2020 DWR Submerged Aquatic Vegetation Survey Report
William B. Umstead State Park

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. 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)).

Methods

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. Additionally, a recording fathometer (SONAR) was used to map and record the bottom. 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. The survey of Big Lake was completed on 10/26. Approximately 4 miles of SONAR were logged. At Reedy Creek Lake and Sycamore Lake a visual survey was completed. The survey of Reedy Creek Lake was completed on 11/4 and the survey of Sycamore lake was completed on 10/26. Approximately 2.5 miles of SONAR were logged at Sycamore Lake.

Results

Big Lake

A total of 32 points were sampled during 2020 (Figure 1). Of those 32 points, a total of 28, or 88%, of them contained Hydrilla (Figure 2). This is a slight decrease from 2019 where Hydrilla was found at all 32 points (Figure 3). The estimated coverage of Hydrilla in 2020 is 8 acres (Figure 4). This is a significant decrease from 2019 where the estimated coverage of Hydrilla was 23 acres (Figure 5). 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.*).

2020 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 2020. 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*). Only a few Parrotfeather plants were found growing mostly within the Cattails and Rush where the soil was still wet enough (Figure 6).

Sycamore Lake

The visual inspection of Sycamore Lake found only a handful of Hydrilla plants growing at the upper end of the lake (Figure 7). There was no other SAV observed during the survey.

