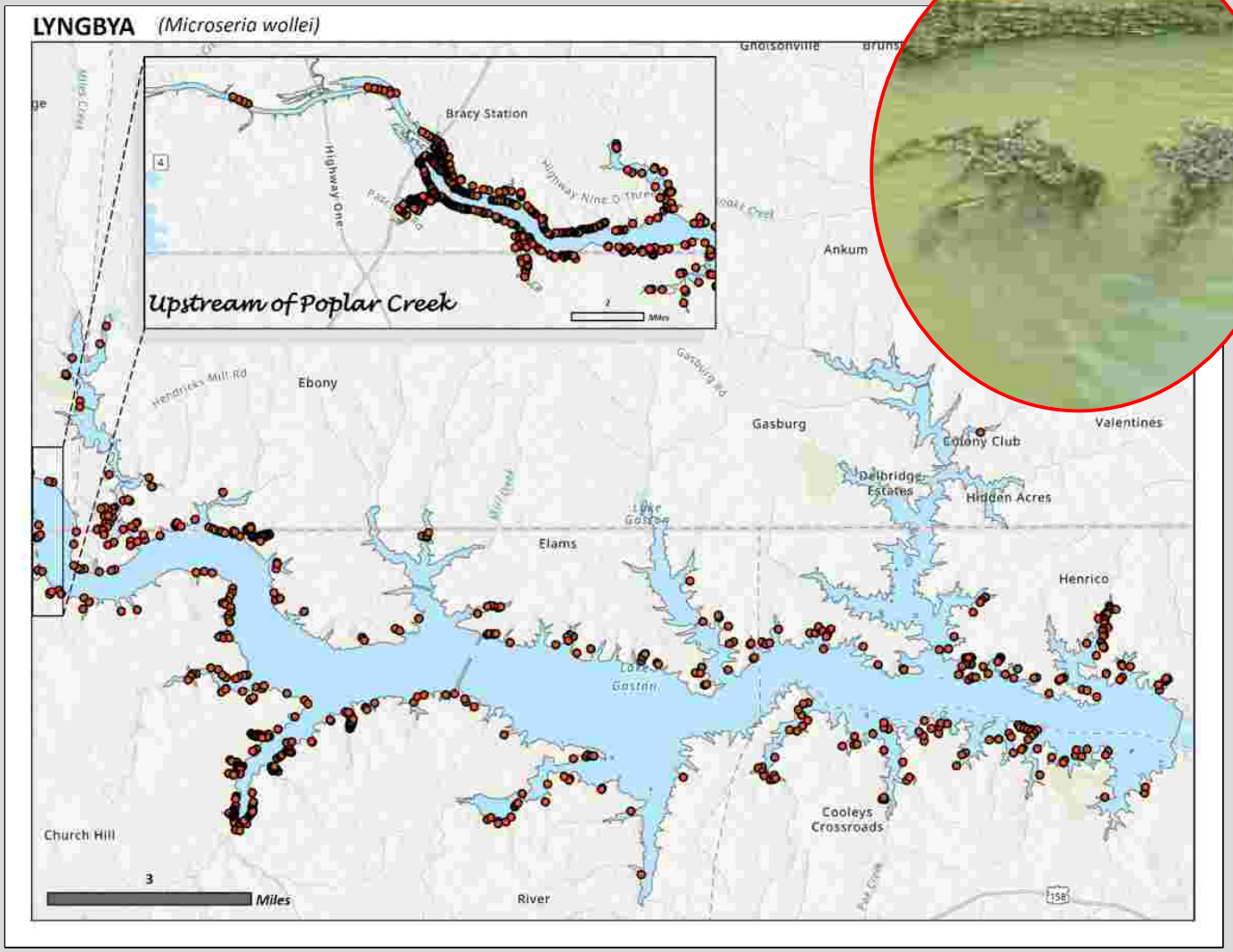
#2



Aquatic Plant Community

5 Most Abundant Species - 2025

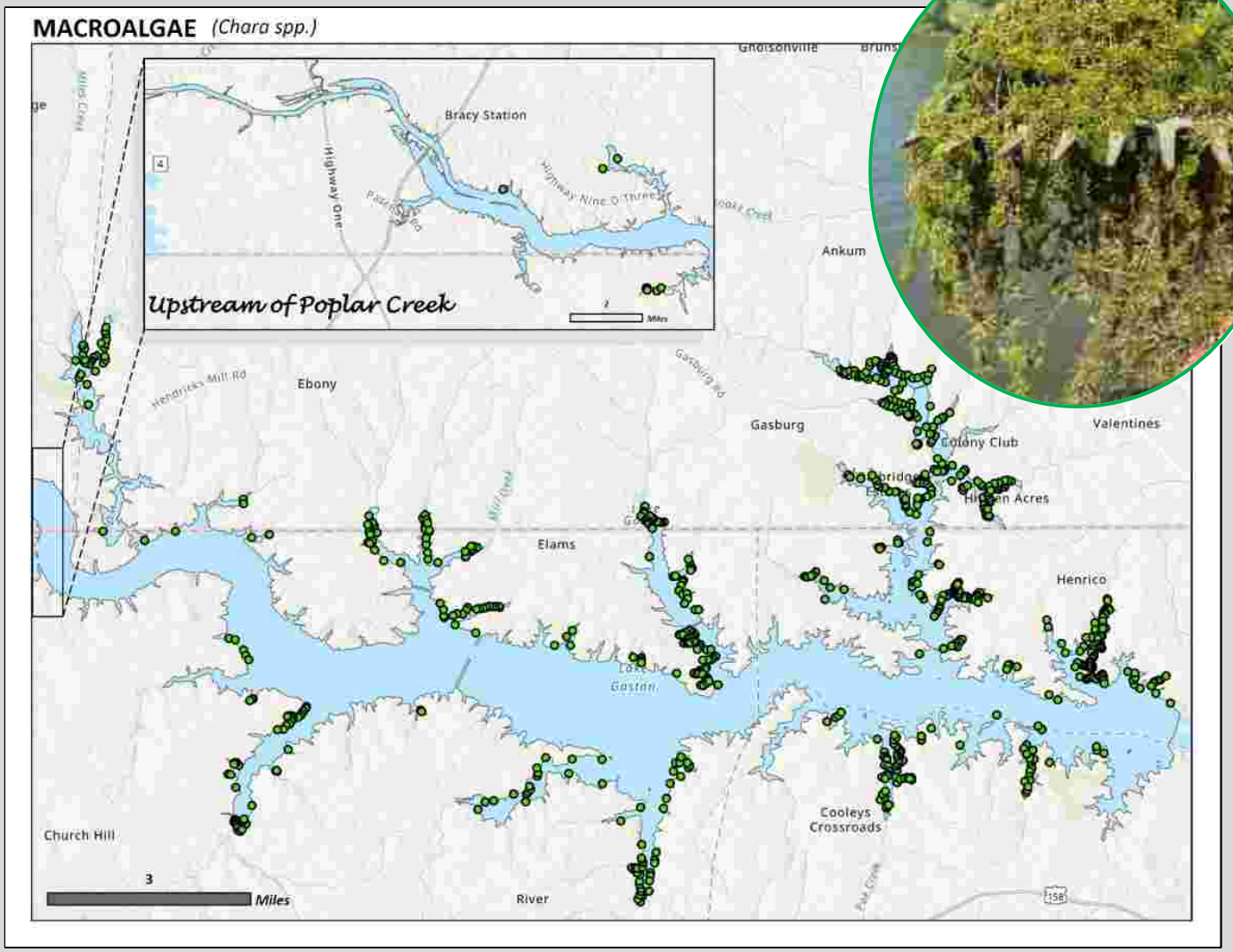
#3



Aquatic Plant Community

5 Most Abundant Species - 2025

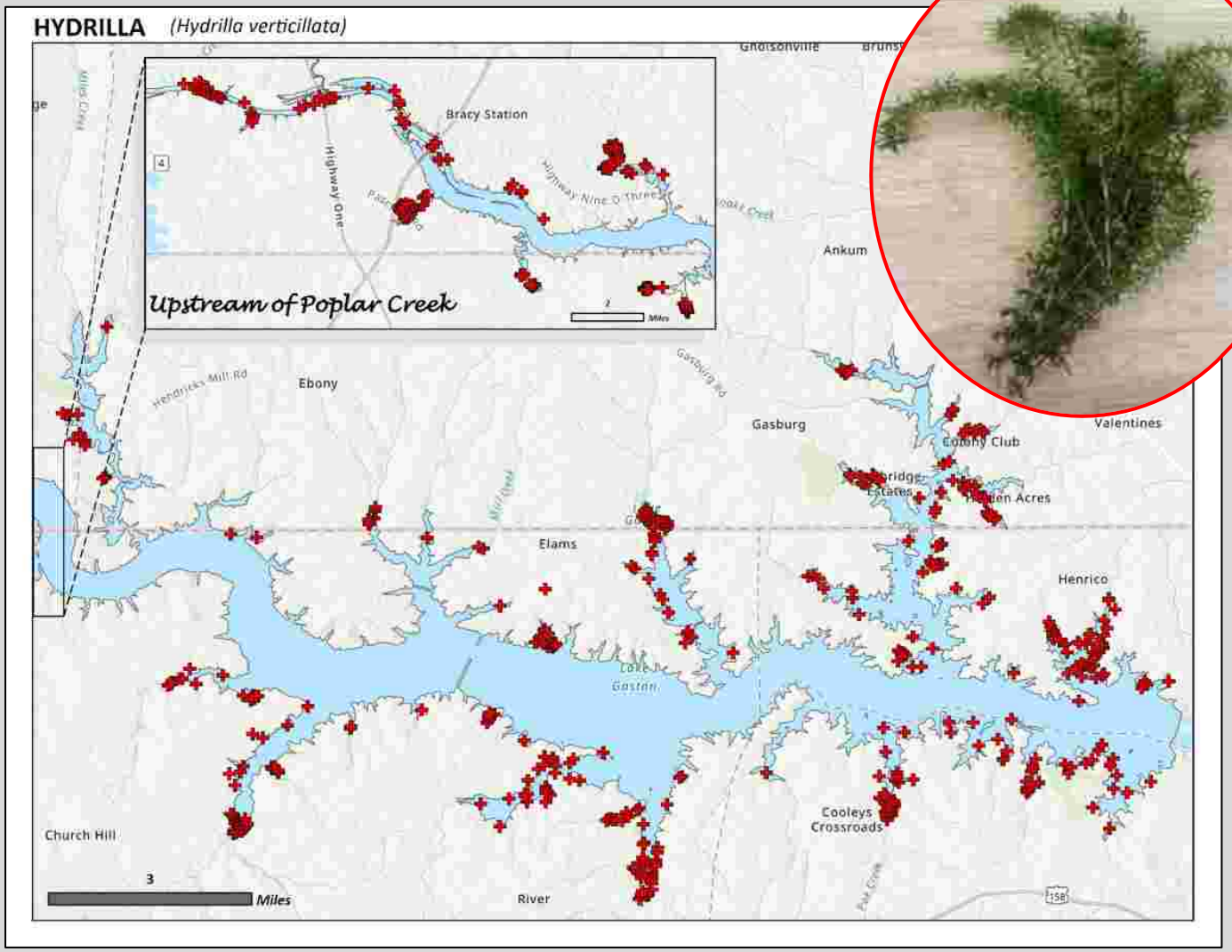
#4



Aquatic Plant Community

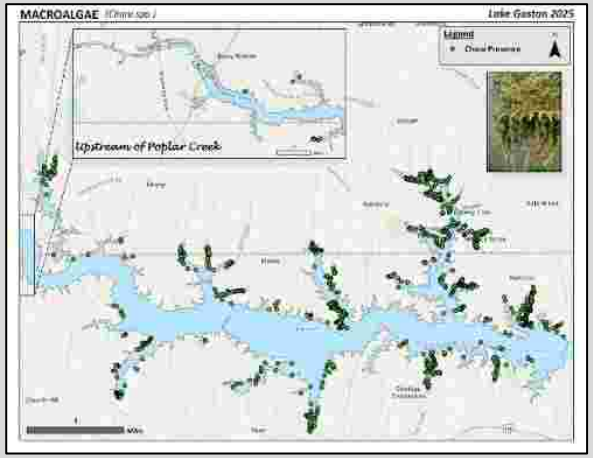
5 Most Abundant Species - 2025

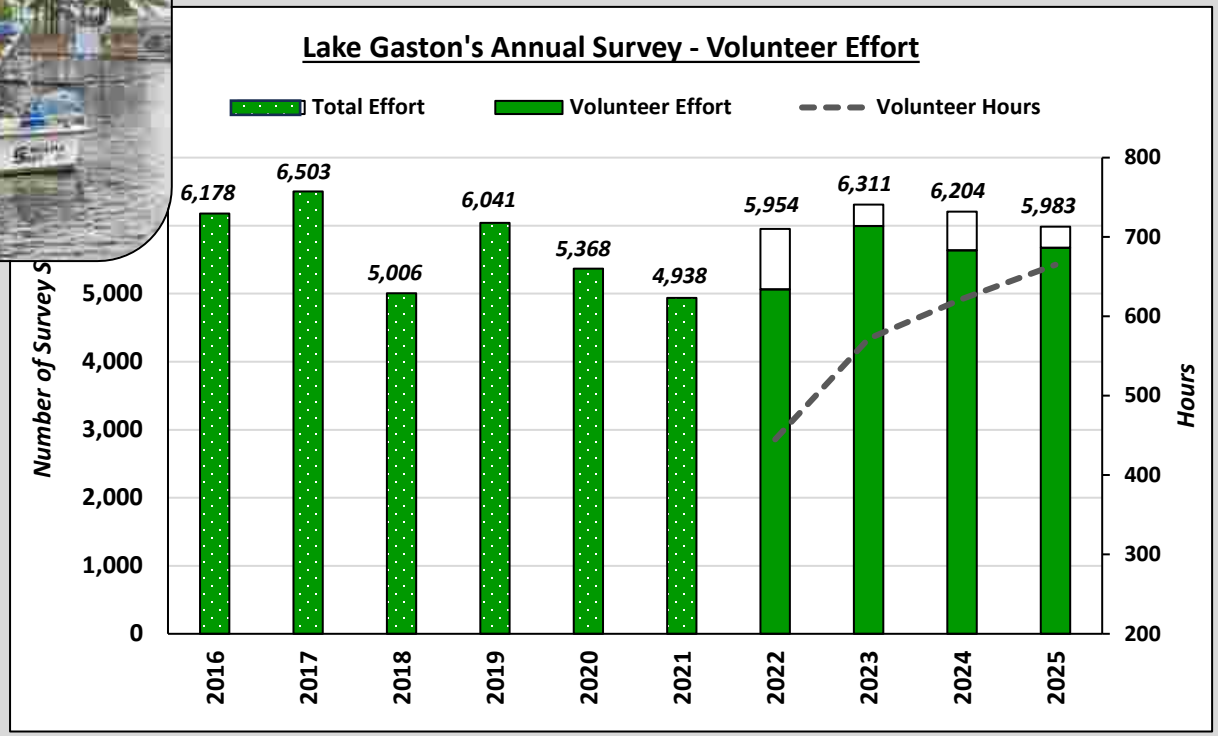
#5



2026 Recommendation

Continue funding and supporting volunteer/ NCSU survey

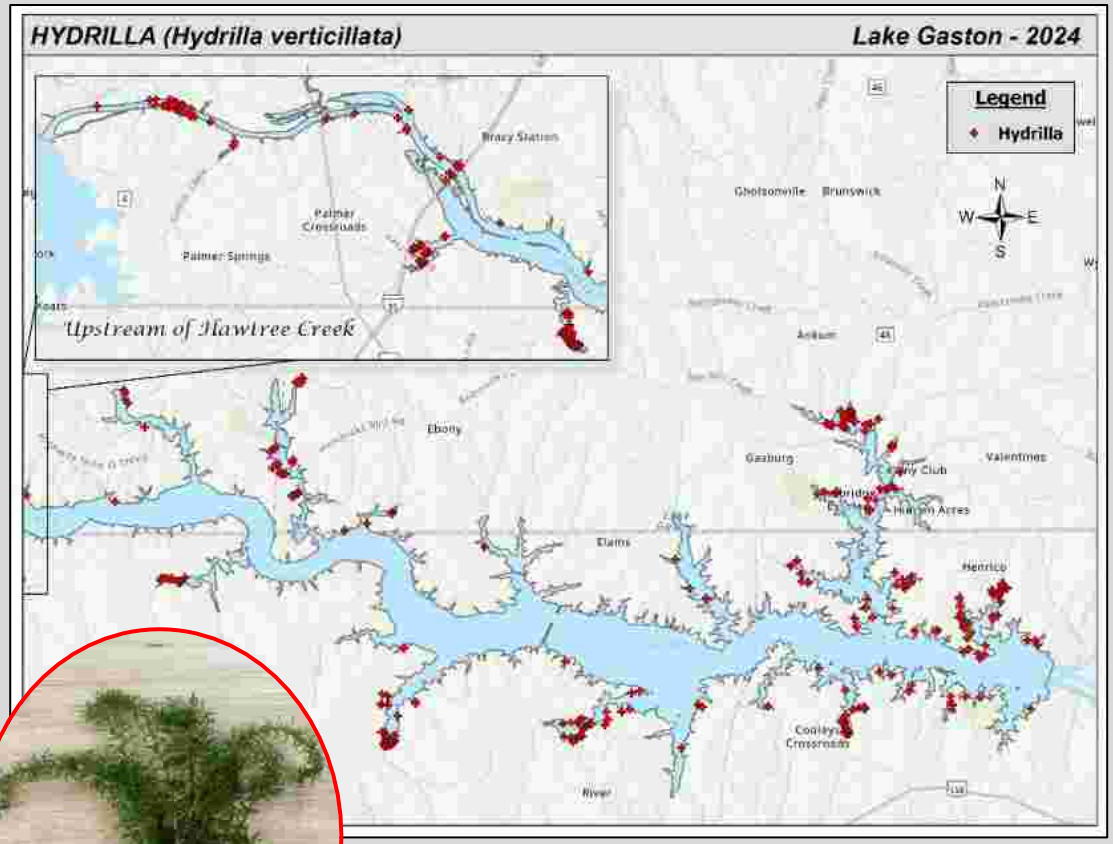




