2021 DWR Submerged Aquatic Vegetation Survey Report
Lake Devin

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 Lake Devin in 2019. Since then, the Aquatic Weed Program (AWCP) and the City of Oxford have worked together to manage Hydrilla in Lake Devin. More information concerning past management activities can be found on the AWCP online database (NCDEQ-DWR :: Aquatic Weed Control (ncwater.org)).

Methods

A full-lake survey was completed on October 1st. 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 7 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

A total of 45 points were sampled during 2021 (Figure 1). SAV was found growing at all 45 points (Figure 2). Of those 45 points, Hydrilla was found at all of them (Figure 3). The estimated Hydrilla coverage in the lake is 29 acres (Figure 4). There was no other SAV found during the survey. However, the macroalage Chara (*Chara spp.*) was found during the survey. It was found at 3, or 7%, of the points (Figure 5). Other aquatic vegetation observed during the survey was Creeping Water Primrose (*Ludwigia grandiflora*) and Common Rush (*Juncus spp.*). Creeping Water Primrose was found mostly at the upper end of the lake whereas the Rush was found along the shoreline with the boat ramp.

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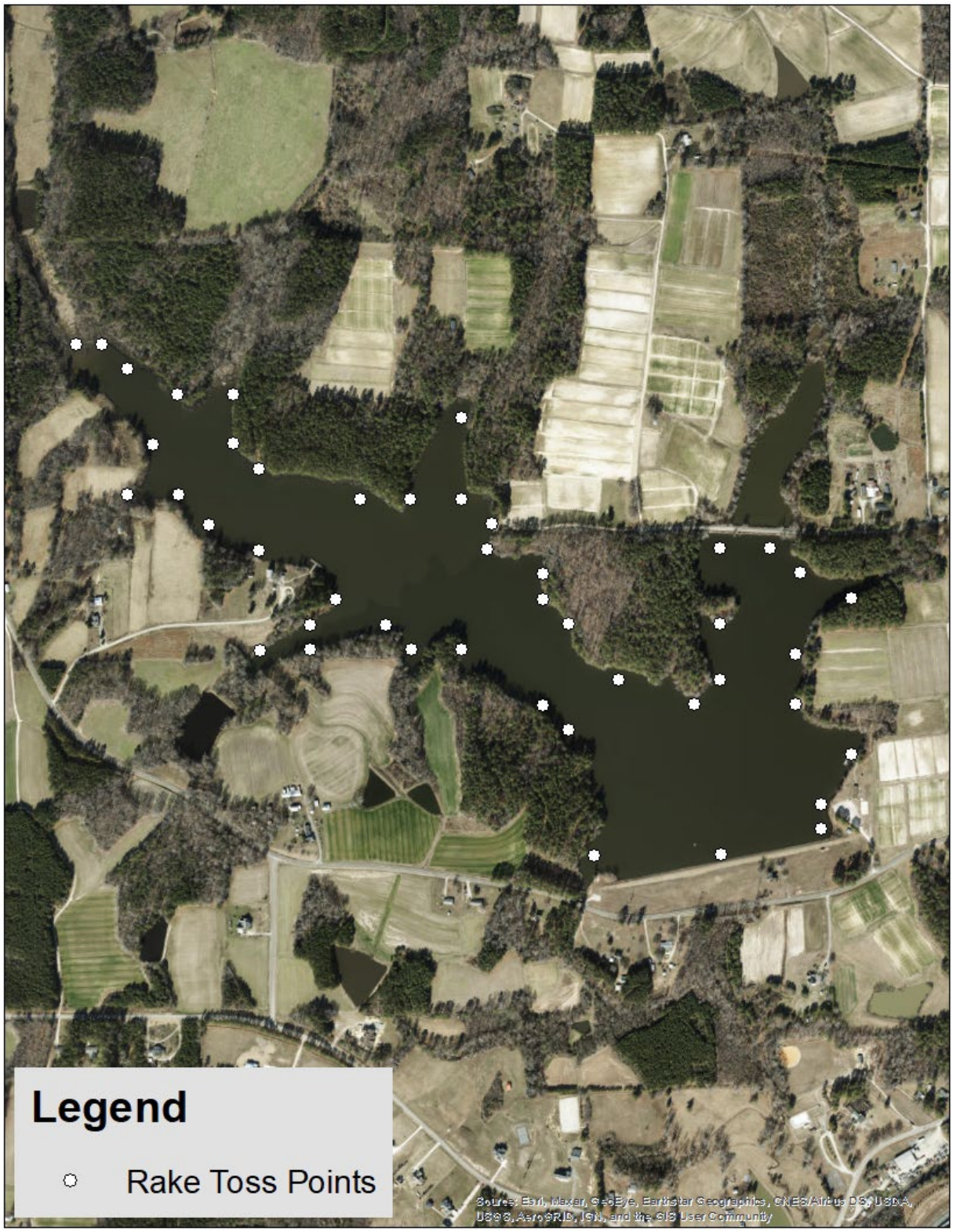

