

# 2022 DWR Submerged Aquatic Vegetation Survey Report Lake Devin

## Introduction

Hydrilla, (*Hydrilla verticillata*), is one of the most economically and ecologically damaging invasive plants in the world and can lead to many undesirable outcomes. These include the forming of dense monocultures that crowd out native vegetation, reducing the habitat quantity and quality for aquatic organisms, clogging of municipal water intakes, and severely impacting recreational activities such as boating and swimming. For these reasons, it is considered a federal and state noxious weed which prohibits the import, sale, and movement of Hydrilla without a permit. Hydrilla was first reported in Lake Devin in 2019. Since then, the Aquatic Weed Program (AWCP) and the City of Oxford have worked together to manage Hydrilla in Lake Devin. More information concerning past management activities can be found on the AWCP online database ([NCDEQ-DWR :: Aquatic Weed Control \(ncwater.org\)](https://ncdeq-dwr.org/AquaticWeedControl)).

## Methods

A full-lake survey was completed on September 28<sup>th</sup>. Using a point-intercept method, a total of 43 points were sampled at Lake Devin (Figure 1). Rake coverage was quantified using a scale from 0 to 4 (0 = no vegetation; 1 (Trace) = <25%; 2 (Sparse)= 25% - 50%; 3 (Moderate)= 50% - 75%; 4 (Dense)= 75% - 100%). Additionally, a recording fathometer (SONAR) was used to map and record the bottom. Approximately 5 miles of SONAR were logged. The SONAR data was uploaded to a third-party company, Biobase, to quantify the depth and biovolume data. Biovolume is a percentage of the water column taken up by vegetation when vegetation is present. All of this was then combined with the rake-toss data using GIS software to estimate coverage.

## Results

SAV was found at 21, or 49%, of the rake toss points. Species found during the survey included Hydrilla (*Hydrilla verticillata*) and the blue-green algae Lyngbya (*Microseira wollei*). (Table 1; Figures 2 – 5). Both species have been found during past surveys.

Hydrilla was significantly less in 2022 than in 2021. In 2021, the estimated Hydrilla coverage in the lake was 29 acres but in 2022 it was less than 1 acre. The estimated coverage of Lyngbya in the lake was 5.4 acres (Figure 6).

Other aquatic vegetation observed during the survey was Creeping Water Primrose (*Ludwigia grandiflora*) and Common Rush (*Juncus spp.*). Creeping Water Primrose was found mostly at the upper end of the lake whereas the Rush was found along the shoreline with the boat ramp.

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Figure 1. Map showing pre-determined rake toss point locations in Lake Devin.

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Species	Total Number of Points	Density Rating							
		Trace		Sparse		Moderate		Dense	
		Number of points	%	Number of points	%	Number of points	%	Number of points	%
Hydrilla ( <i>Hydrilla verticillata</i> )	2	2	100%	0	0%	0	0%	0	0%
Lyngyba ( <i>Microseira wollei</i> )	21	4	19%	7	33%	5	24%	5	24%
Vegetated points	21	4	19%	7	33%	5	24%	5	24%

Table 1. Species abundance during the 2022 Lake Devin survey.