Hydrilla Management

Hydrilla Management

2025 Season Summary



2025 Recommendations

Treatment Acres: 200 acres

Grass Carp to be Stocked: 0

2025 Hydrilla Management

Total Treated Acres: 204 acres

Grass Carp Stocked: 0

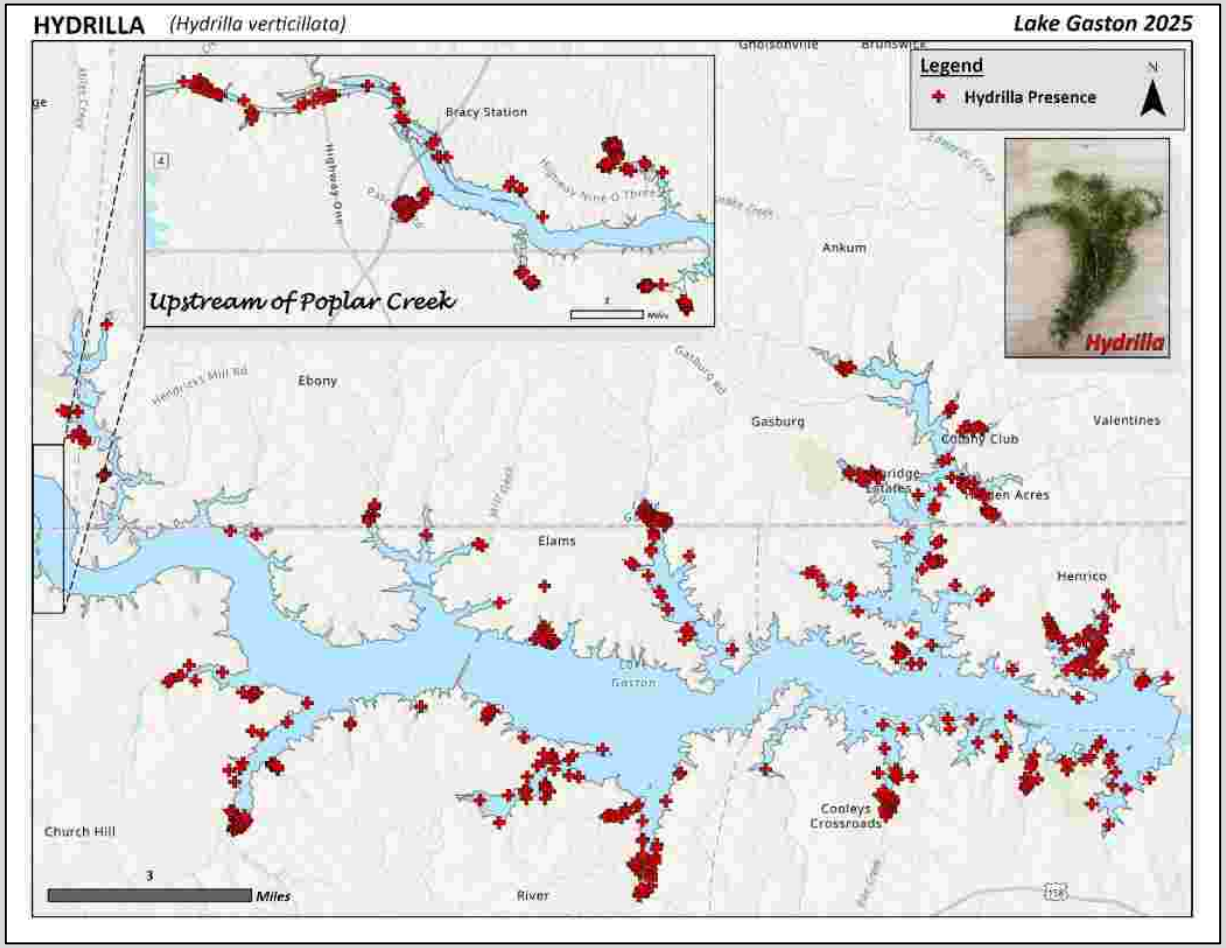
Hydrilla Management

2025 Season Survey Results

- **Sonar/Vegetation Surveys**
  - **Current Hydrilla Situation**

Hydrilla Management

2025 Season Survey Results

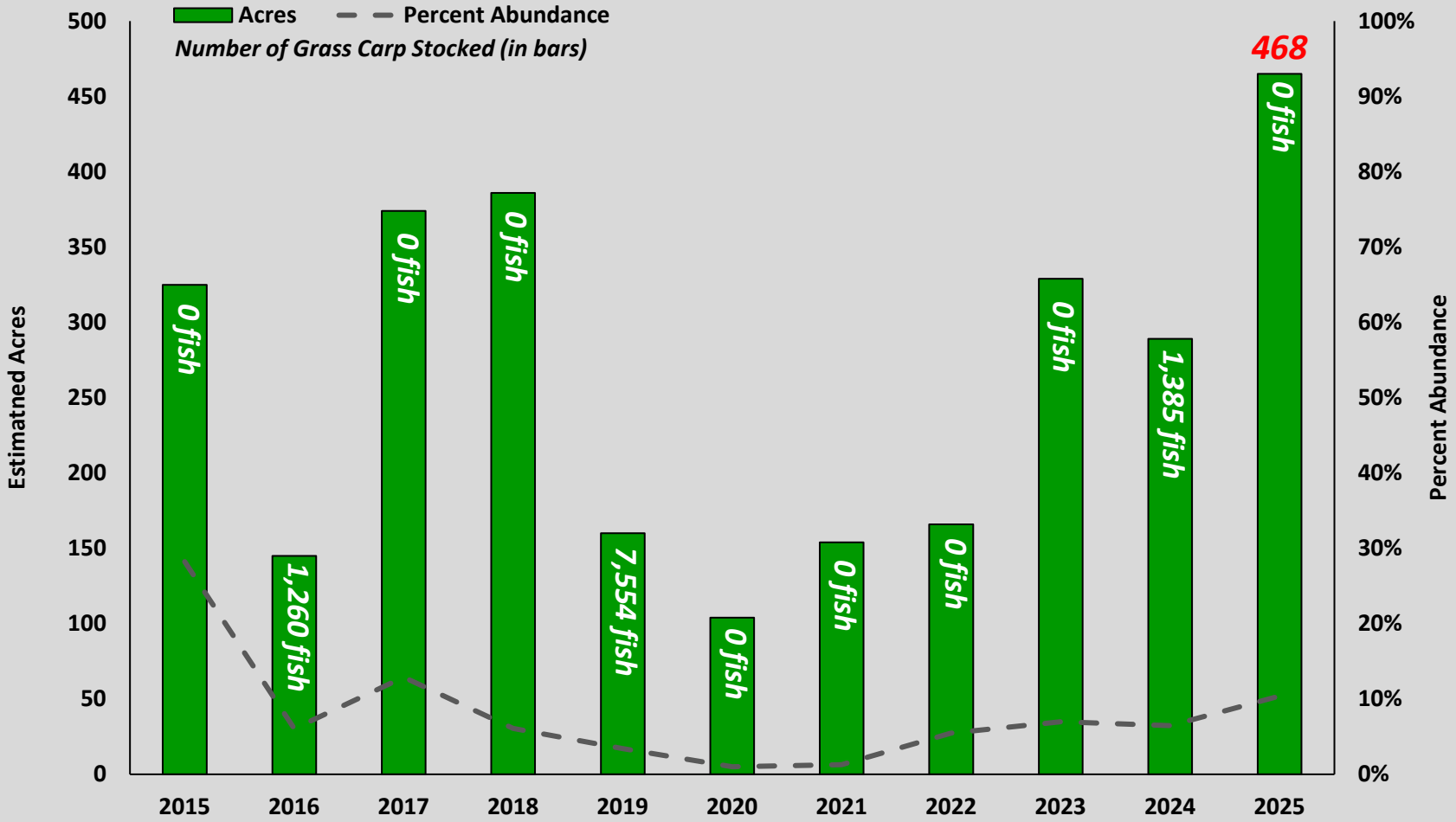


Total Vegetation: 10 %

Estimated Hydrilla Acreage: 468 acres