Figure 1. Map showing pre-determined rake toss point locations in Lake Devin.

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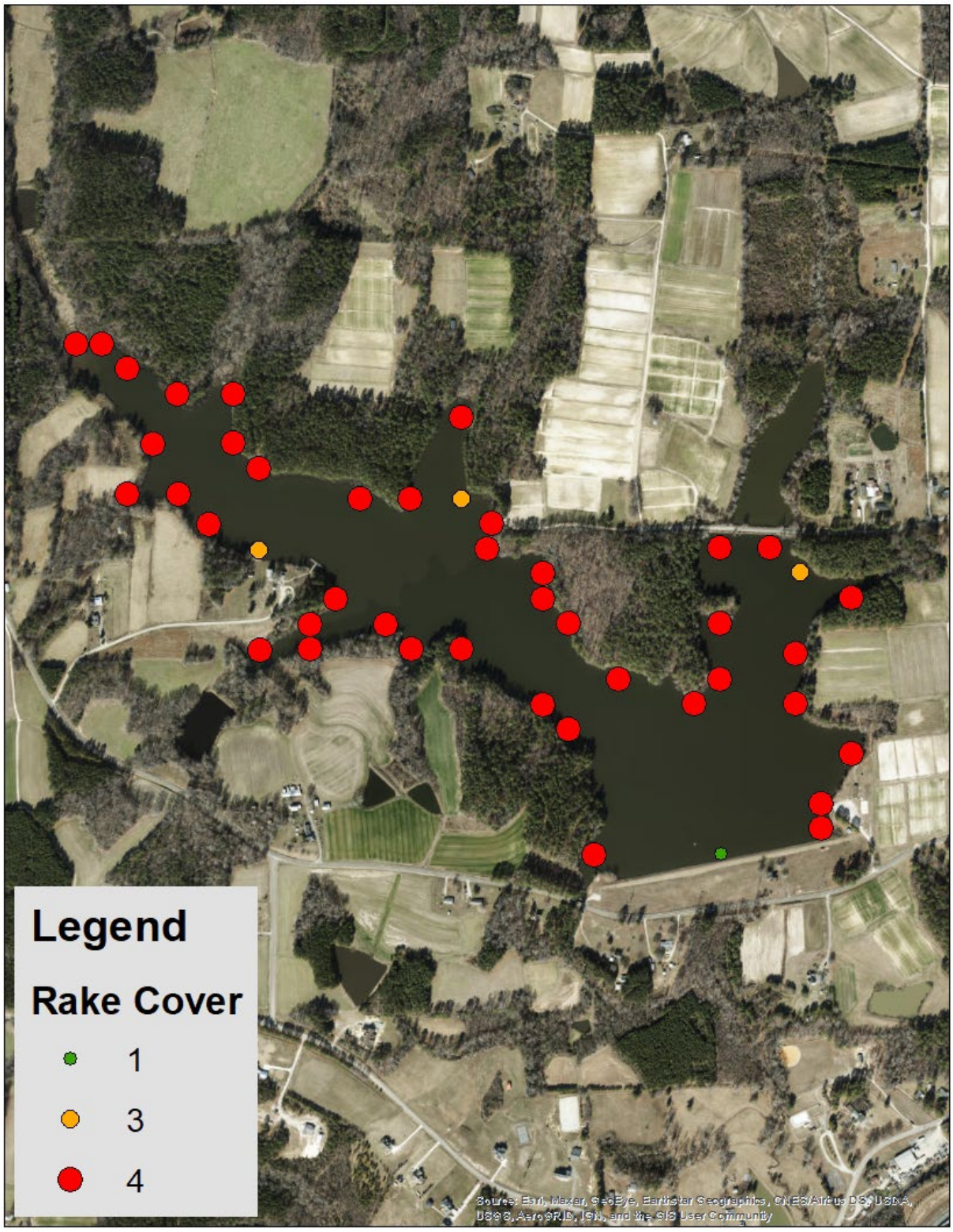