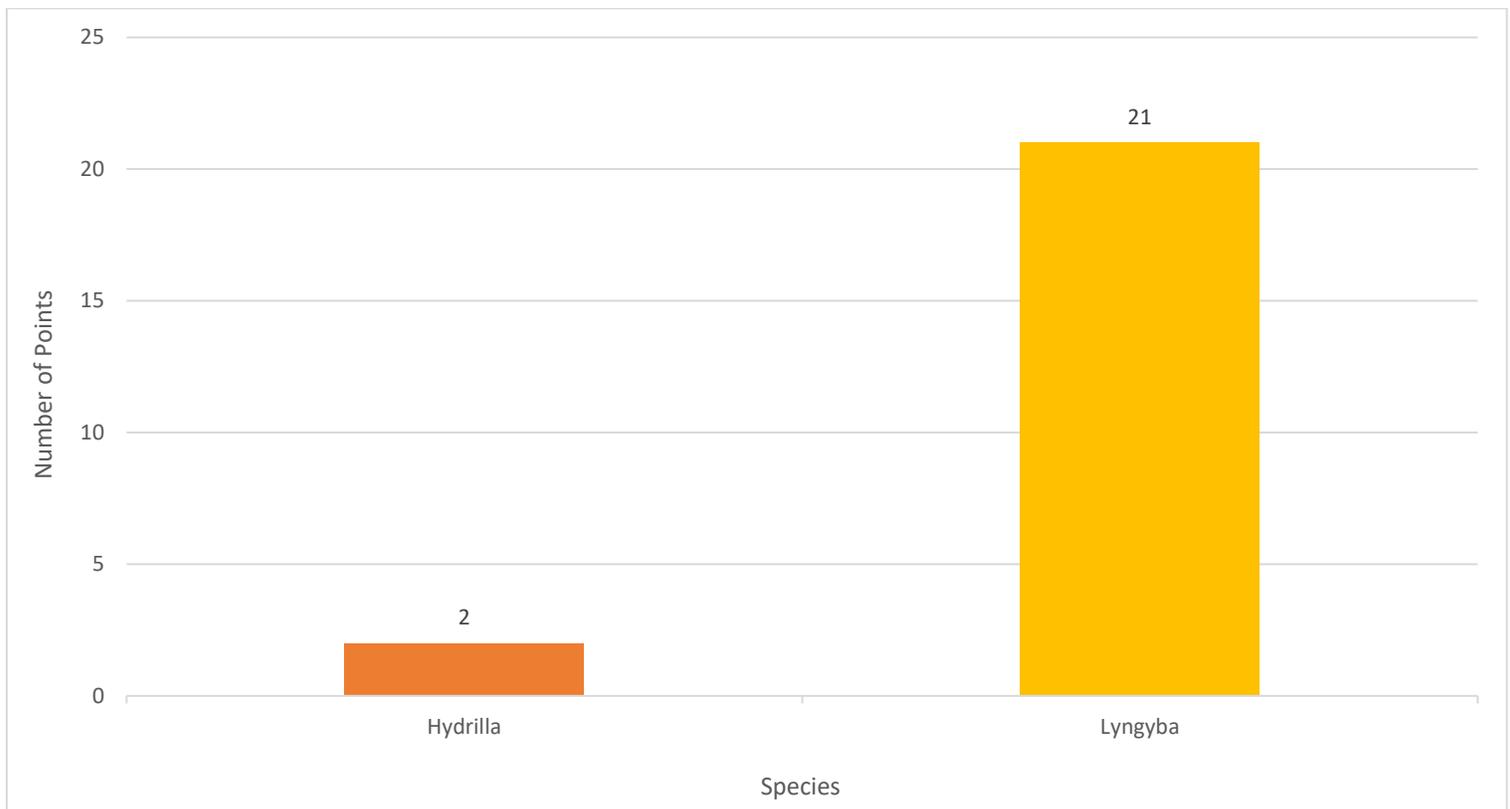


Figure 2. Relative abundance during the 2022 Lake Devin survey.

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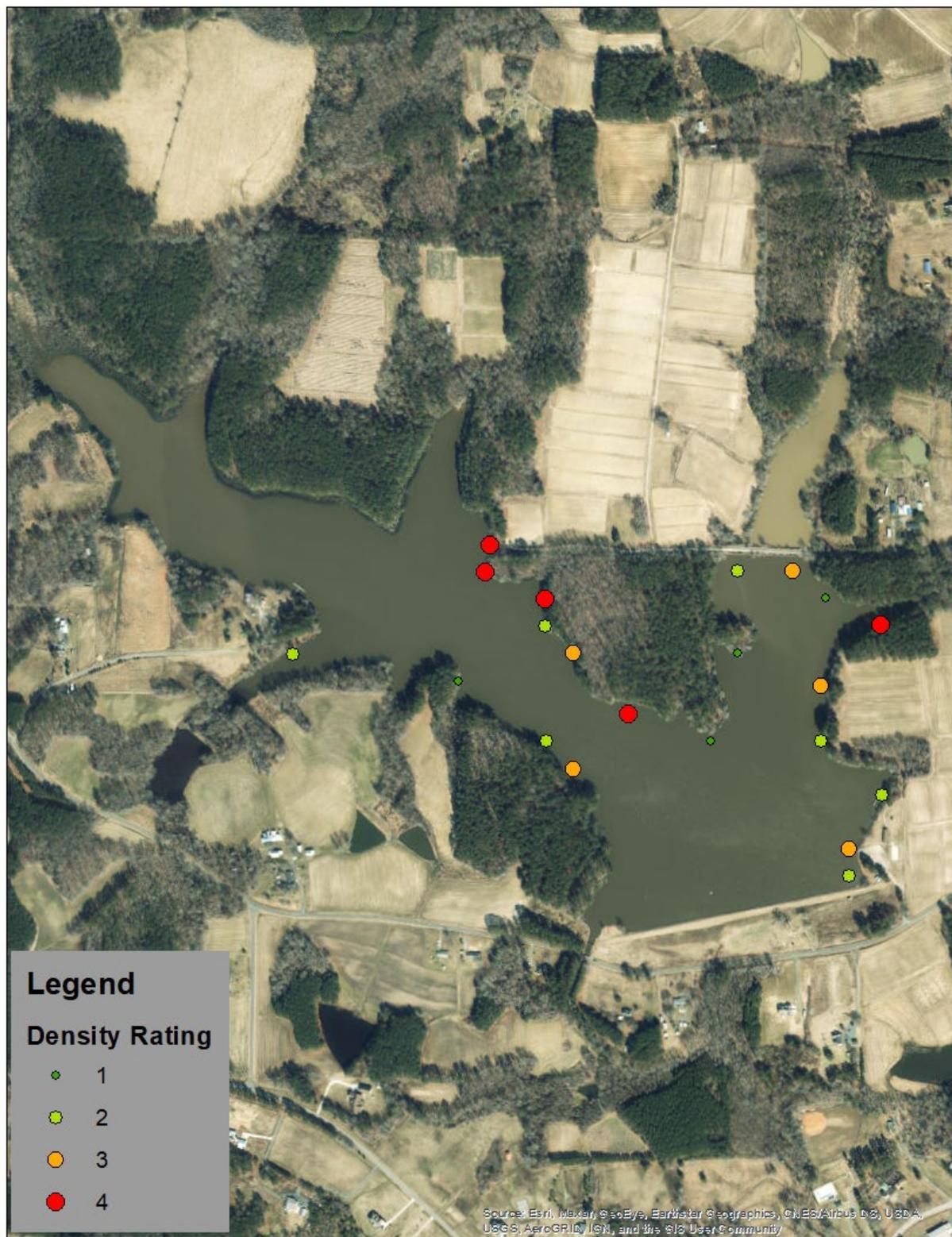