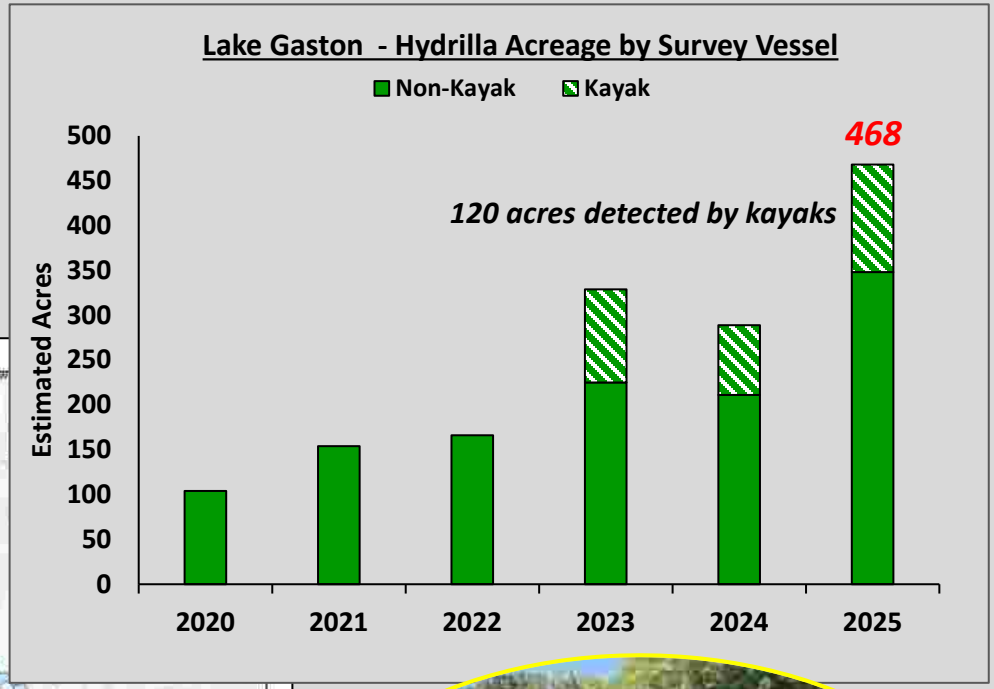
Hydrilla Management

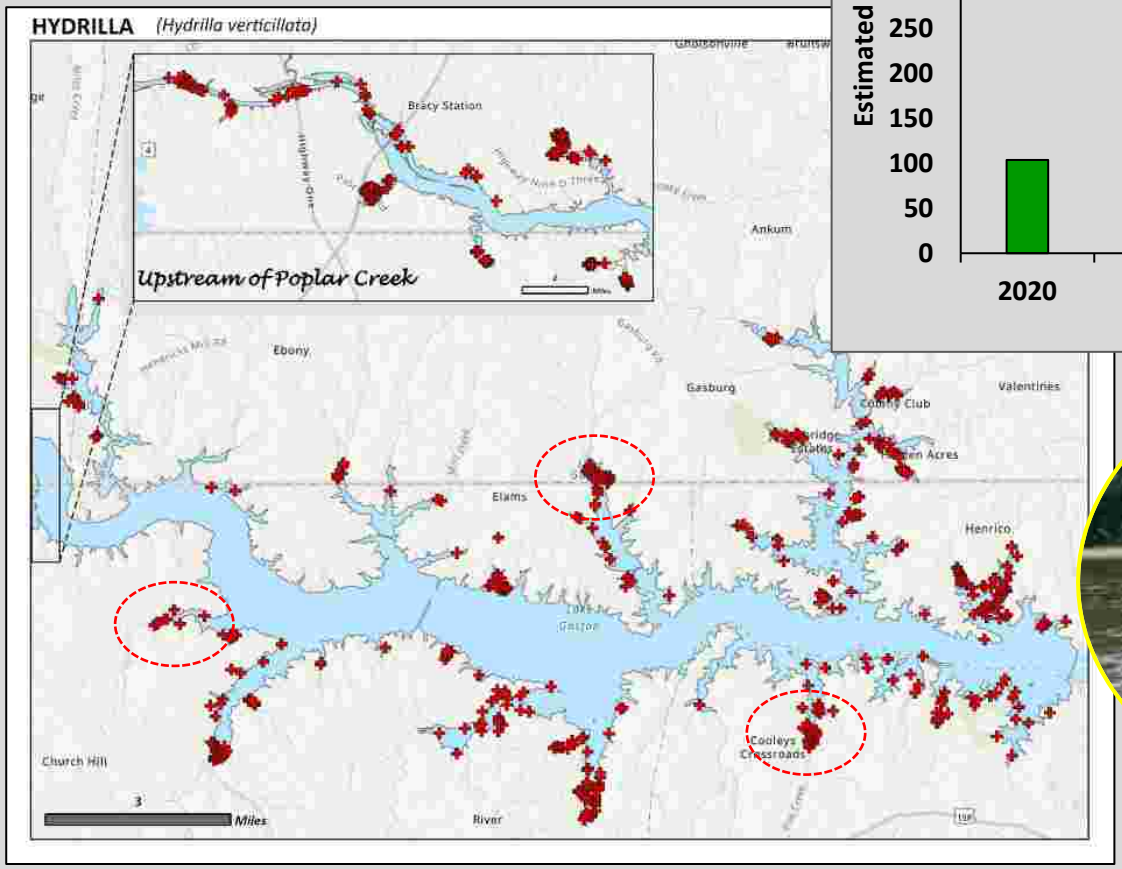
Yearly Trends



Hydrilla Management

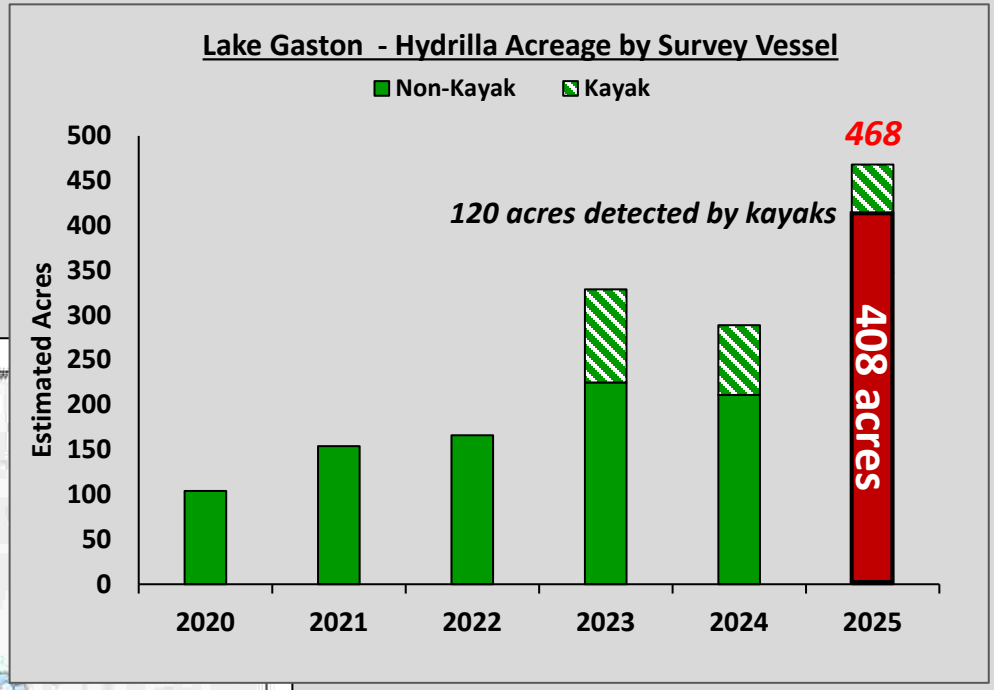
Yearly Trends

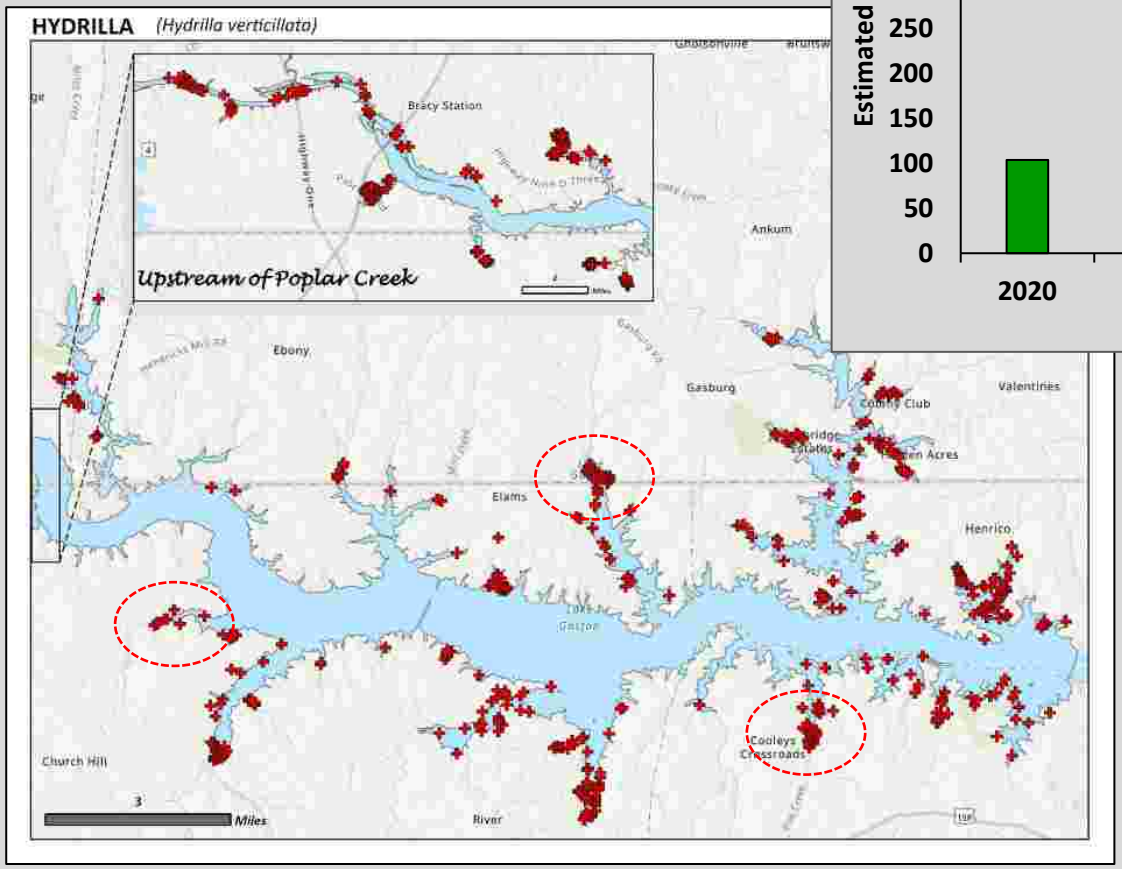




Hydrilla Management

Yearly Trends





Management Acres: 408 acres

Maximum Treatment Acres
Grass Carp Stocking Model

Hydrilla Management

2025 Tuber Survey

- **Future Hydrilla Situation**
- **2025 Survey Ongoing**

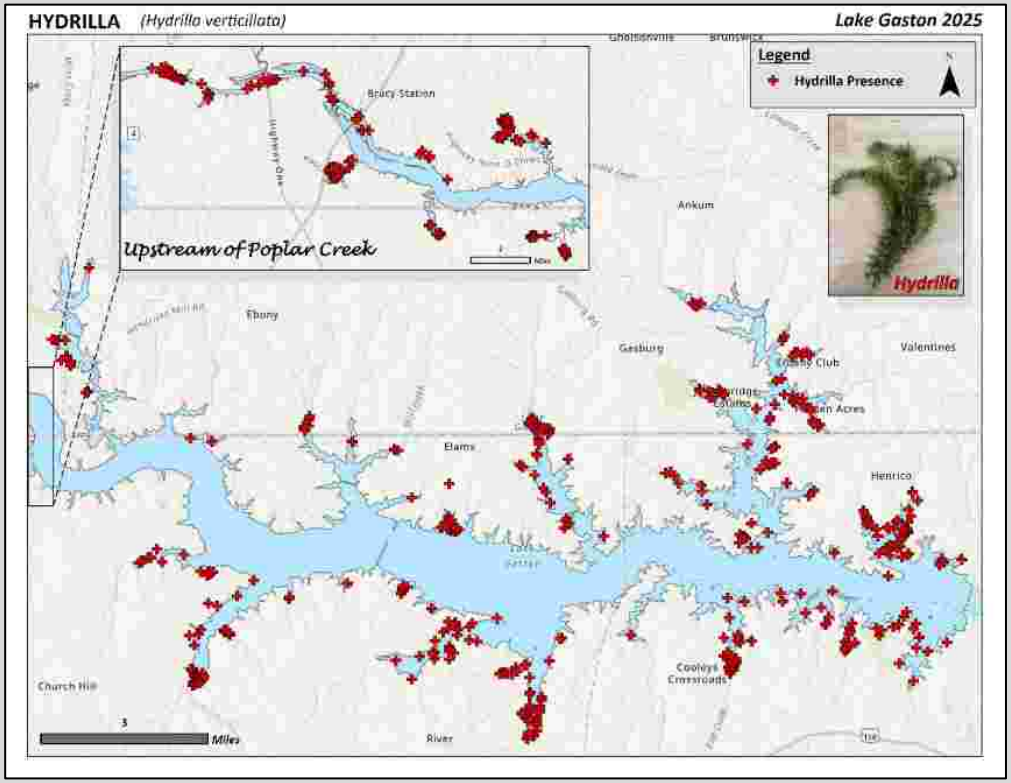
