

2022 Tar River Reservoir Submerged Aquatic Vegetation (SAV) Survey

NC Division of Water Resources

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 the Tar River Reservoir in 2005. Since then, multiple partners including the Aquatic Weed Control Program (AWCP), the NC Wildlife Resources Commission (WRC), and the City of Rocky Mount have worked together to manage Hydrilla in the reservoir. More information concerning past management activities can be found on the AWCP online database ([NCDEQ-DWR :: Aquatic Weed Control \(ncwater.org\)](https://ncdeq-dwr.nc.gov/AquaticWeedControl)).

Methods

The AWCP completed a survey of the Sapony Creek arm of the Tar River Reservoir on October 20th. Using a point intercept method, a total of 64 points were sampled in 2022 (Figure 1). Three rake tosses were conducted at each point along the shoreline to determine presence/absence of SAV as well as quantify rake coverage. 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. Roughly 11 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 1, or 17%, of the points (Figure 2). Species found during the survey include the macroalgae Chara (*Chara spp.*), Filamentous algae (*Spirogyra spp.*), the blue-green algae Lyngbya (*Microseira wollei*) and Proliferating Spikerush (*Eleocharis baldwinii*) (Figures 3 – 6). All these species have been found during previous surveys.

Water Willow (*Justicia americana*) was observed growing along much of the shoreline in the survey area. Alligatorweed (*Alternanthera philoxeroides*) was also observed during the survey.

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Figure 1. Map showing locations of pre-determined rake toss points.

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Figure 2. Map showing locations and density rating of all SAV.

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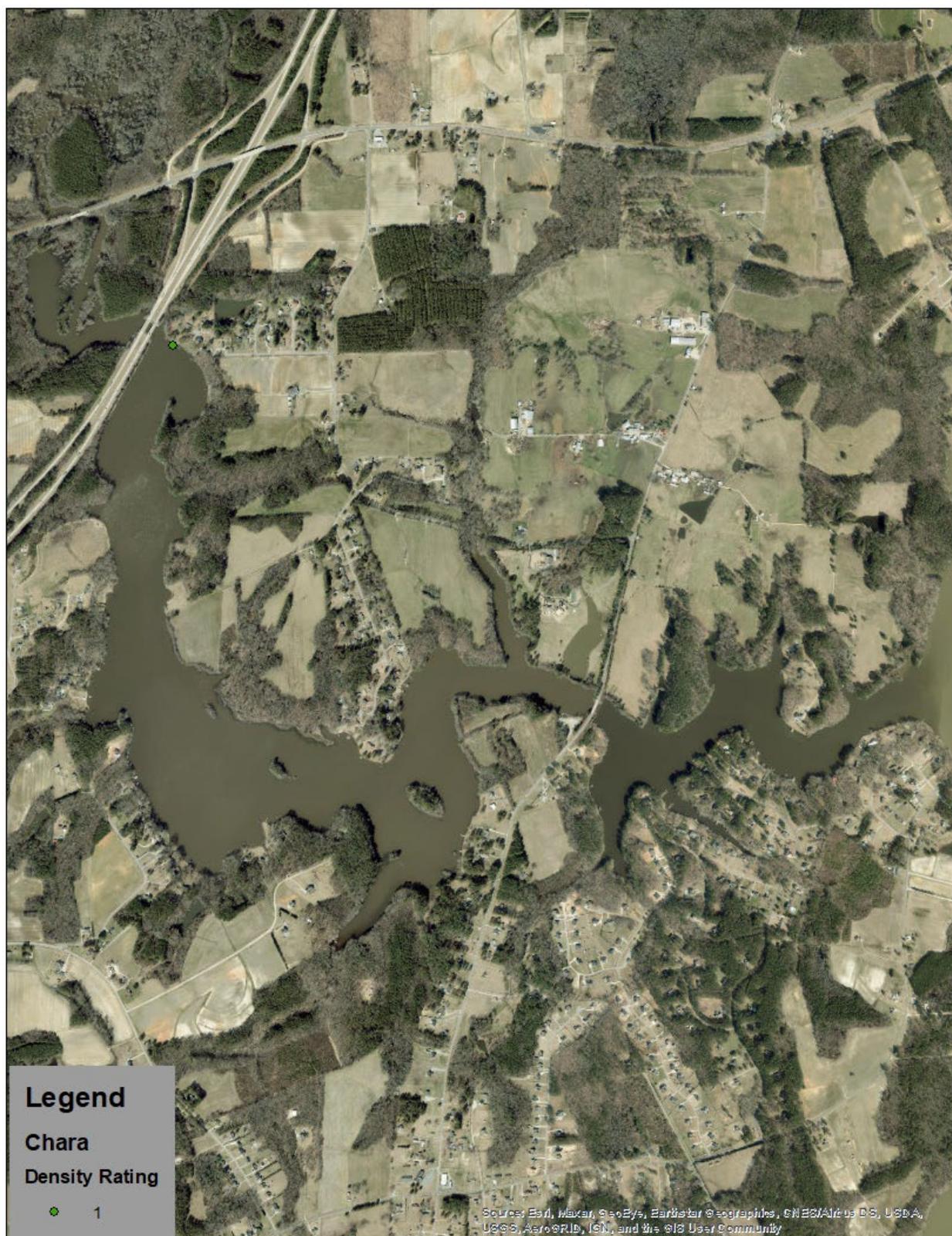


Figure 3. Map showing locations and density rating of Chara.

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Figure 4. Map showing locations and density rating of the filamentous algae.

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

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Figure 6. Map showing locations and density rating of Proliferating Spikerush.