

# 2020 Harris Lake Submerged Aquatic Vegetation Survey

## NC Division of Water Resources

### Introduction

Shearon Harris Reservoir (Harris Lake) is a 4,100-acre reservoir located in Wake and Chatham counties. The primary purpose of the reservoir is to serve as the cooling water for the Shearon Harris Nuclear Electrical Generation Station cooling tower and general operational water supply for the nuclear station. Secondary uses of the reservoir include recreational activities including fishing, boating and hunting. Hydrilla, *Hydrilla verticillata*, was first reported in the reservoir in 1988 and was thought to be introduced at one of the public ramps. A survey conducted in 2014 by NCSU identified approximately 668 acres of Hydrilla and a survey in 2015 found approximately 942 acres. No lake-wide survey was completed in 2016 or 2017. Starting in 2018 the Aquatic Weed Control Program (AWCP) partnered with Duke Energy to eradicate Hydrilla from the reservoir. A survey conducted by the AWCP in 2018 found approximately 232 acres of Hydrilla. In December 2018 1,400 sterile grass carp were stocked to control the growth of Hydrilla. The following spring another 2,600 sterile grass carp were stocked.

### Methods

The AWCP completed a full-lake survey September 15<sup>th</sup>-16<sup>th</sup>, September 29<sup>th</sup>-30<sup>th</sup> and October 5<sup>th</sup>. Three rake tosses were conducted at pre-determined points along the shoreline to determine presence/absence of SAV as well as quantify rake coverage. Additionally, a recording fathometer (SONAR) was used to map and record the bottom. Roughly 80 miles of SONAR was logged. The SONAR data was uploaded to a third-party company, Biobase, to quantify the depth and biovolume, a percentage of the water column taken up by vegetation when vegetation exists, data. All of this was then combined with the rake-toss data using GIS software to estimate coverage.

### Results

A total of 158 points were sampled. Of those 158 points, Hydrilla was not present on any of the rake tosses (Figure 1). The 2019 survey also did not find any Hydrilla. The only other SAV that was found during the survey was the aquatic moss *Fontinalis*. It was present at 3 of the 158, or 2%, rake toss points (Figure 2). The cyanobacteria *Lyngbya*, *Lyngbya wollei*, was also observed during the survey. It was found at 2 of the 158, or 1%, rake toss points (Figure 3). The percent coverage on the rakes was <25% and the total acreage is <0.5 acres. In contrast, in 2019 it was found at 9 of the 149, or 6%, rake toss points. We also checked the restricted areas of the lake, with assistance from Duke Energy personnel, and did not find any submerged vegetation. Additionally, other emergent and floating vegetation observed was Giant Cutgrass (*Zizaniopsis miliacea*), Cattail (*Typha domingensis*), Water Willow (*Justicia Americana*), Alligatorweed (*Alternanthera philoxeroides*), Creeping Water Primrose (*Ludwigia grandiflora*), American Lotus (*Nelumbo lutea*) and Fragrant Water Lily (*Nymphaea odorata*).