Figure 2. Map showing density ratings at each rake toss point.

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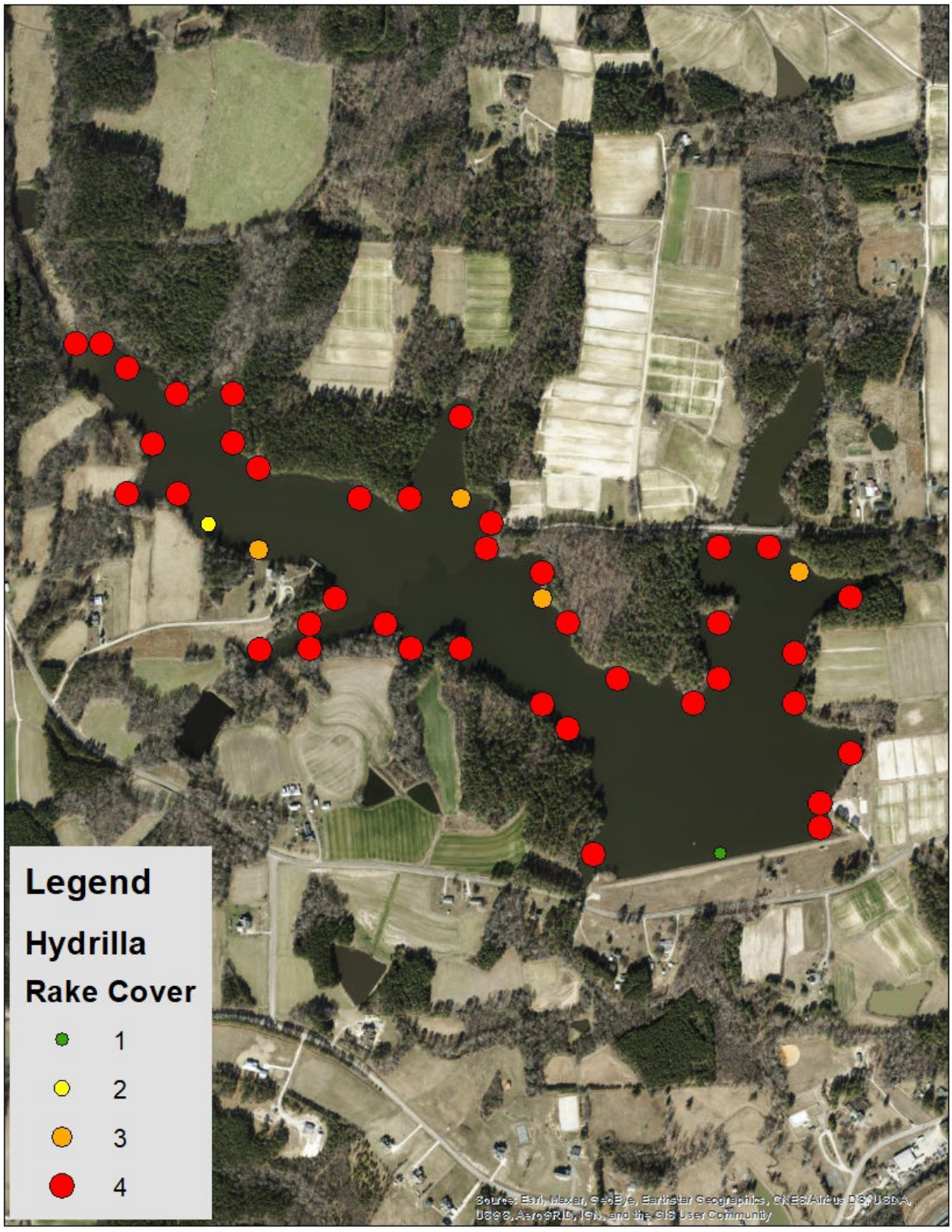

Figure 3. Map location of Hydrilla and density rating.

