

2021 DWR Submerged Aquatic Vegetation Survey Report

William B. Umstead State Park

Introduction

Hydrilla, (*Hydrilla verticillata*), is one of the most economically and ecologically damaging non-native, 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. The Aquatic Weed Program (AWCP) and the NC Division of Parks & Recreation (DPR) have worked together to manage Hydrilla in the three lakes within the park (Big Lake, Reedy Creek Lake and Sycamore Lake). 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

The survey of Big Lake was completed on 9/21. At Big Lake three rake tosses were conducted at pre-determined points throughout the lake 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 = <25%; 2= 25% - 50%; 3= 50% - 75%; 4= 75% - 100%). Additionally, a recording fathometer (SONAR) was used to map and record the bottom. Approximately 3 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. At Reedy Creek Lake and Sycamore Lake a visual survey was completed. The survey of Reedy Creek Lake was completed on 8/23 and the survey of Sycamore Lake was completed on 9/21. Approximately 1 mile of SONAR were logged at Sycamore Lake.

Results

Big Lake

A total of 32 points were sampled during 2021 (Figure 1). Hydrilla was found at all 32 points (Figure 2). The estimated coverage of Hydrilla in 2021 is 20.5 acres (Figure 3). There was no other submerged aquatic vegetation observed during the survey. Other aquatic vegetation observed during the survey was Cattail (*Typha spp.*) and Common Rush (*Juncus spp.*).

2021 DWR Submerged Aquatic Vegetation Survey Report

William B. Umstead State Park

Reedy Creek Lake

The visual inspection of Reedy Creek Lake found no vegetative Hydrilla during 2021. There was no other SAV found during the survey. Other aquatic vegetation found during the survey was Cattail (*Typha spp.*), Common Rush (*Juncus spp.*) and Parrotfeather (*Myriophyllum aquaticum*).

Sycamore Lake

The visual inspection of Sycamore Lake found only a handful of Hydrilla plants growing at the upper end of the lake (Figure 4). There was no other SAV observed during the survey.

2021 DWR Submerged Aquatic Vegetation Survey Report

William B. Umstead State Park



Figure 1. Map showing pre-determined rake toss points at Big Lake.