2020 DWR Submerged Aquatic Vegetation Survey Report
William B. Umstead State Park

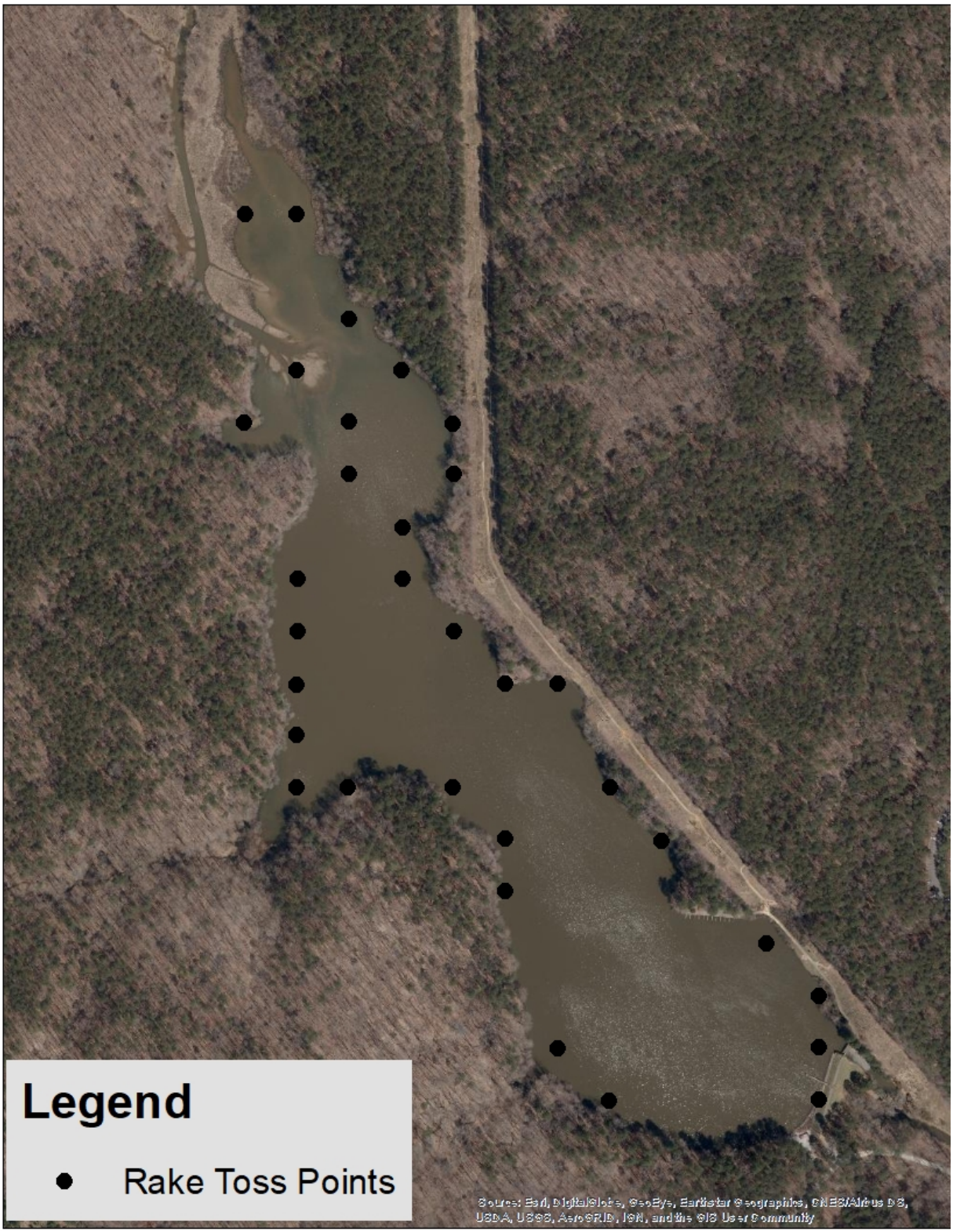

Figure 1. Map showing pre-determined rake toss points at Big Lake.