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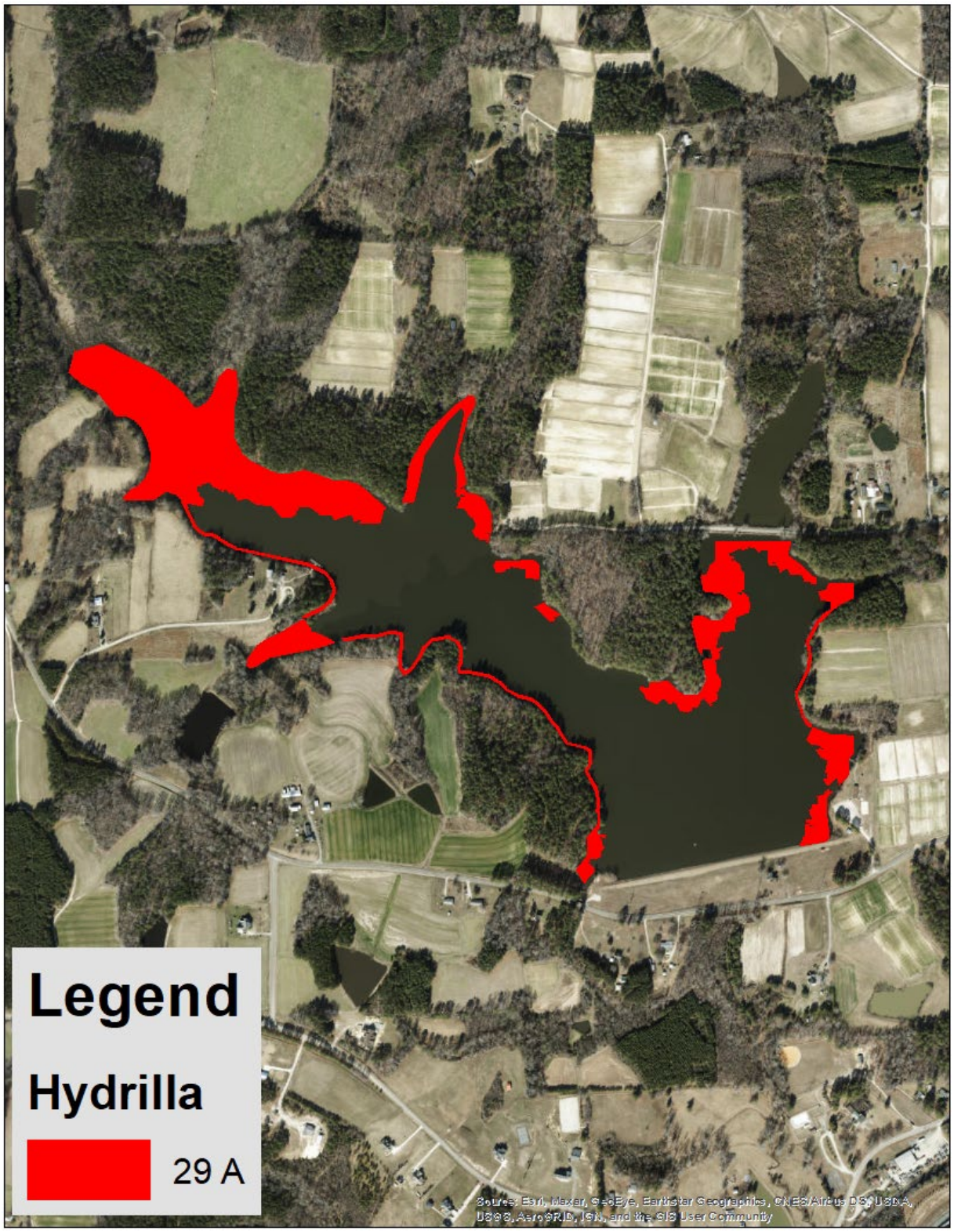

Figure 4. Map showing Hydrilla coverage at Lake Devin in 2021 (~29 acres).

