



Hydrilla management at Lake Tillery, past and present

March 13, 2024

Department of Environmental Quality

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History of Hydrilla at Lake Tillery

- Hydrilla was first reported in the lake in 2006 near the Swift Island boat ramp.
- First time it was reported in the Yadkin – Pee Dee River basin.
- Management activities were implemented that same year.



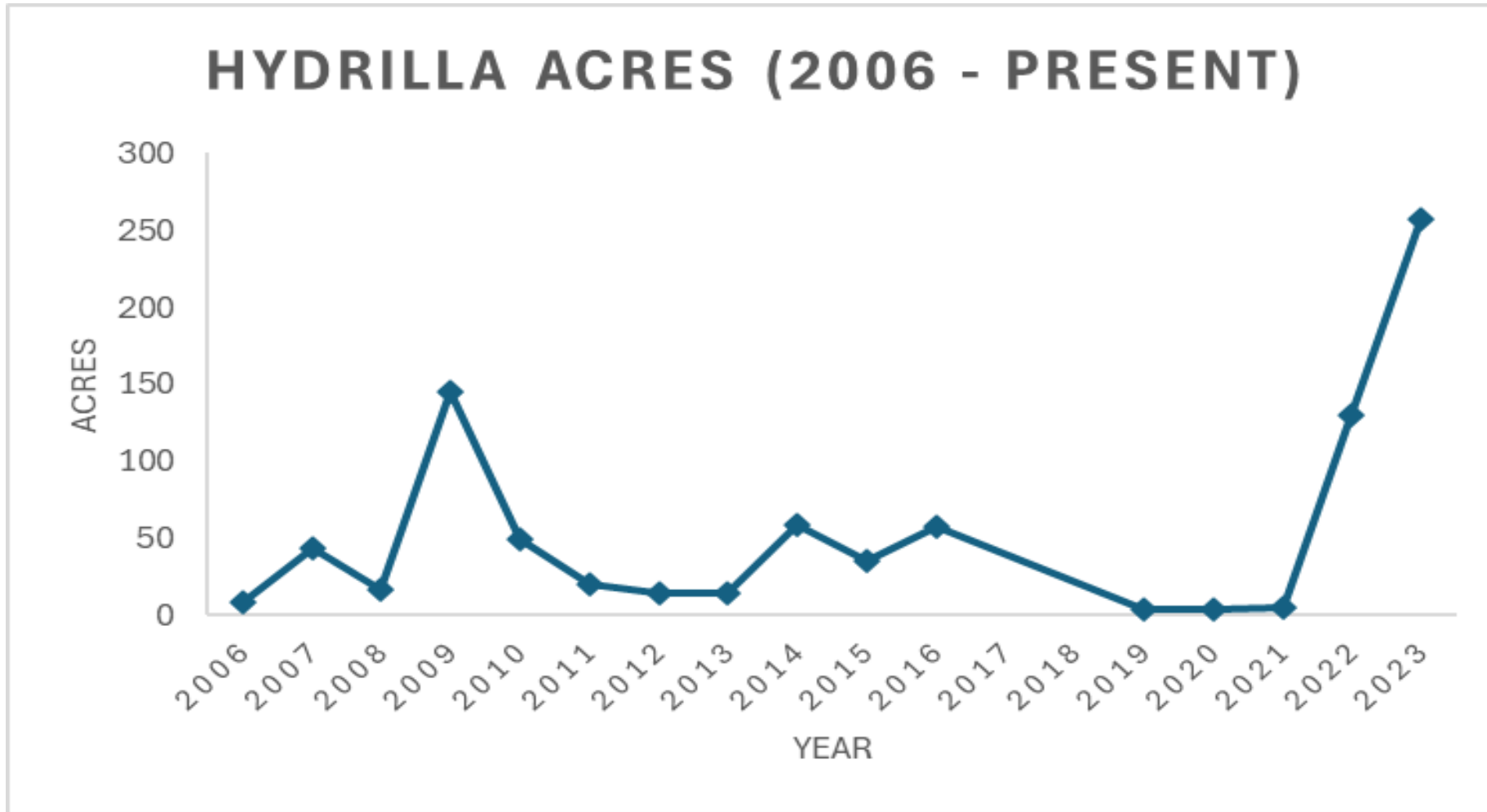
History of Hydrilla at Lake Tillery



Site	2006	2007	2008	2009	2010	2011	2012-2014	2015	2016-2017	2018	2019	2020	2021	2022
	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres	~ acres
Morrow Mtn. S.P. boat launch					0.15	0.75	N/A	1.0						
Pee Dee backwater				10.70			N/A						2.0	
Big Island Creek							N/A							
Carolina Forest (shoreline - 100' x .6 mile)					2.50		N/A							
Arroyo (boat ramp & marina)				0.52			N/A							
Fox cove							N/A							
Rocky Creek - Swift Island BAA (above bridge)	8.00	8.00	8.00	8.00	8.00	8.00	N/A	6.0	1.0		1.0	0.5	1.0	1.0
Rocky Creek (multiple coves below bridge)			35.00	34.00	34.00		N/A							
Jacobs Creek (backwater)				14.00	14.00		N/A							
Jacobs Creek (no name cove)				1.40			N/A							
Tillery Tradition - site A				1.00			N/A							
Tillery Tradition - site B							N/A							
Water Oak cove				1.00			N/A							
Snuggs Ridge				1.00			N/A							
Cedar Creek (Margie cove)				0.80			N/A							
Twin Harbor			5.00	0.20			N/A							
Cedar Creek (below steel bridge)						18.50	N/A							
Cedar Creek (above steel bridge)							N/A							
Richmond Creek				14.00			N/A							
Bunny Creek							N/A							

Year	Number of TGC stocked
2009	2175
2010	1575
2011	850
2012	-
2013	100
2014	300
2015	100
2016	400
2017	-
2018	-
2019	-
2020	-
2021	-
2022	100