Hydrilla Management

2025 Tuber Survey

LAKE GASTON HYDRILLA TUBER BANK ESTIMATES								
	Years Since Last Tuber Detection	Starting Bank Density (2012)	2020	2021	2022	2023	2024	2025
East of Easton's Ferry Bridge								
Jimmies Creek	0	36.41	0	0	0.82	12.33	**8.39**	
Timberline Shores	6	3.08	0	0	0	n/a	n/a	n/a
Cold Springs Branch	5	34.95	0	0	0	n/a	**1.64**	
Lakeview	10	124.37	0	0	0	n/a	n/a	n/a
Lizard Creek	0	N/A	0	24.39	53.72	15.90	**7.40**	
Big Stone House	1	31.25	0	0	0	7.40	**0**	
Pretty Creek	8	38.72	0	0	0	n/a	**0**	n/a
Poe Creek	5	125.4	0	0	0	n/a	**0**	n/a
Woodland Hurst	6	135.67	0	0	0	0	**0**	n/a
Sledge Creek	2	8.22	0.82	0	2.47	n/a	n/a	
Hamlin	5	446.08	0	0	0	0	**0**	
West of Easton's Ferry Bridge								
Hubquarter	0	292.73	1.64	0	0	0	**0**	**0.82**
Lyons Creek	6	293.96	0	0	0	0	n/a	**0**
Poplar Creek	0	89.63	8.22	0	0	31.52	**0**	**1.23**
Hawtree	0	38.03	6.58	4.93	22.61	84.28	**24.67**	**31.86**
Smith Creek	0	8.22	0	0	3.70	0.62	**0**	**1.85**
Flats	*7*	119.23	0	0	0	n/a	n/a	n/a
Cottons Creek	0	217.9	42.48	0	5.76	13.16	**13.16**	**16.05**