2020 DWR Submerged Aquatic Vegetation Survey Report
William B. Umstead State Park

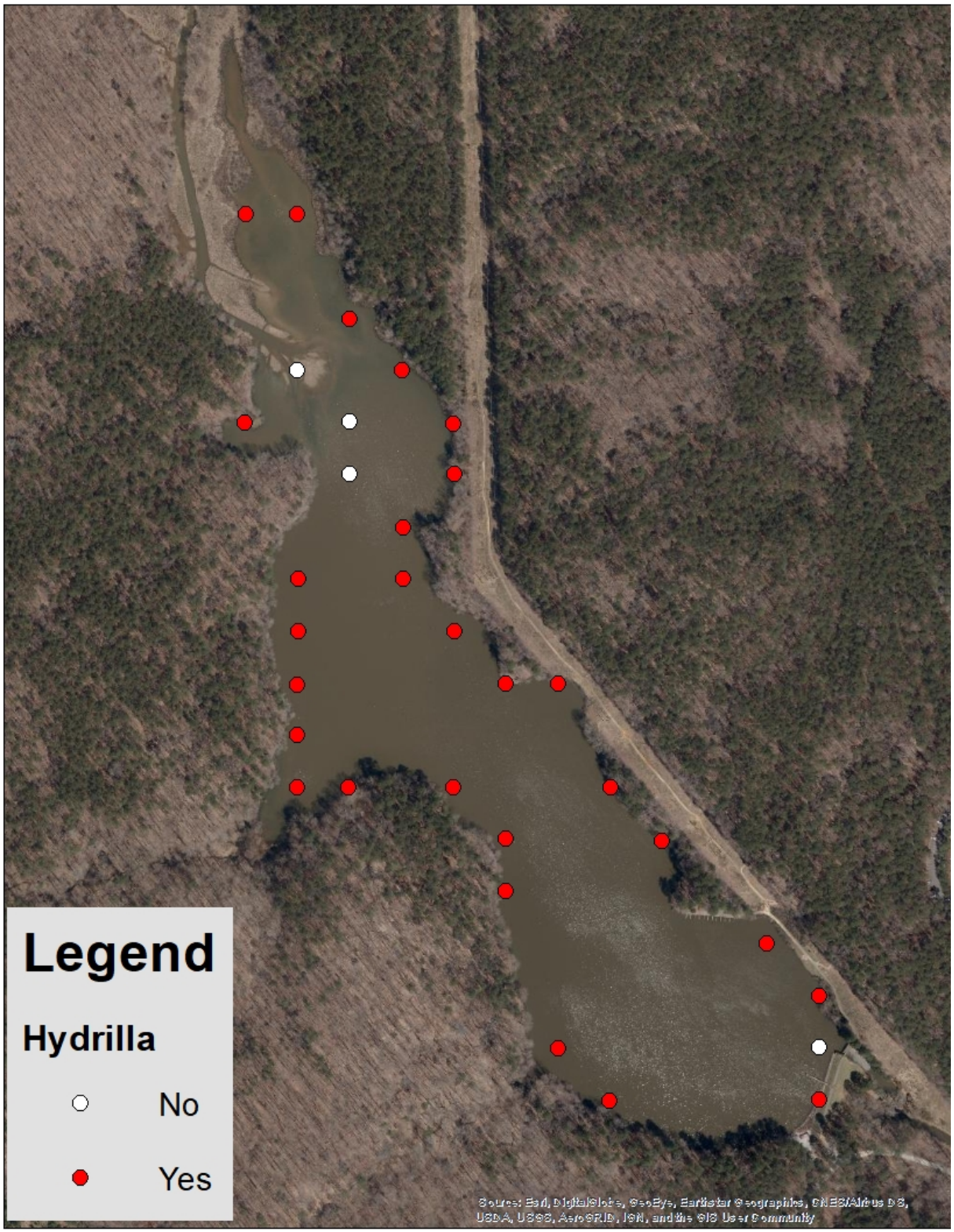

Figure 2. Map showing presence/absence of Hydrilla in Big Lake in 2020.

2020 DWR Submerged Aquatic Vegetation Survey Report
William B. Umstead State Park

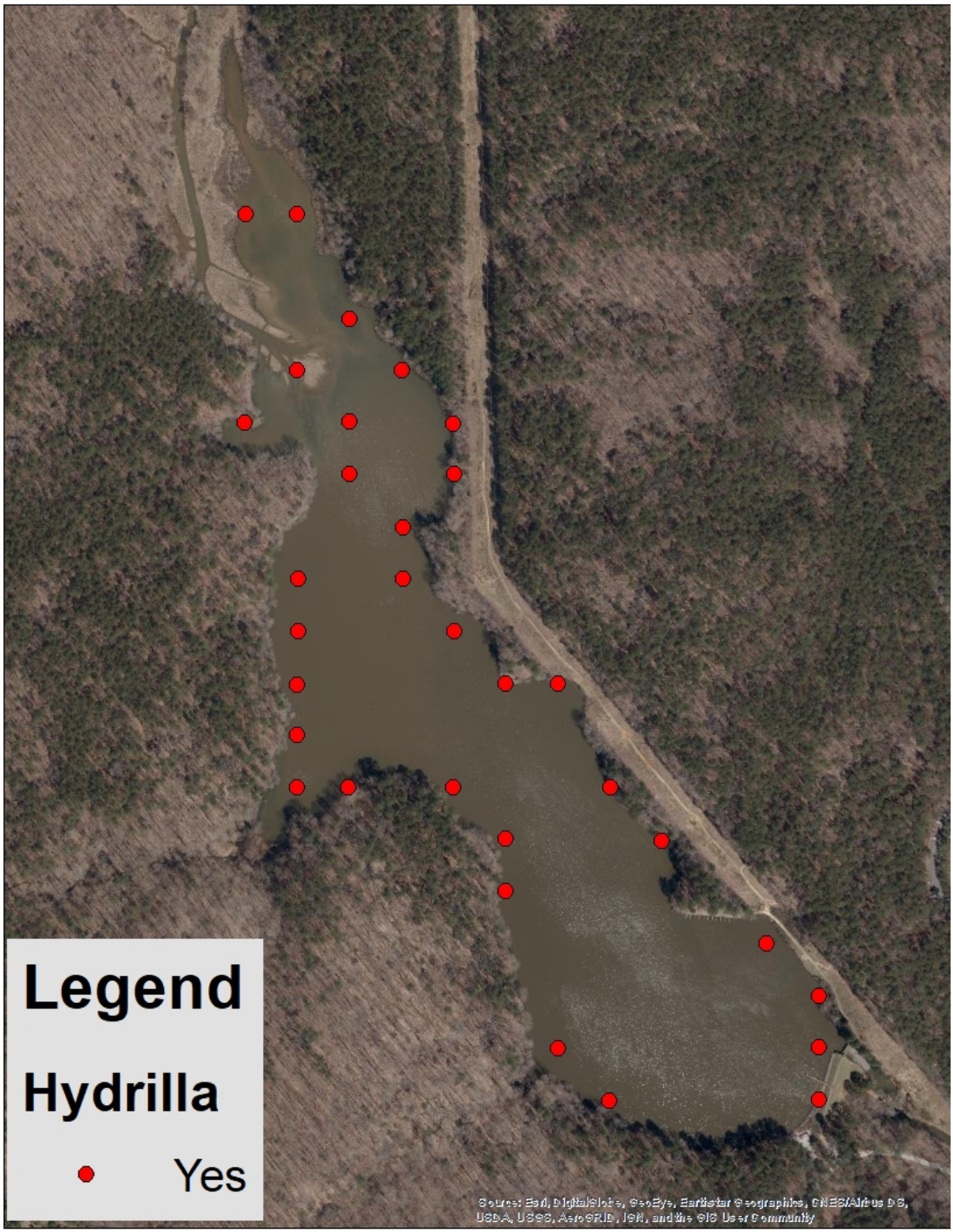

Figure 3. Map showing presence/absence of Hydrilla in Big Lake in 2019.