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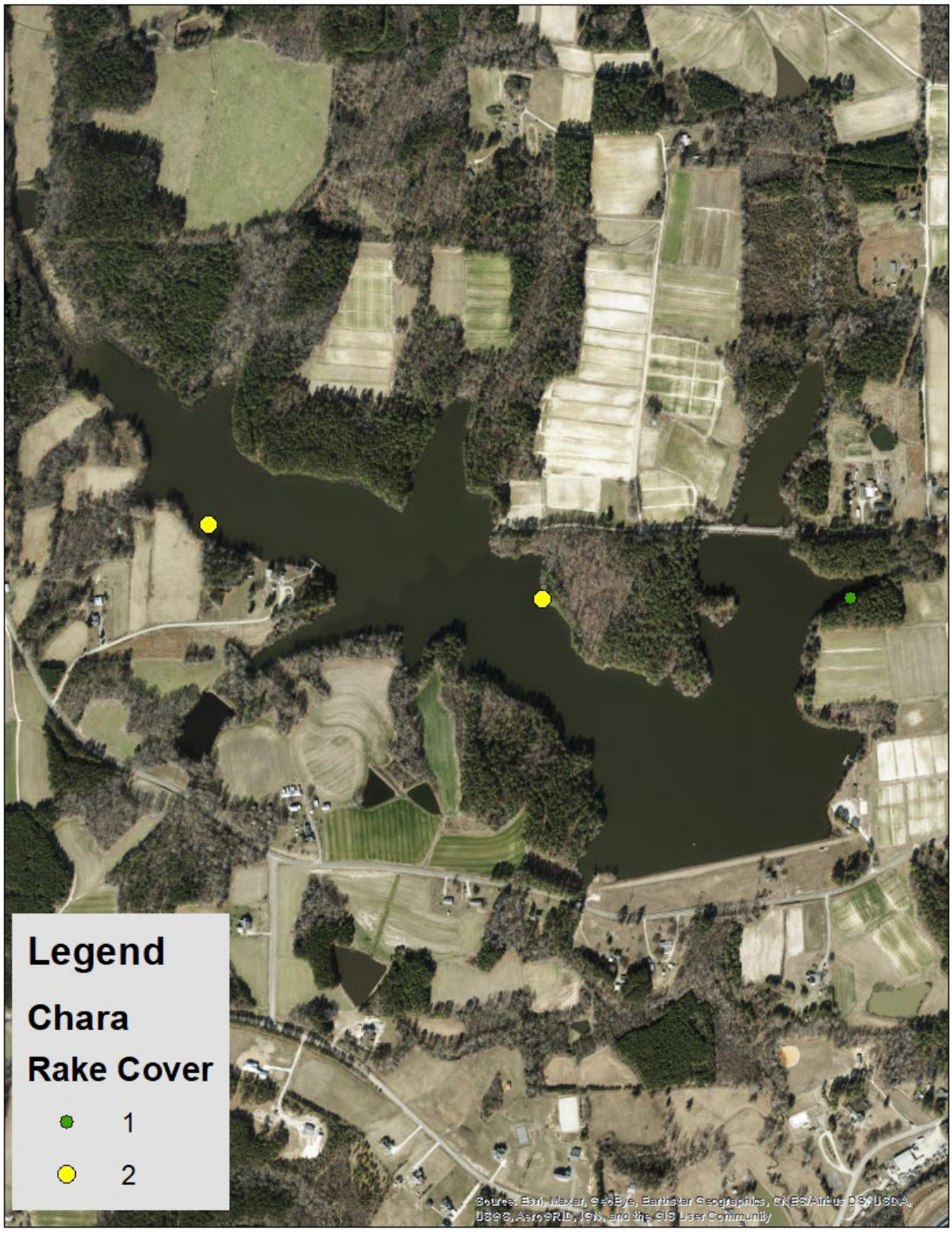

Figure 5. Map showing location of Chara and density rating.