# 2020 Harris Lake Submerged Aquatic Vegetation Survey NC Division of Water Resources

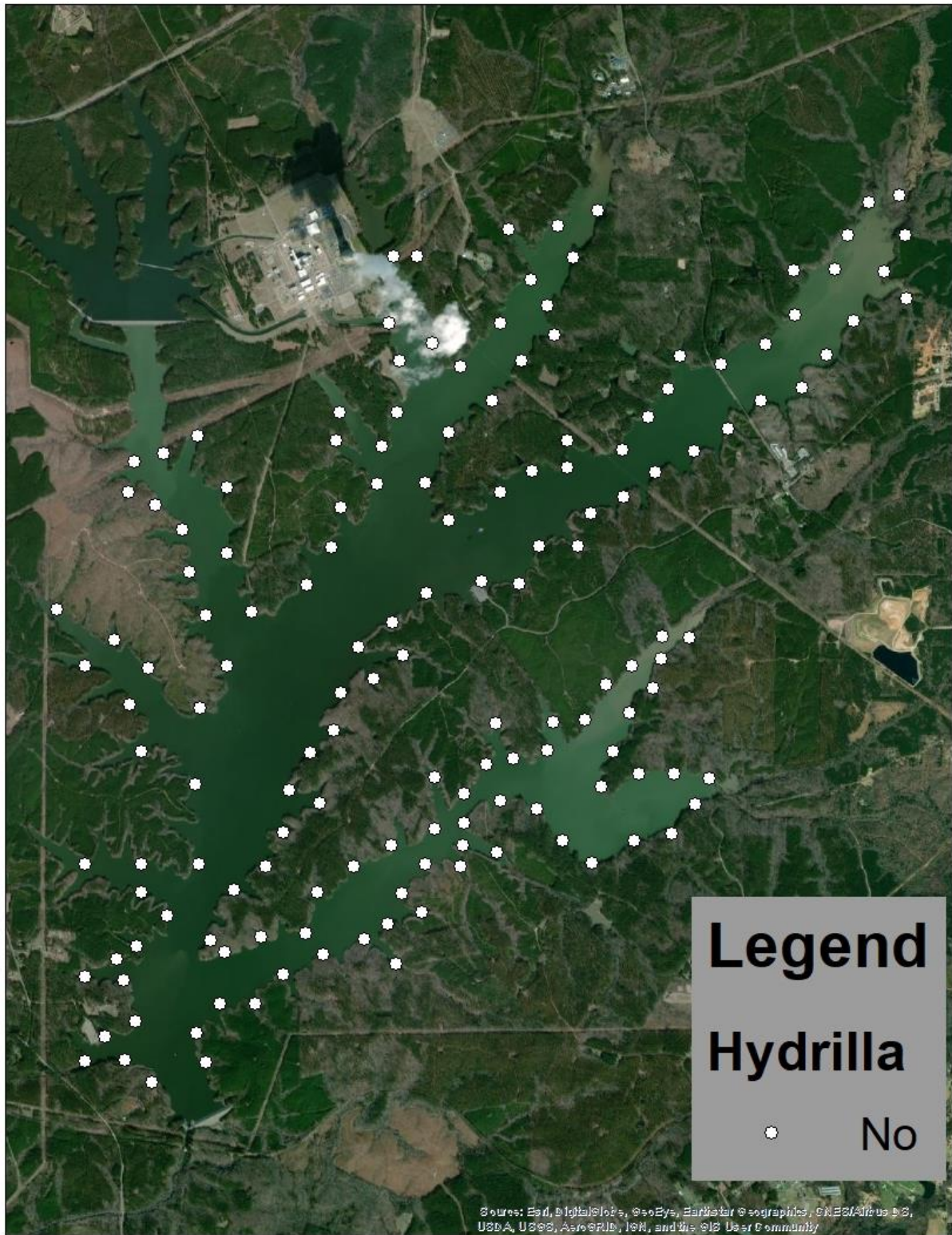


Figure 1. Map showing no Hydrilla found at the pre-determined rake toss points.