2021 DWR Submerged Aquatic Vegetation Survey Report

William B. Umstead State Park

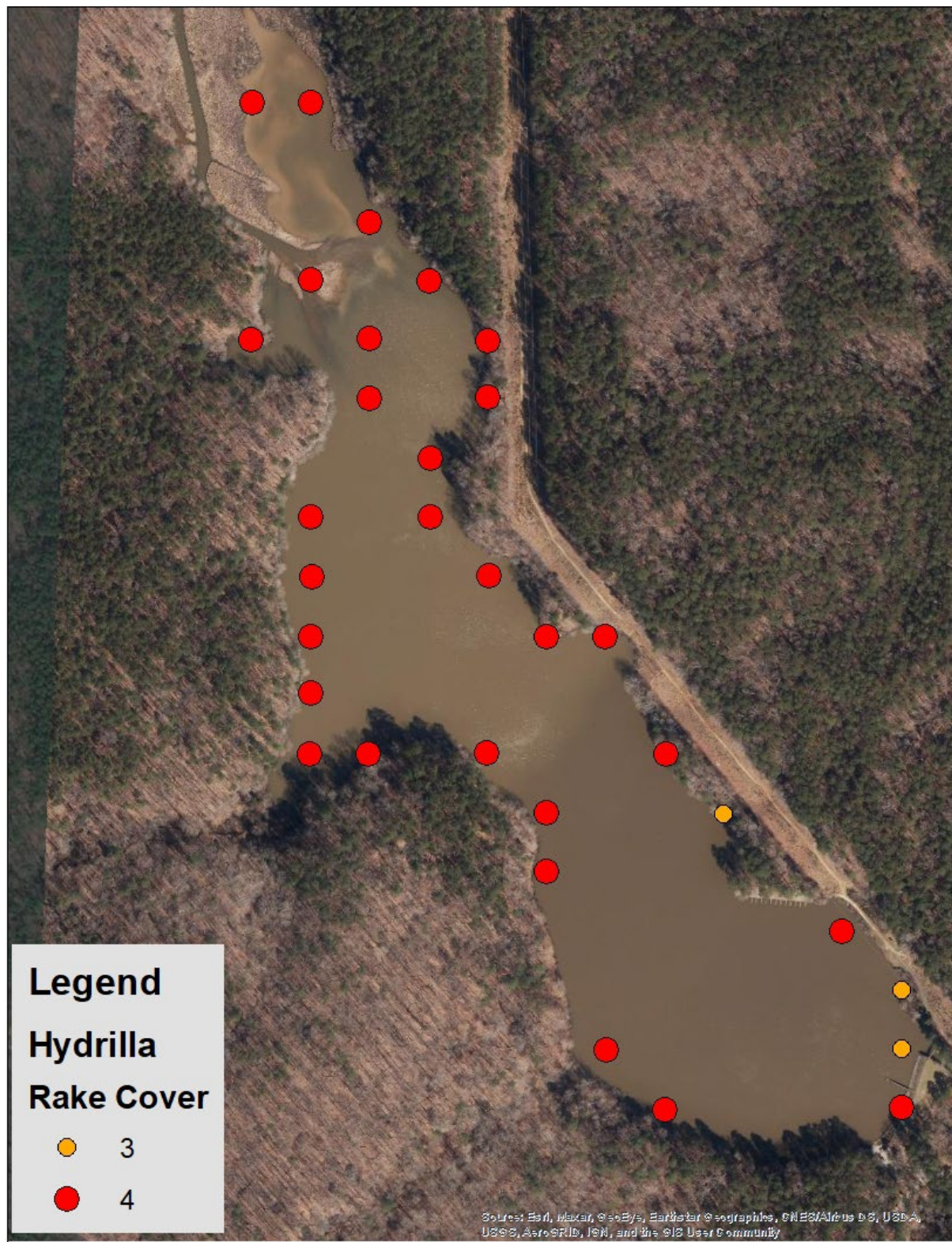


Figure 2. Map showing location and density of Hydrilla in 2021.

2021 DWR Submerged Aquatic Vegetation Survey Report

William B. Umstead State Park

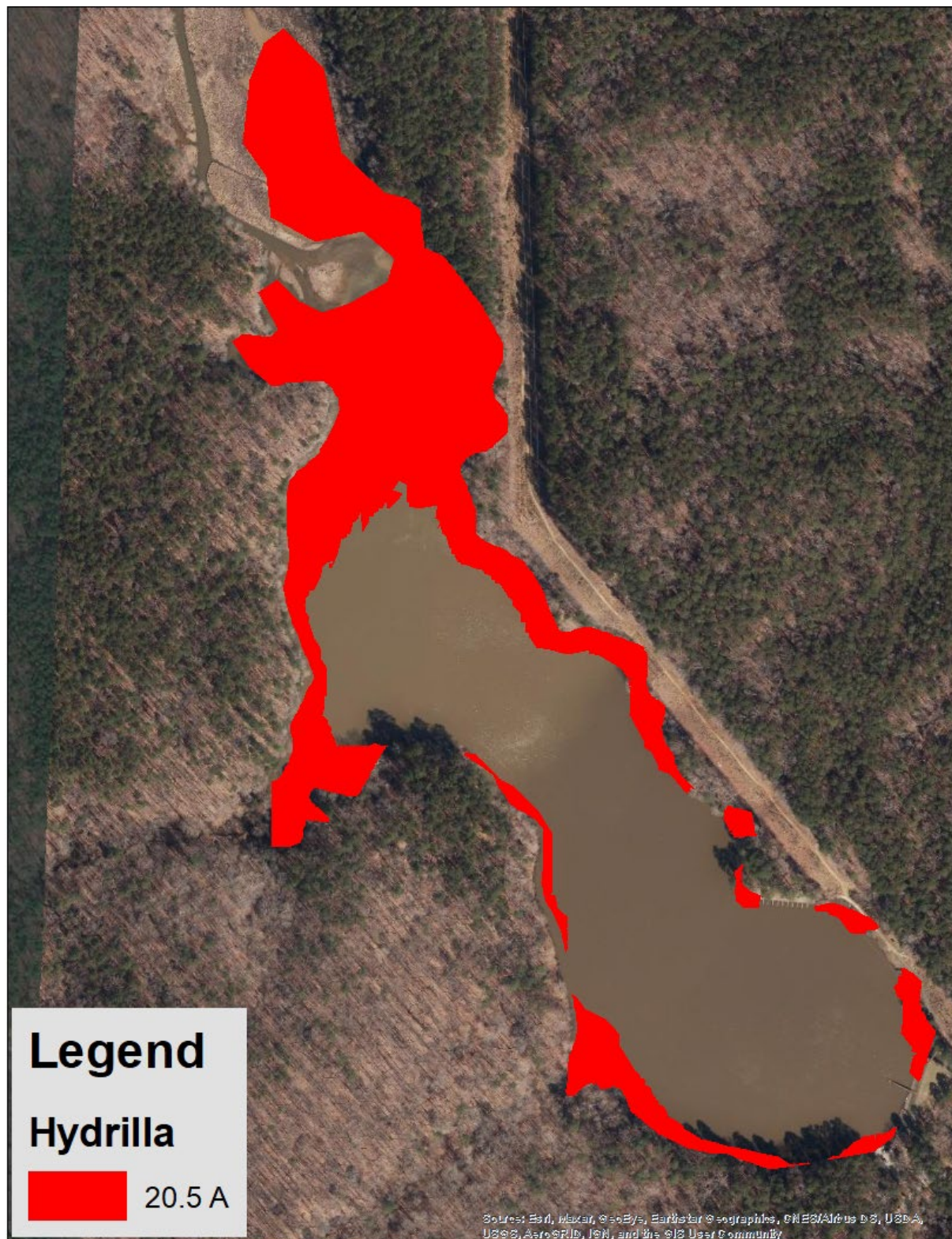


Figure 3. Map showing Hydrilla coverage in 2021 (~20.5 acres).