History of Hydrilla at Lake Tillery

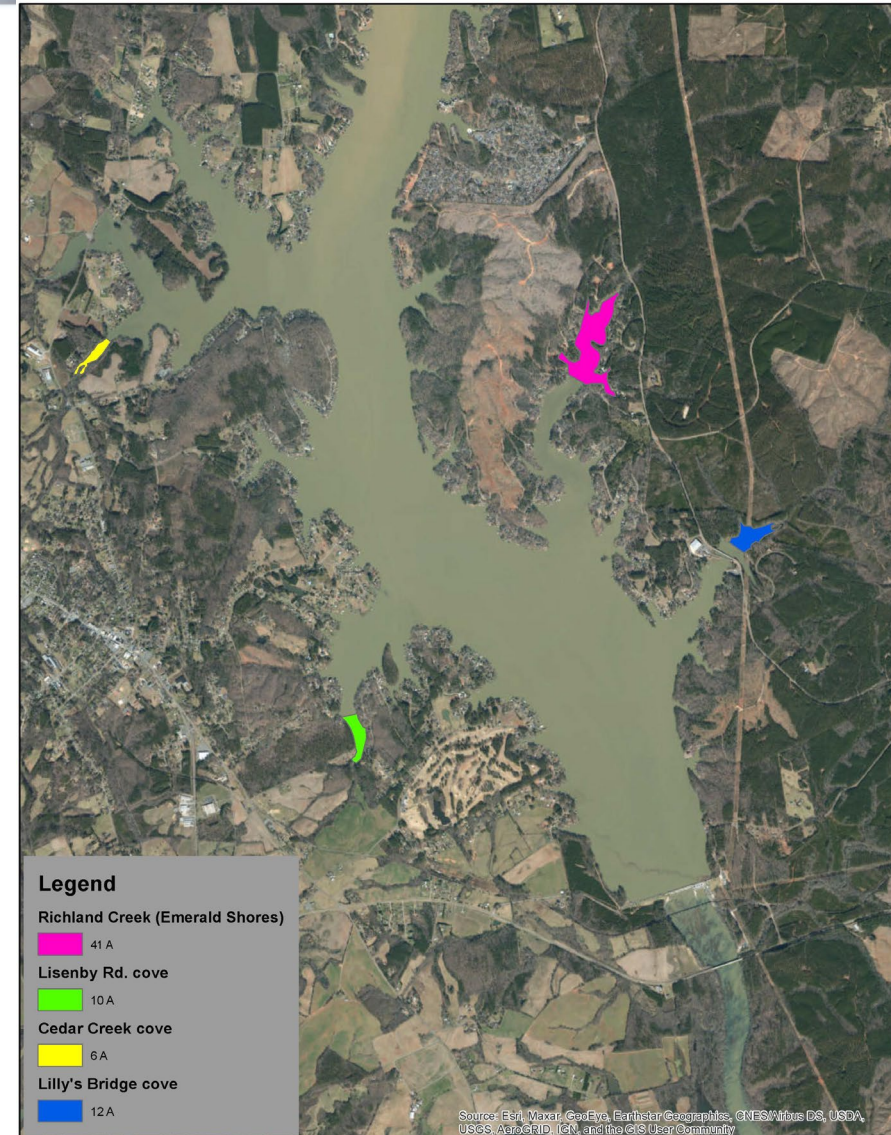


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Hydrilla Management in 2023

- Survey in 2022 found ~130 acres of Hydrilla.
- The AWCP partnered with Duke Energy to treat ~69 acres in 4 different locations in the lake.
 - These locations were chosen because they were well suited for systemic herbicide treatments.
 - Thought was that we could reduce overall biomass that was produced during the year to help jump start grass carp herbivory.
- 1,860 Triploid Grass carp (TGC) were stocked at the Lilly's Bridge BAA.
- Fall survey identified 257 acres.



Proposed Management Activities for 2024



- Treat areas around BAA (Lilly's Bridge and Norwood).
 - Goal is to prevent Hydrilla from impacting the use of the ramps as well as mitigate the spread (from Tillery to other waterbodies).
- Stock 3,688 TGC.
 - Stocking location TBD.
- Conduct another full lake vegetation survey in the fall.