Figure 3. Map showing density rating at each rake toss point.

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Figure 4. Map location of Hydrilla and density rating.

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## Lake Devin

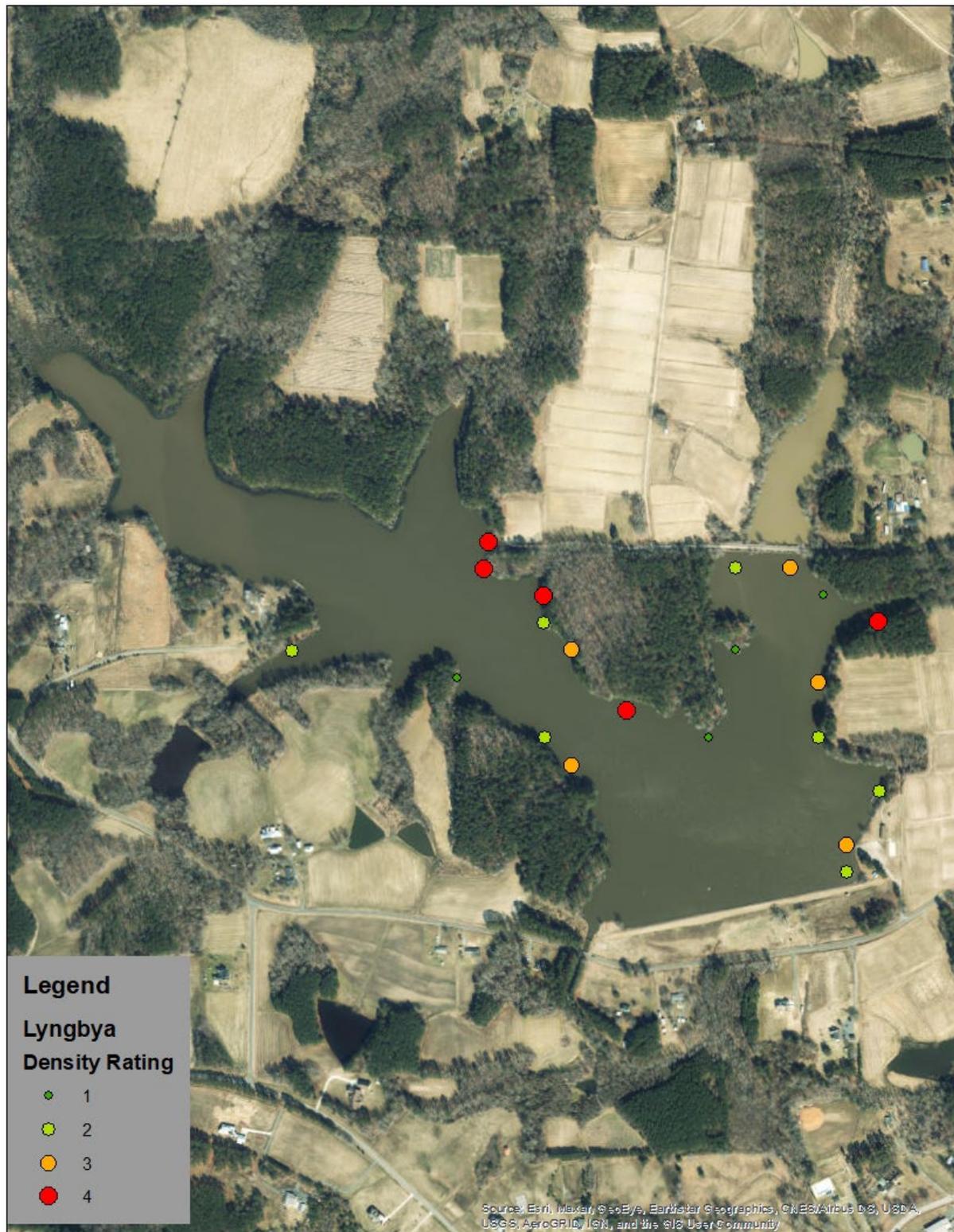


Figure 5. Map showing location of Lyngbya and density rating.

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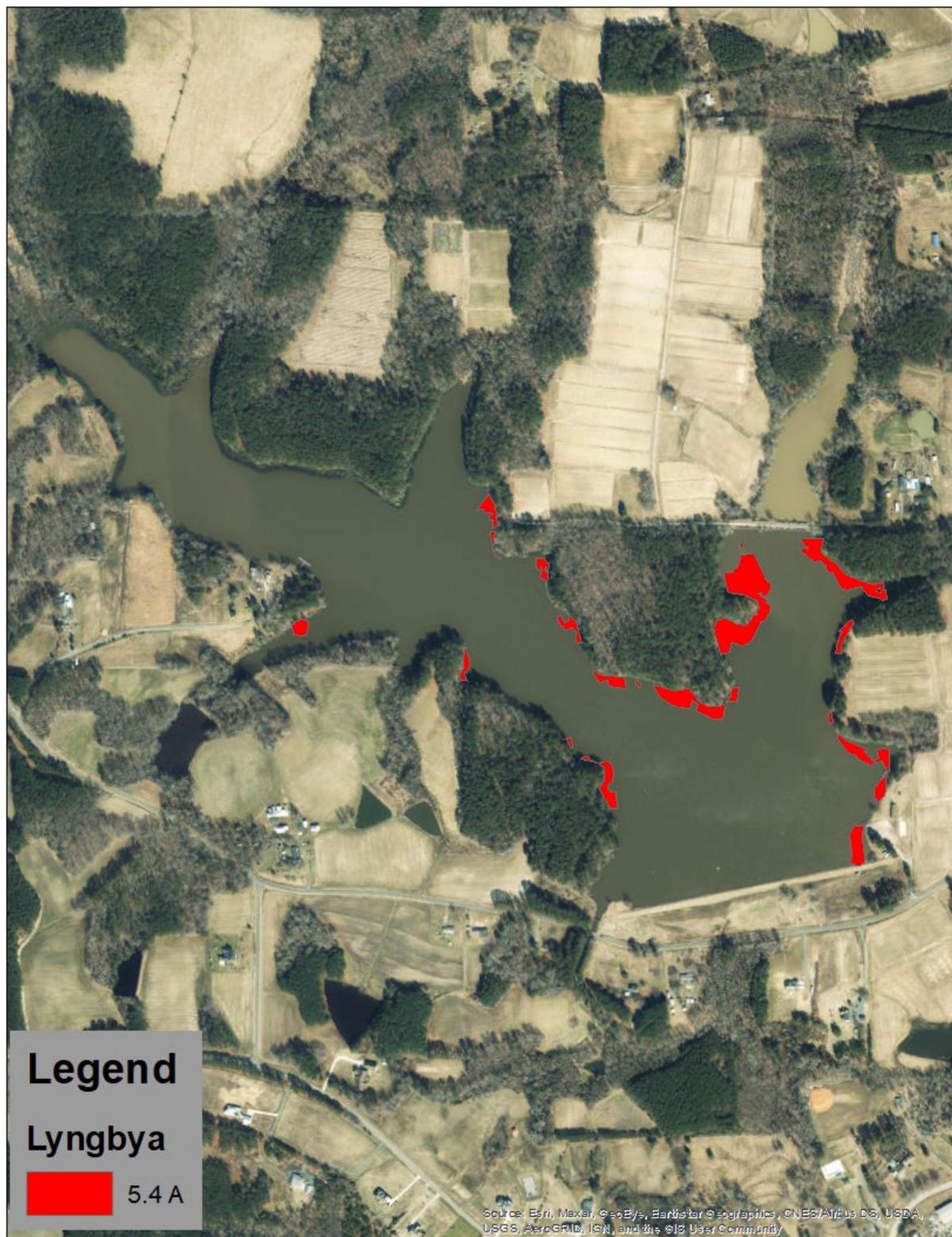


Figure 6. Map showing Lyngbya coverage in 2022.