2021 DWR Submerged Aquatic Vegetation Survey Report

William B. Umstead State Park

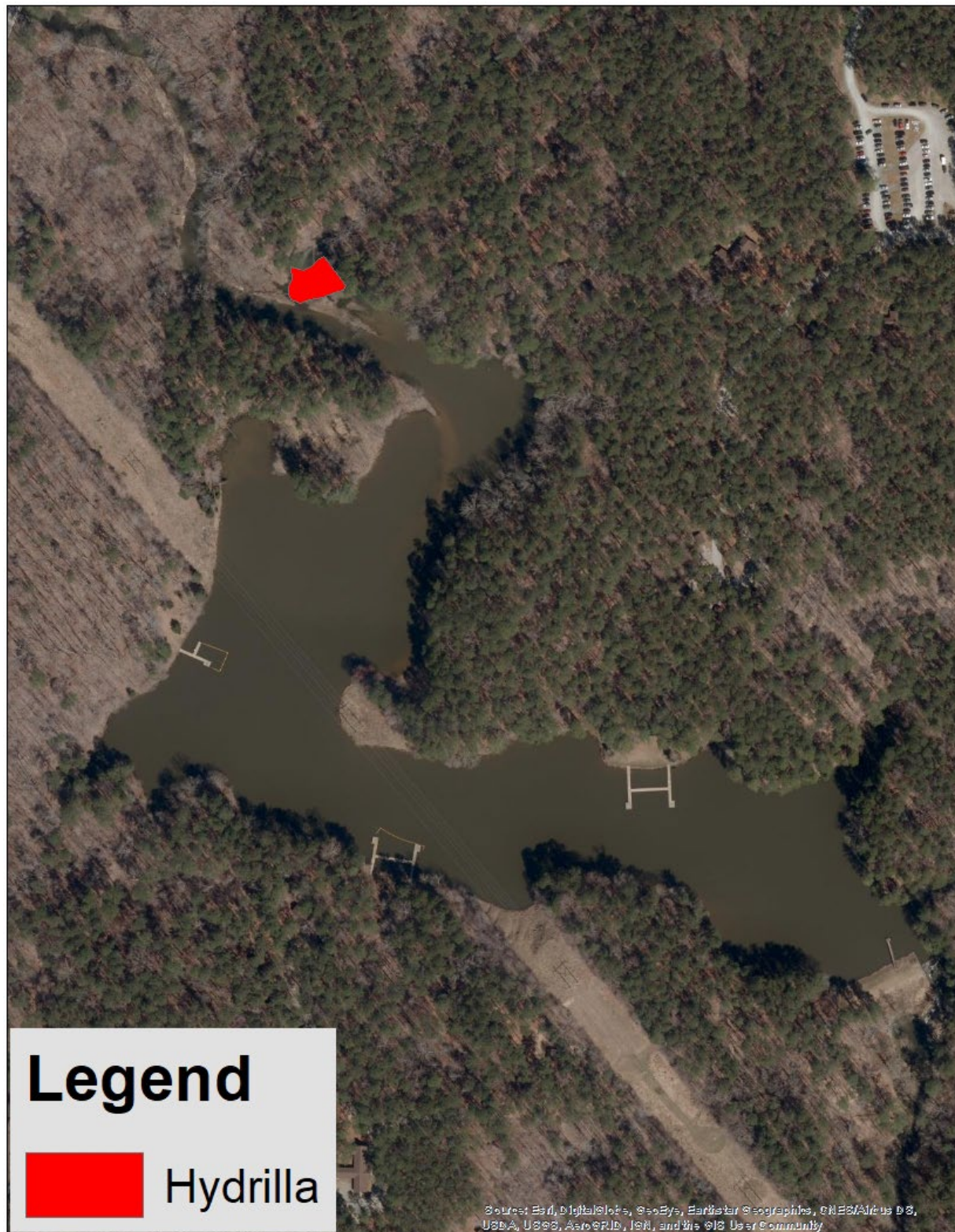


Figure 4. Map showing Hydrilla coverage in Sycamore Lake in 2021 (~0.1 acres).