Fall Vegetation Surveys

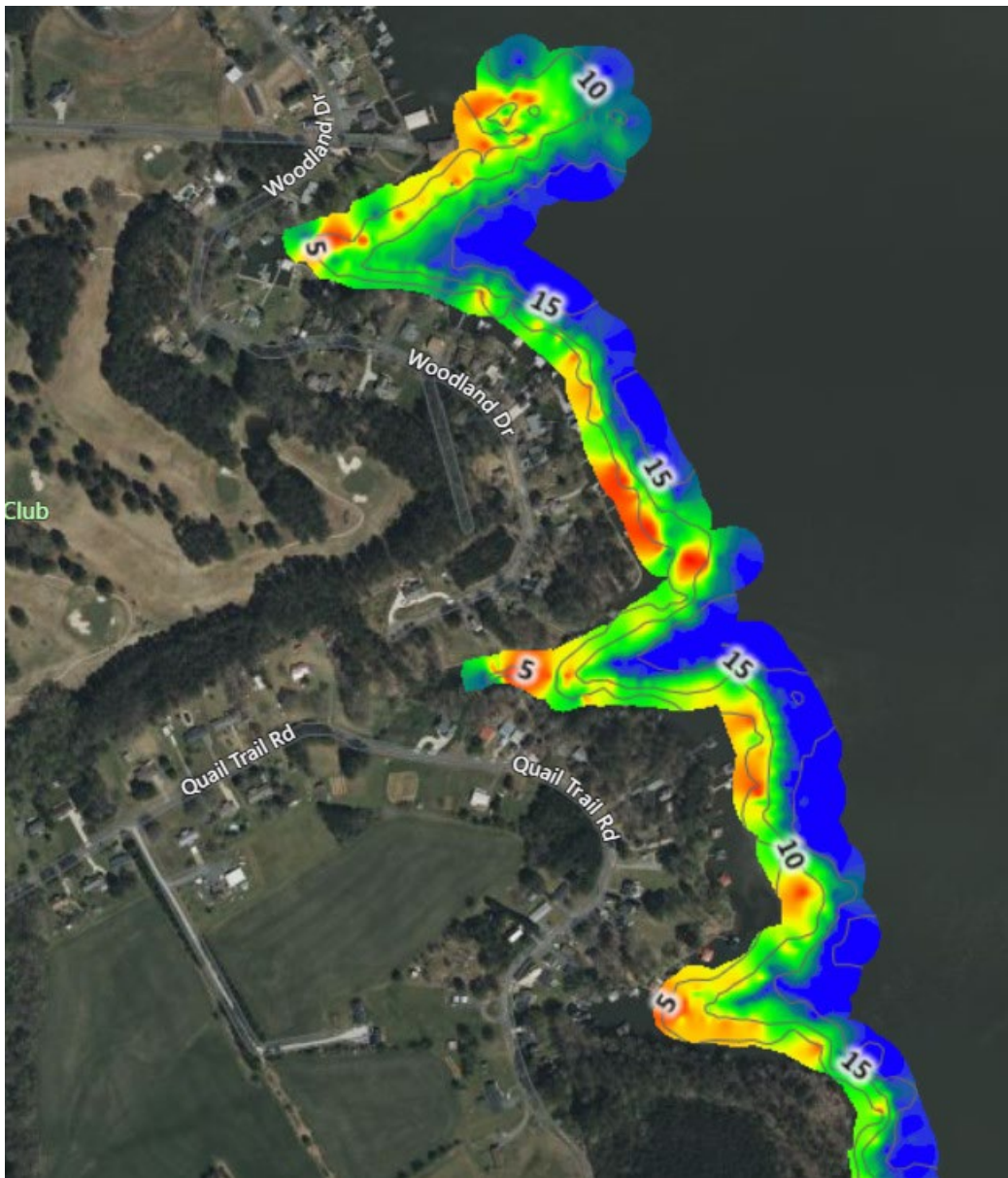
- These are conducted at the end of the growing season (September – October).
- One of the most important management activity that we do.
 - Helps us monitor our current management activities and drives future management decisions.
- Current survey method was developed by NCSU in 2015.
 - Utilizes a point-intercept method.
 - 2 – 3 rake tosses are conducted at each point to determine presence/absence of SAV as well as quantify rake coverage.
 - Scale from 0 to 4 (0 = no vegetation; 1 (Trace) = <25%; 2 (Sparse)= 25% - 50%; 3 (Moderate)= 50% - 75%; 4 (Dense) = 75% - 100%).
 - We also utilize a recording fathometer (SONAR) that maps and records the bottom.
 - This data is uploaded to a third-party company, Biobase, which quantifies the depth and biovolume data.
 - We can then export that data, input it into GIS software to estimate coverage.