2020 DWR Submerged Aquatic Vegetation Survey Report
William B. Umstead State Park

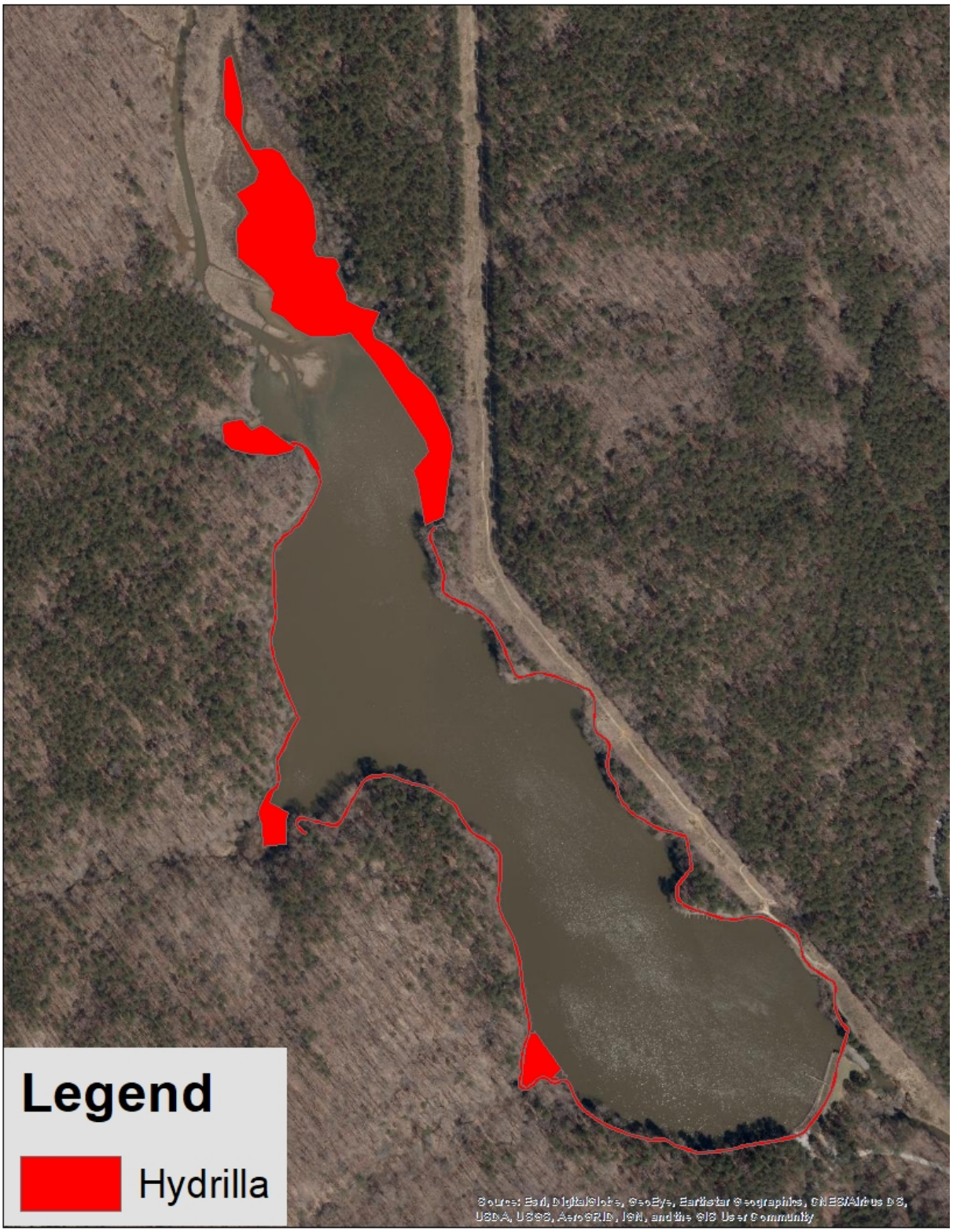

Figure 4. Map showing Hydrilla coverage in 2020 (~8 acres).

