2022 Cube Hydro Submerged Aquatic Vegetation Survey Report
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 Cube Hydro lakes in 2011. Since then multiple partners including the Aquatic Weed Control Program (AWCP), the NC Wildlife Resources Commission (WRC), and Cube Hydro have worked together to manage Hydrilla in the reservoirs. More information concerning past management activities can be found on the AWCP online database (NCDEQ-DWR :: Aquatic Weed Control (ncwater.org)).

Methods

The AWCP completed a full-lake survey of Harper Hearn, Ski Pond, and Falls Reservoir on September 15th. Using a point intercept method, a total of 15 points were sampled at Harper Hearn, 10 points at Ski Pond and 25 Points at Falls Reservoir in 2022 (Figure 1 – 3). 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 2 miles of SONAR were logged at Harper Hearn, 1 mile at Ski Pond, and 5 miles at Falls Reservoir. 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

Harper Hearn

A total of 15 points were sampled during 2022. There was no other SAV found during the survey. Water Willow (*Justicia americana*) was found growing along much of the shoreline.

Ski Pond

A total of 10 points were sampled during 2021. There was no SAV found during the survey. Water Willow was found growing along a majority of the shoreline.

Falls Reservoir

SAV was found at 1, or 4%, of the rake toss points (Figure 4). The only species that was found was the blue-green algae Lyngbya (*Microseira* wollei) (Figure 5). Water Willow was also found along much of the eastern shoreline.

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Figure 1. Map showing pre-determined rake toss points at Harper Hearn.

Figure 2. Map showing pre-determined rake toss points at Ski Pond.

Figure 3. Map showing pre-determined rake toss points at Falls Reservoir.

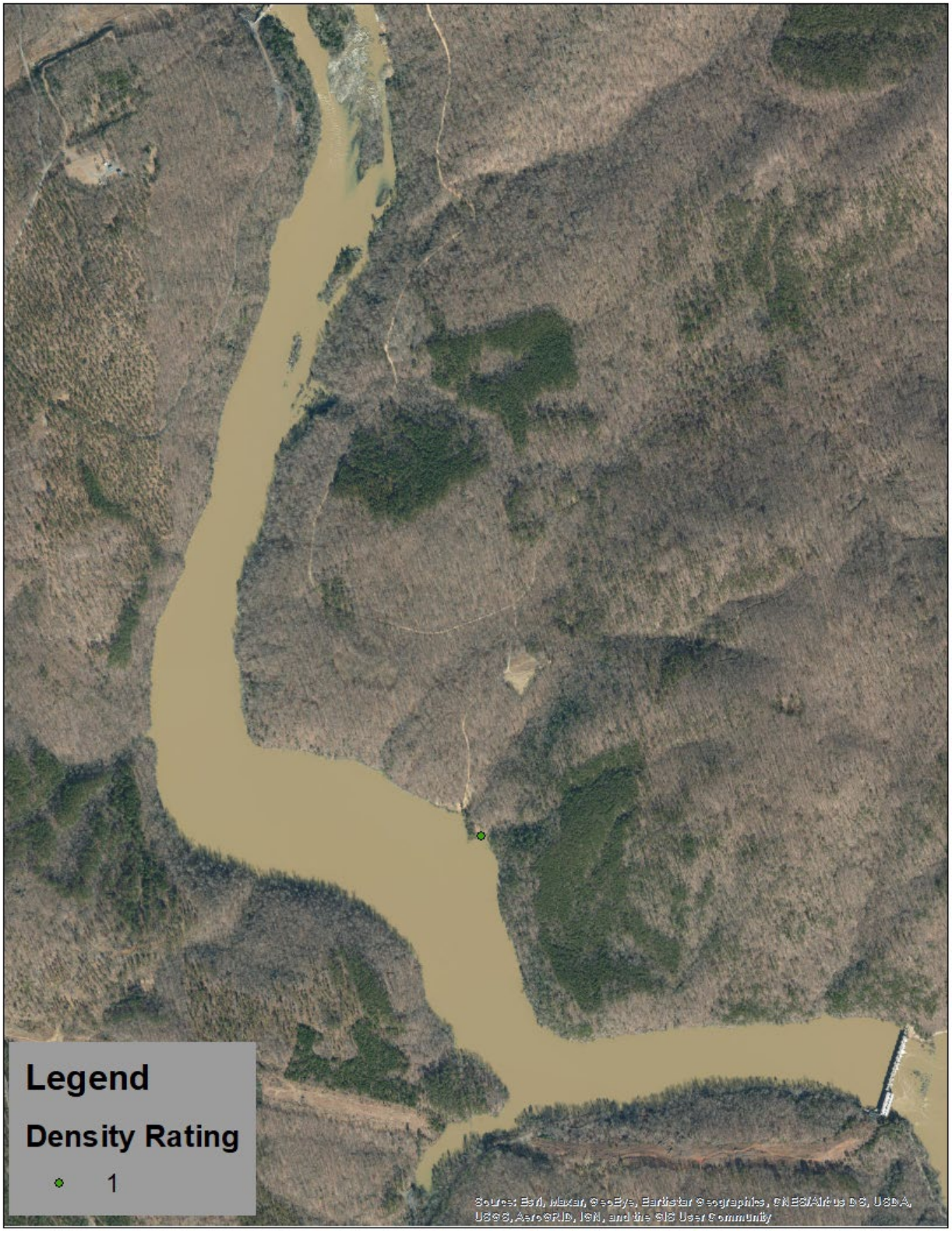

Figure 4. Map showing location and density rating of SAV at Falls Reservoir.

Figure 5. Map showing location and density rating of Lyngbya at Falls Reservoir.