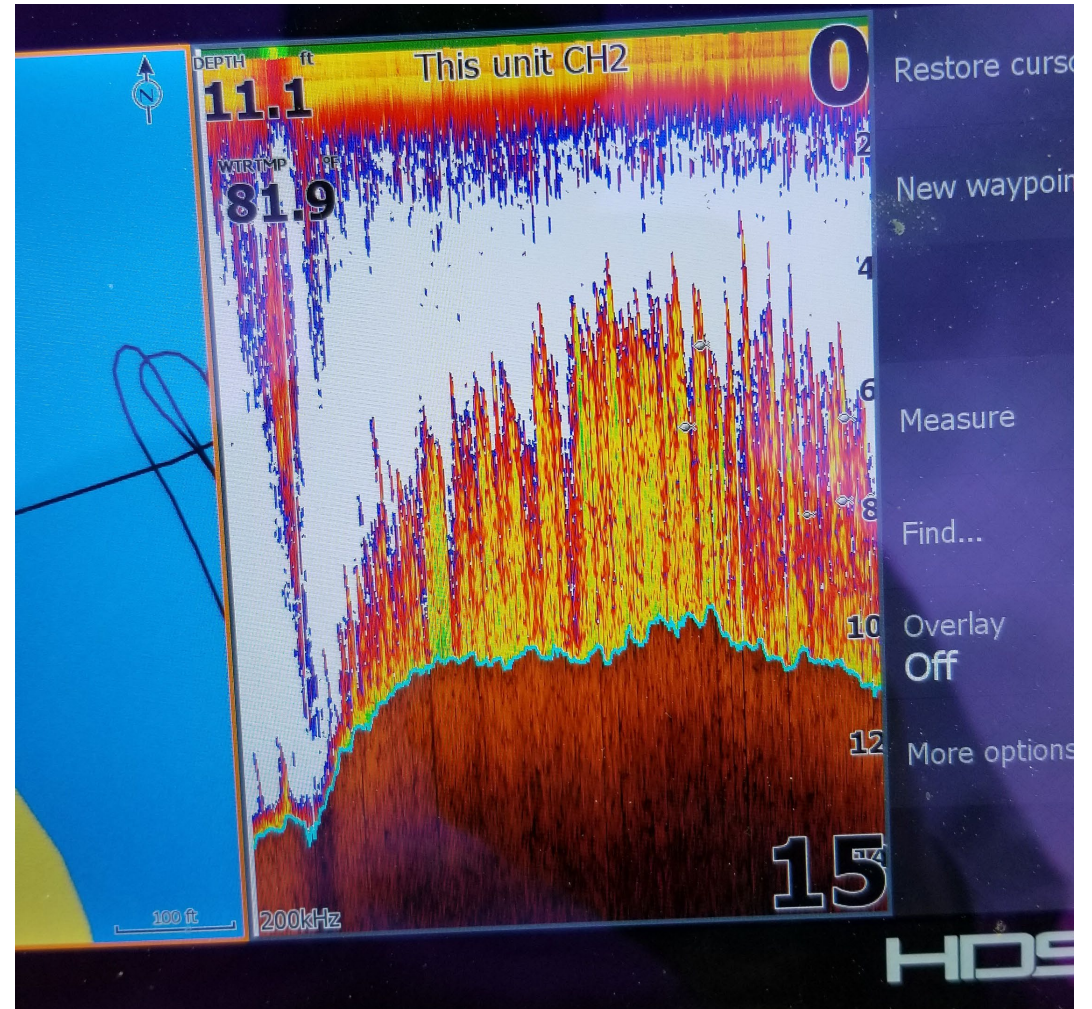


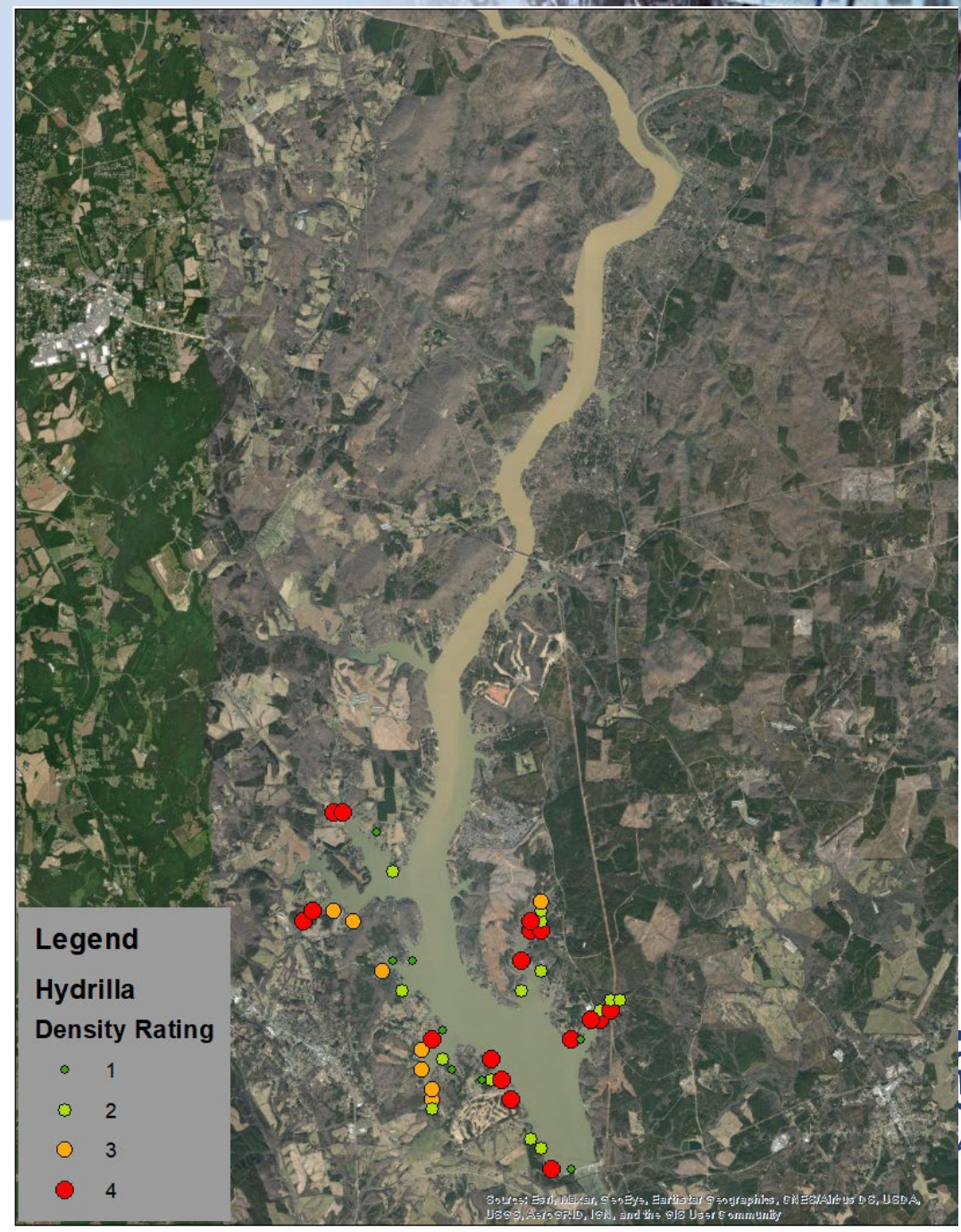
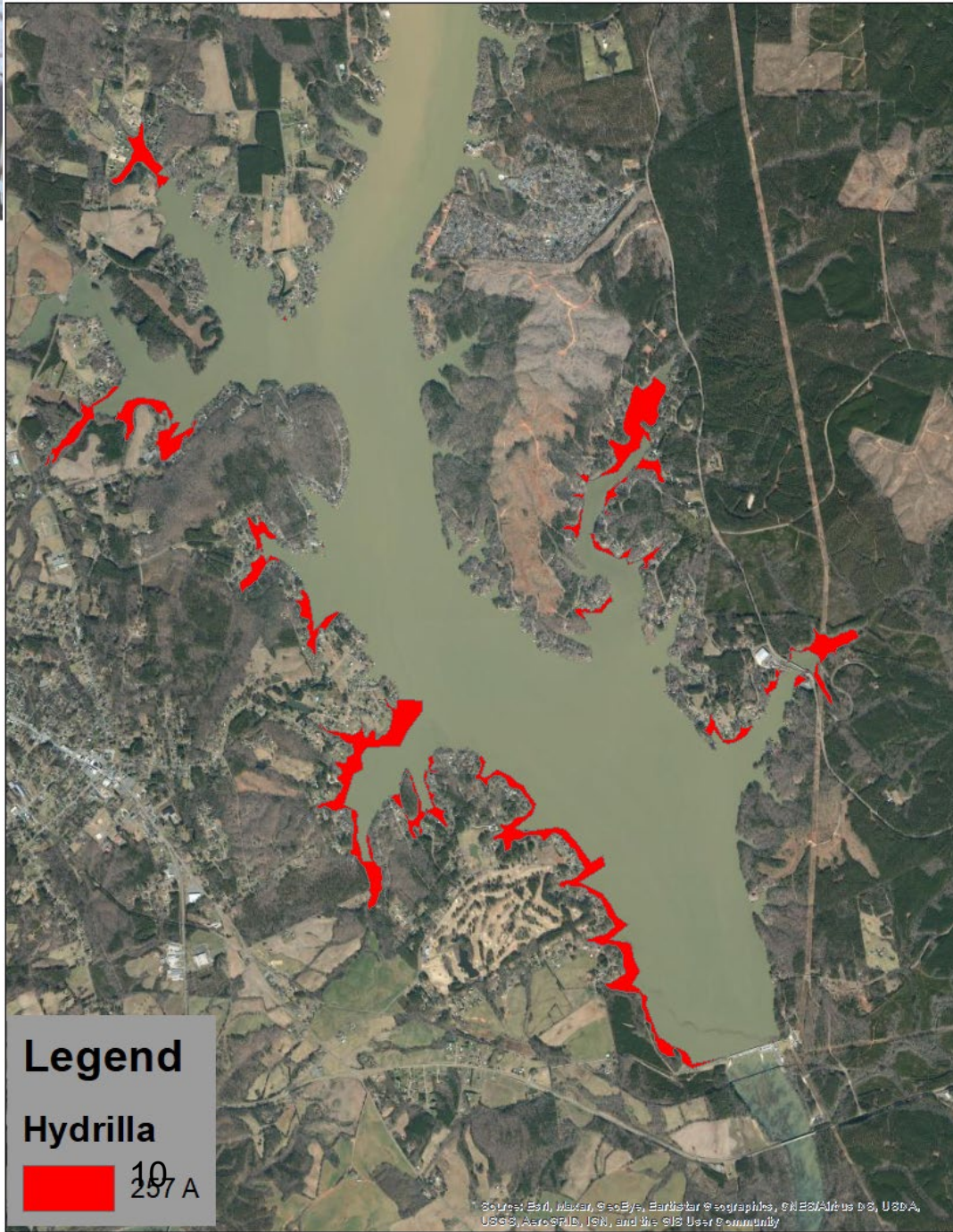
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Additional Resources

- AWCP Database (<https://www.ncwater.org/?page=683>)
- AWCP Website ([Aquatic Weed Control Program | NC DEQ](#))
- AWCP vegetation survey reports (<https://www.deq.nc.gov/about/divisions/water-resources/water-planning/water-supply-planning/aquatic-weed-control-program#Tab-Projects-1905>)

Questions?

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