Hydrilla Management

2026 Proposed Treatment



2025 Survey Results

Total Vegetation: 10 %

Estimated Hydrilla Acreage: 468 acres

Estimated Hydrilla Acreage (Kayaks): 120 acres

2026 Recommendation

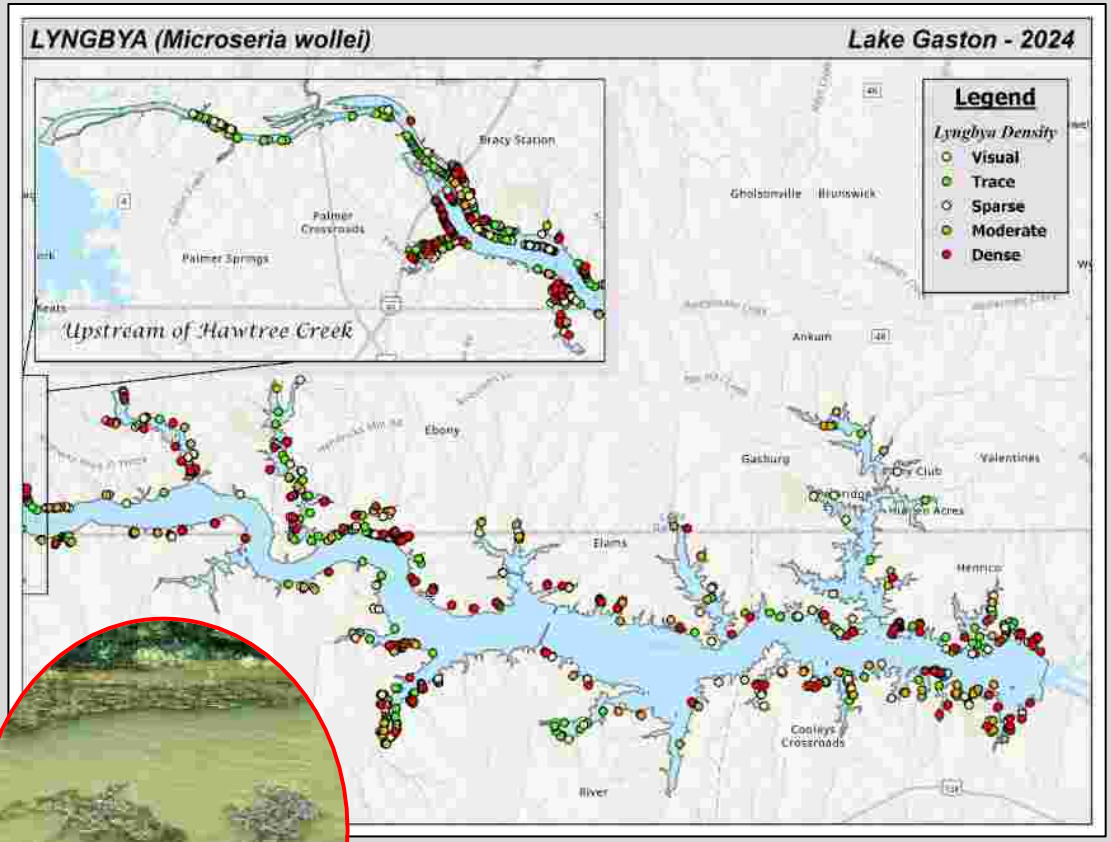
Maximum Treatment Acres: 408 acres

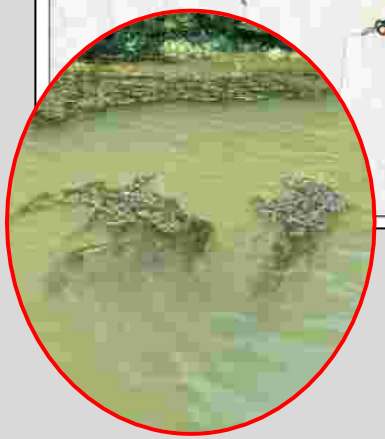
Grass Carp Stocking Number: 1,341

Lyngbya Management

Lyngbya Management

2025 Season Summary





2025 Recommendations