# 2020 Harris Lake Submerged Aquatic Vegetation Survey NC Division of Water Resources

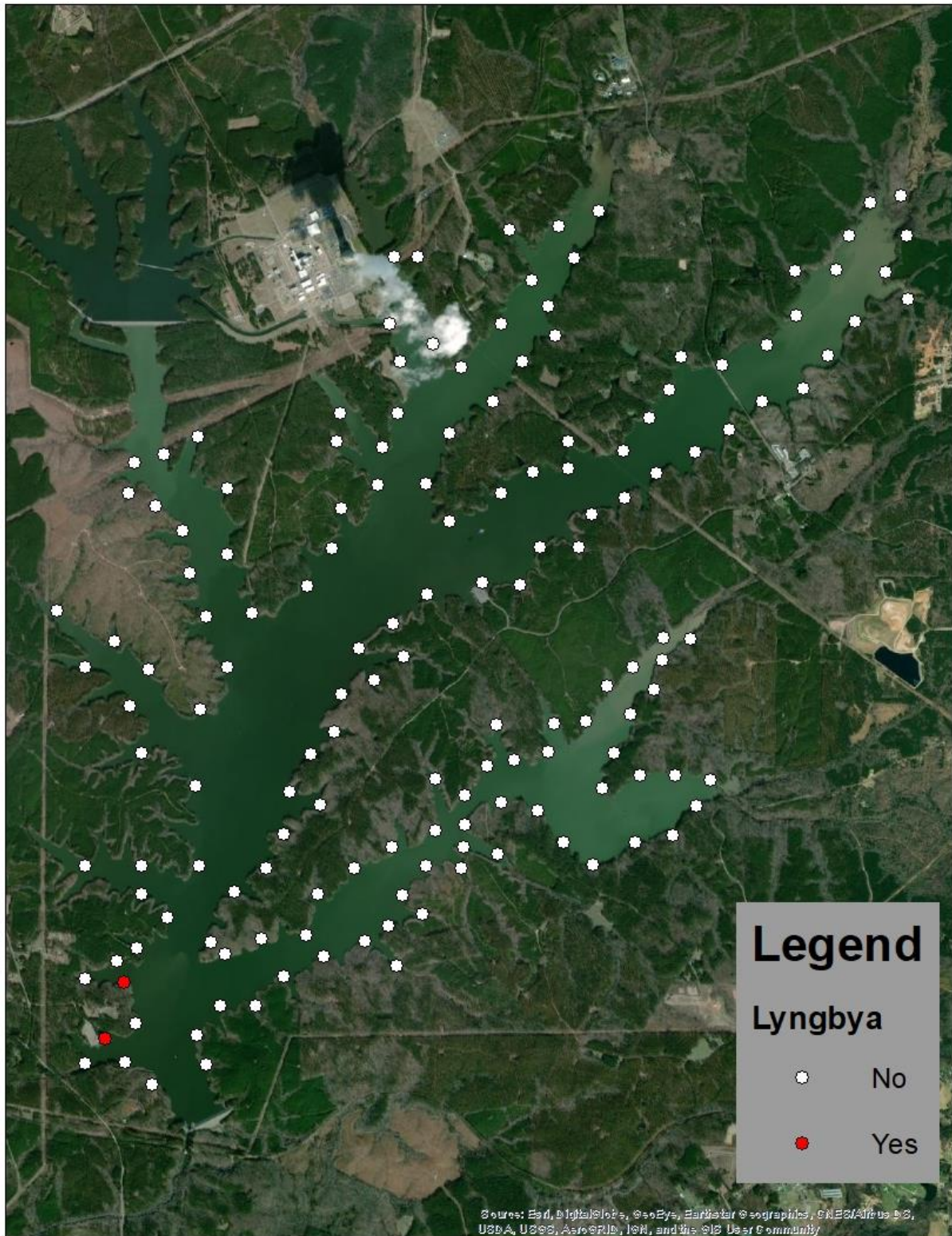


Figure 2. Map showing Lyngbya presence/absence at pre-determined rake toss points.



# 2020 Harris Lake Submerged Aquatic Vegetation Survey NC Division of Water Resources

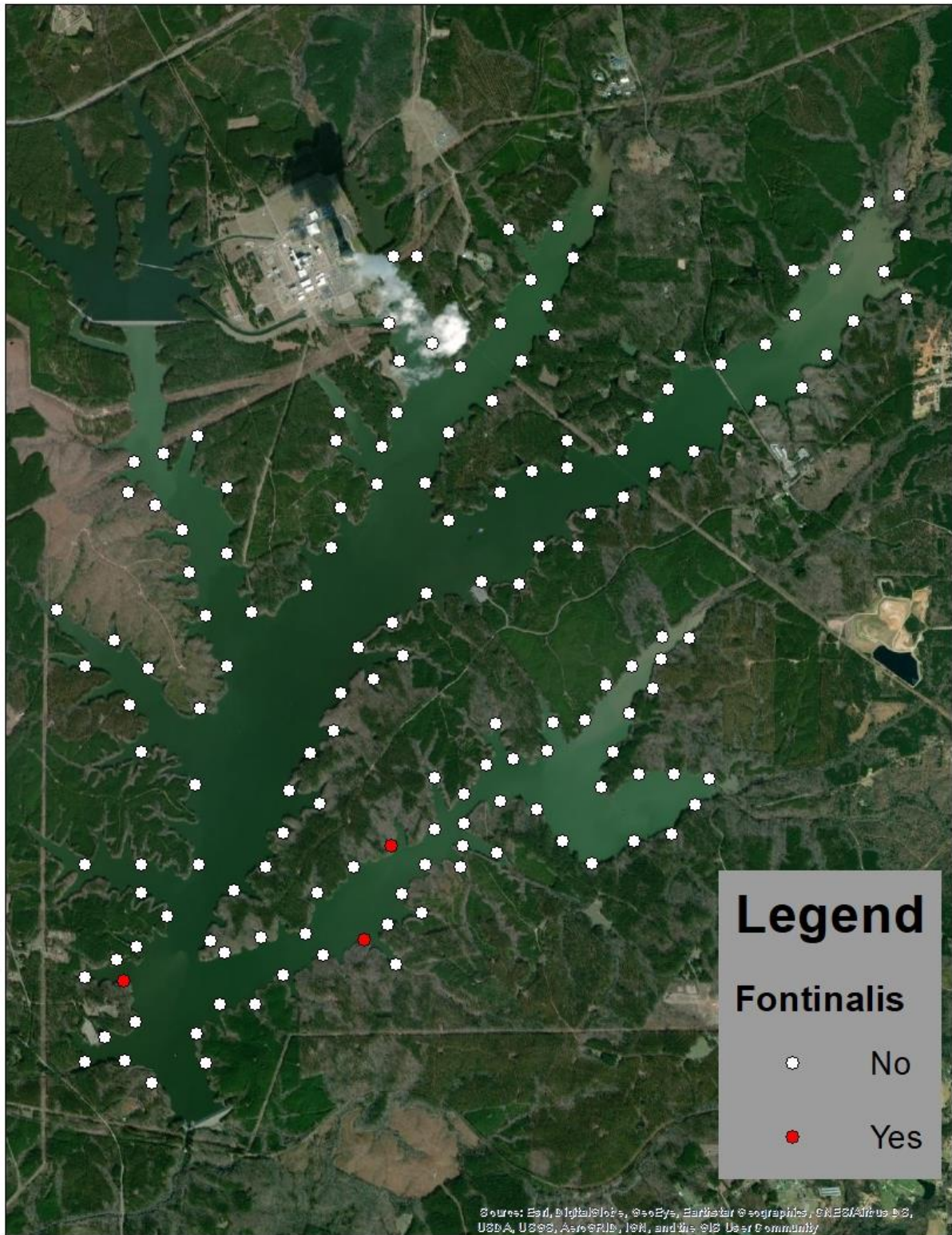


Figure 3. Map showing presence/absence of Fontinalis at pre-determined rake toss points.