2020 DWR Submerged Aquatic Vegetation Survey Report
William B. Umstead State Park

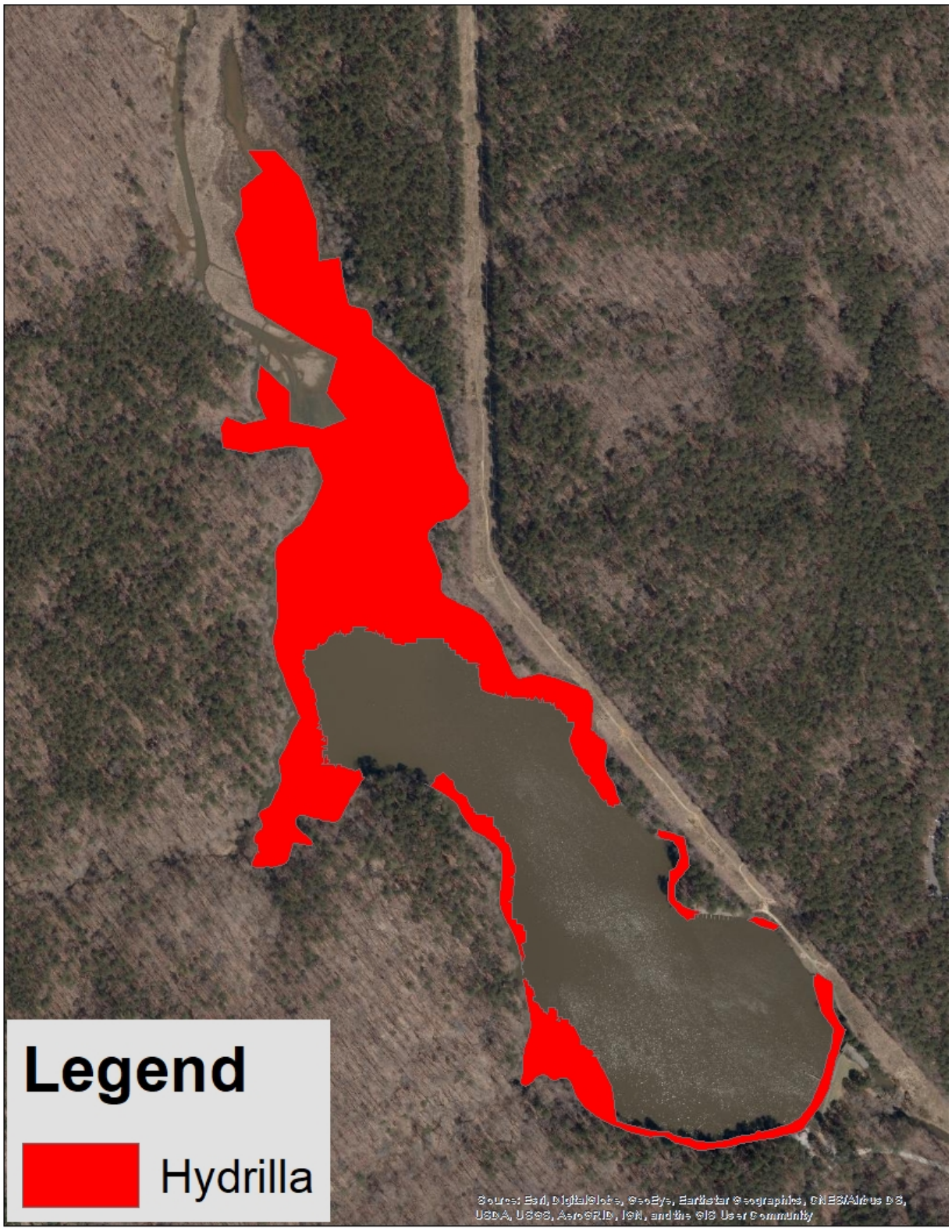

Figure 5. Map showing Hydrilla coverage in 2019 (~23 acres).

2020 DWR Submerged Aquatic Vegetation Survey Report
William B. Umstead State Park

Figure 6. Picture of Parrotfeather growing within Rush at Reedy Creek Lake.

2020 DWR Submerged Aquatic Vegetation Survey Report
William B. Umstead State Park

Figure 7. Map showing Hydrilla coverage in Sycamore Lake in 2020 (~0.1 acres).