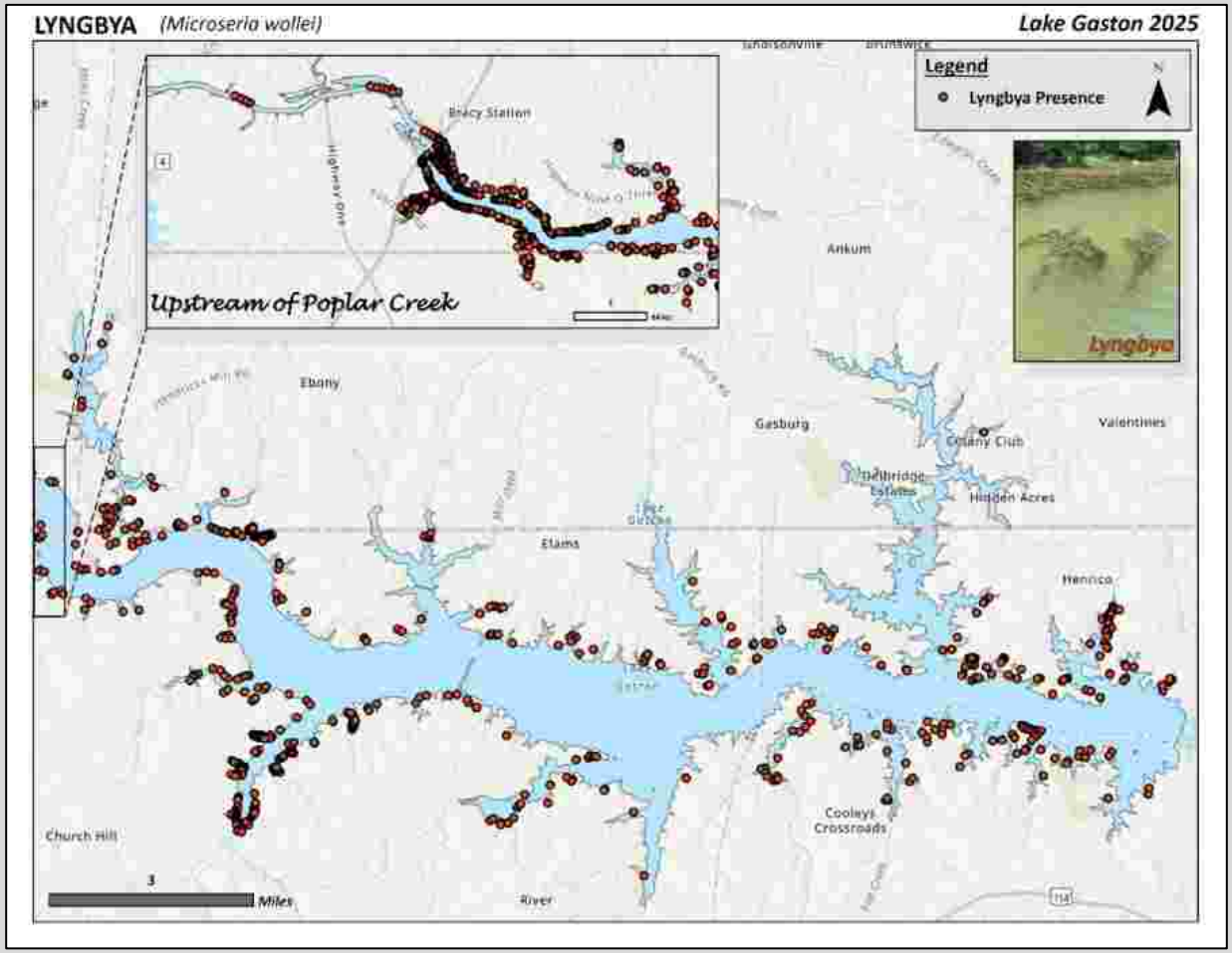
Max Treatment Acres: 500 acres

2025 Lyngbya Management

Total Treated Acres: 477 acres

Lyngbya Management

2025 Season Summary



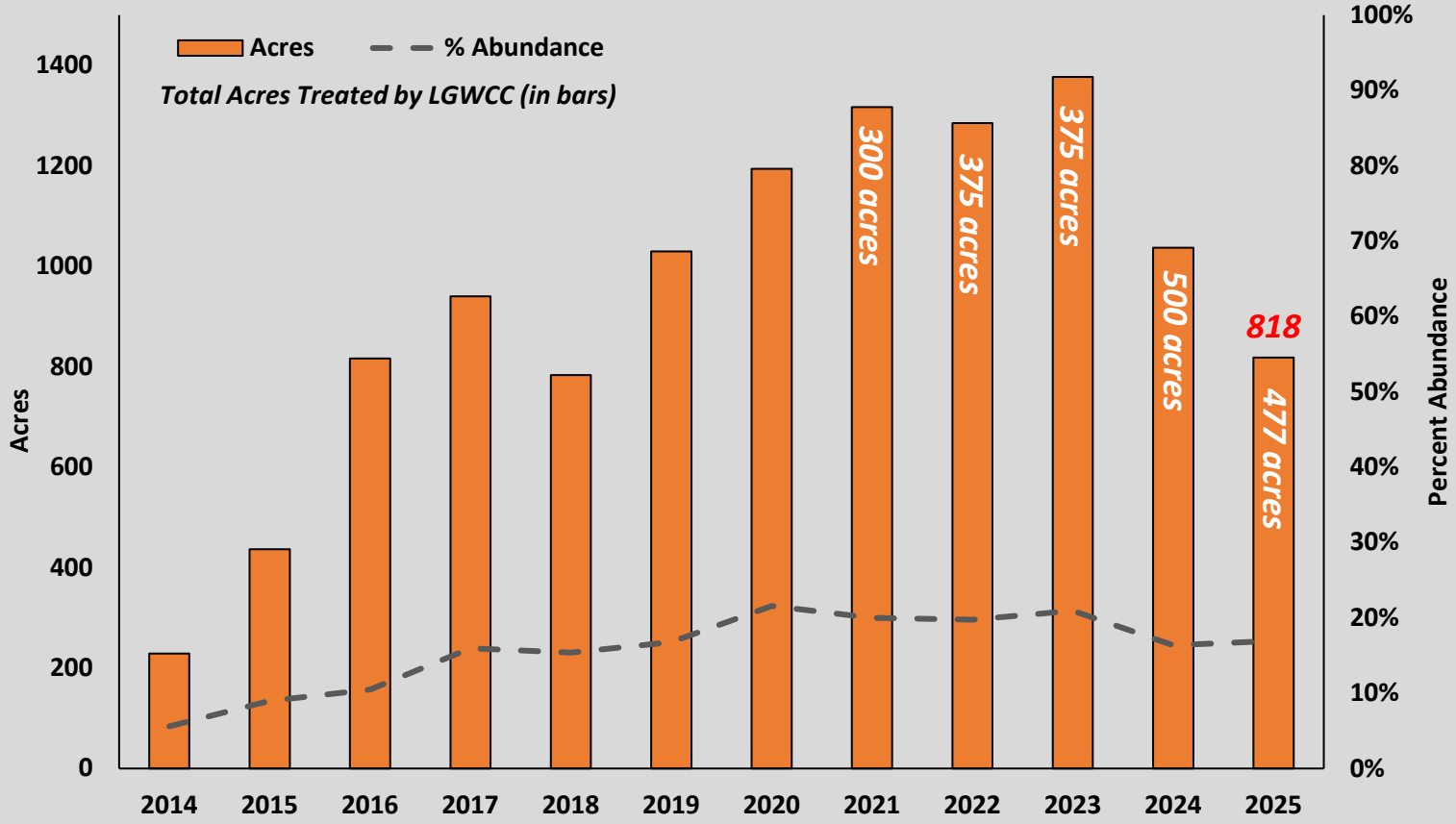
Total Vegetation: 17 %

Estimated Lyngbya Acreage: 818 acres

Lyngbya Management

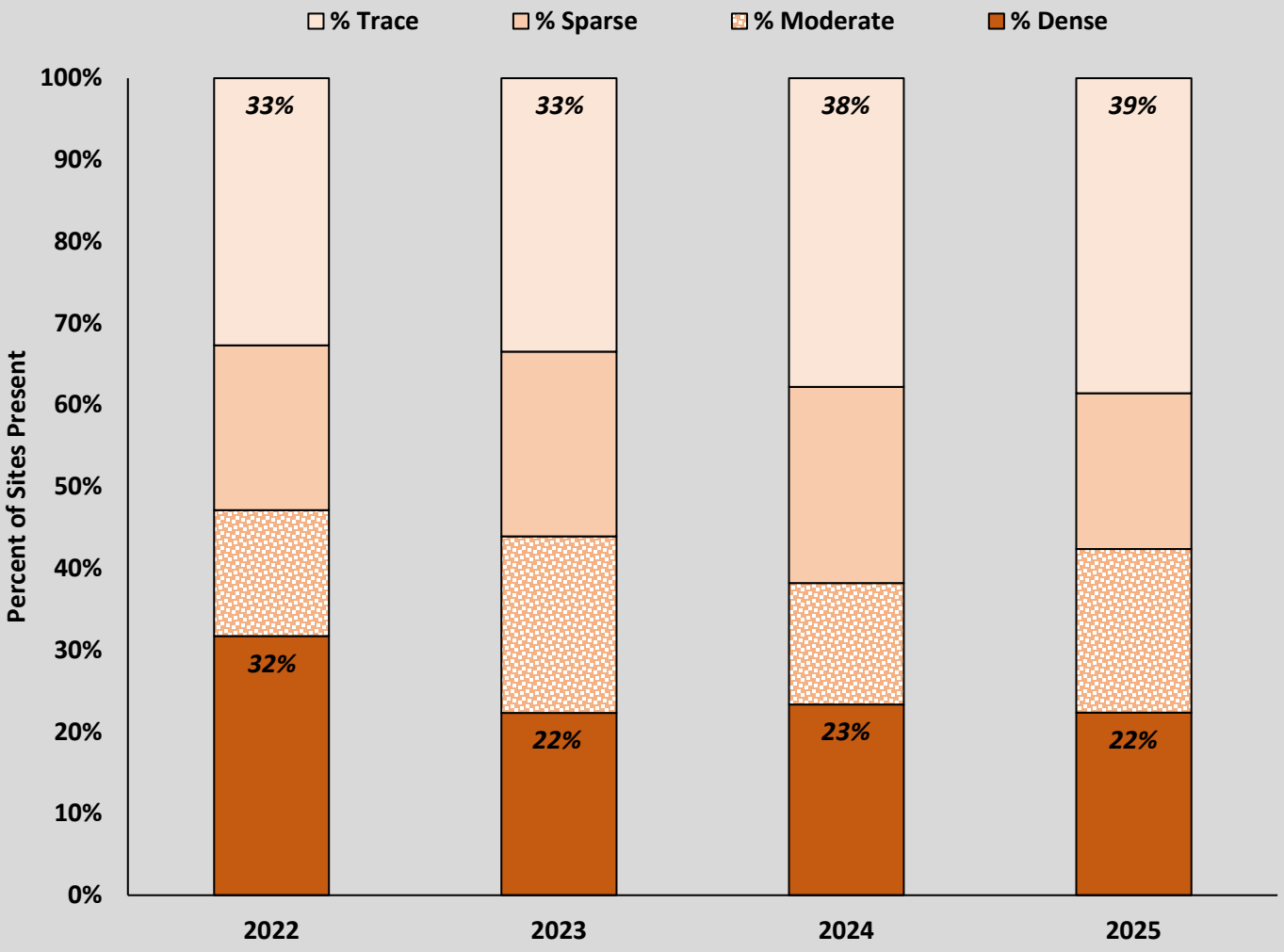
Yearly Trends

- Decrease in acreage (2023 – 2024): *340 acres*
- Decrease in acreage (2024 – 2025): *219 acres*



Lyngbya Management

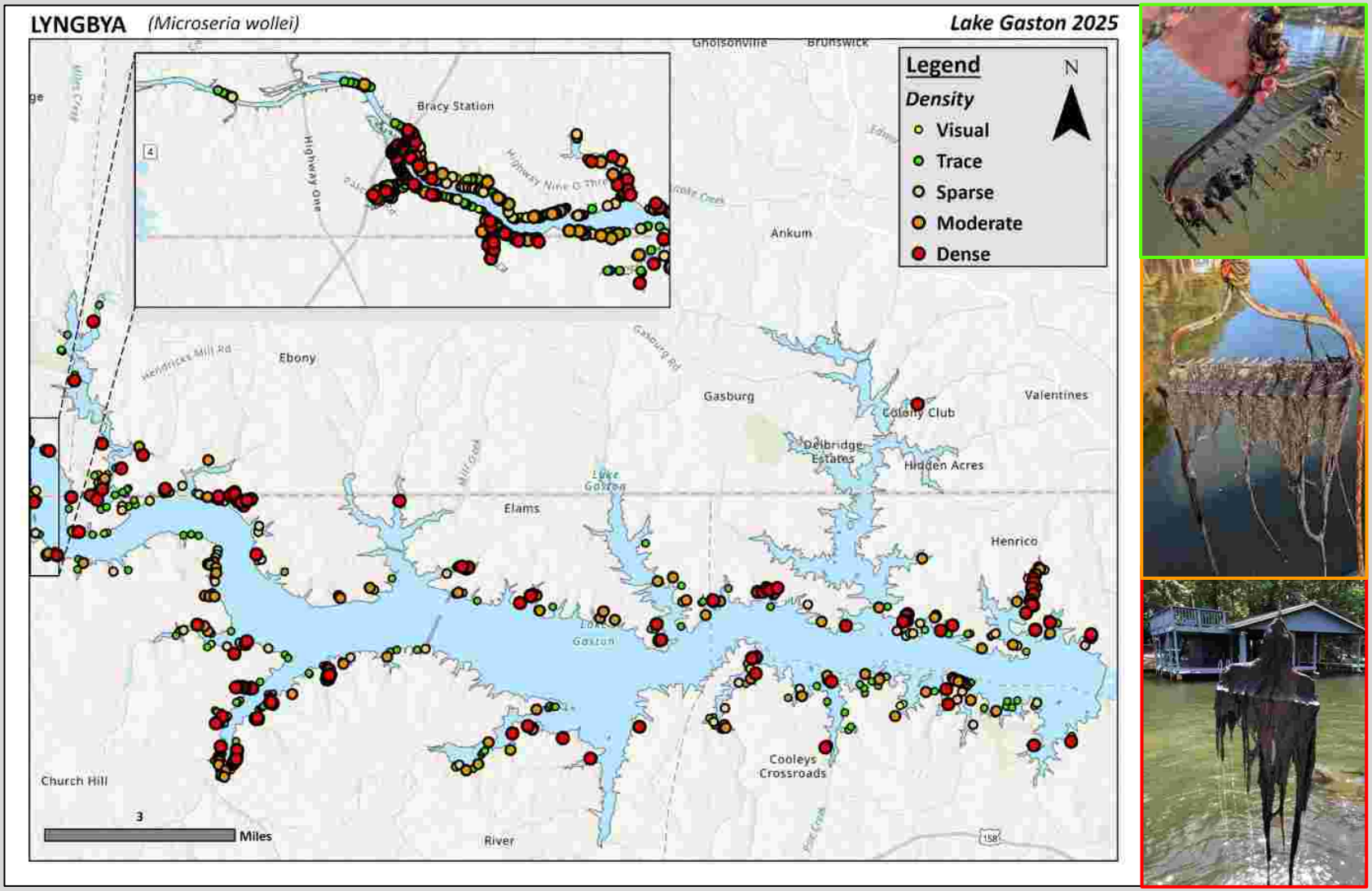
Trends in Benthic Mat Densities



NC STATE UNIVERSITY

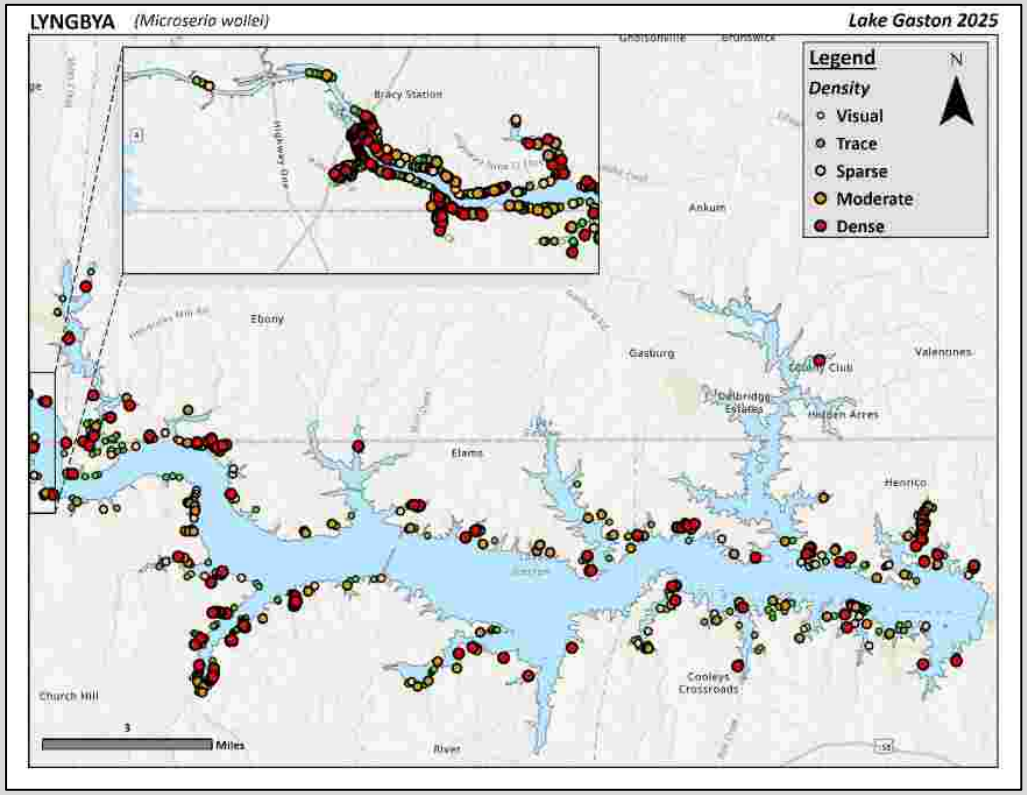
Lyngbya Management

Benthic Mat Densities



Lyngbya Management

2026 Proposed Treatment



2025 Survey Results

Total Vegetation: 17 %

Estimated Hydrilla Acreage: 818 acres

2026 Recommendation

Maximum Treatment Acres: 500 acres

&

Continue to Monitor Efficacy of Treatment Sites

Revegetation Efforts

Tidewater Mussel / Lyngbya Interactions

Michael Fisk - NCWRC

Requested Topics for Discussion

Jeff Zimmer – Stakeholders

Revegetation Efforts

1. Status of vegetated fish attractors
2. Plans for UAS survey this year
3. Annual Revegetation Monitoring
   a) How are we measuring success
   b) Is the current process meeting needs
4. Is it reasonable to have a vegetation end state objective?
   a) What metric should we use? Total vegetated acres, % shoreline, etc.

Treatment Plans

5. Is there a value in incorporating private treatment data?

Native Vegetation Expansion

6. How to address expansion of eel grass, American lotus, southern naiad

Future Research Needs

Potential Project Ideas

Native Vegetation Expansion

1. Southern Naiad Growth Factors
   a) Is sprouting timing influenced by environmental factors?
      - Temperature, sunlight exposure, soil type, etc.
2. Addressing Mixed Stands of Southern Naiad / Hydrilla / Eel Grass
   a) Growth competition among all three species
   b) Management of mixed stands (Herbicide Efficacy)

Hydrilla Management

3. Shallow water feeding habits for Grass Carp
   a) Are they feeding in those shallow waters identified by the kayak survey?
      - How to address these areas in the stocking model.

Lyngbya Management

4. Continue Current Toxin Project (TBD on based on ongoing data analysis)
5. Efficacy of Algaecide Rates Currently Being Used in Treatment Program

2026 Recommendations

Overall Monitoring Efforts

- Continue funding and supporting volunteer survey

Hydrilla Management

- Treat no more than 408 acres
- Stock 1,341 grass carp

Lyngbya Management

- Treat no more than 500 acres
- Continue monitoring efficacy of treatment sites

Revegetation Efforts

- Continue to encourage partnerships and collaborations directed at habitat enhancement at Lake Gaston.

Research Needs

- Native Vegetation Expansion
- Hydrilla Management
- Lyngbya Management

2026 Recommendations

Overall Monitoring Efforts

- Continue funding and supporting volunteer survey

Hydrilla Management

- Treat no more than 408 acres
- Stock 1,341 grass carp

Lyngbya Management

- Treat no more than 500 acres
- Continue monitoring efficacy of treatment sites

Revegetation Efforts

- Continue to encourage partnerships and collaborations

Research Needs

- Native Vegetation Expansion
- Hydrilla Management
- Lyngbya Management