2021 Mintz Pond Submerged Aquatic Vegetation 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 Mintz Pond in 2011. Since then the Aquatic Weed Program (AWCP) and Fayetteville Public Works Commission (PWC) have worked together to manage Hydrilla. 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 the survey on October 27th. 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 2 miles of sonar tracks 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 24 points were sampled during the 2021 survey (Figure 1). SAV was found at 20, or 83%, of the points (Figure 2). Hydrilla was found at 7, or 29%, of the sampled points (Figure 3). This is a decrease from 2020 where it was found at 18, or 75%, of the points. The overall coverage of Hydrilla is <1 acre (Figure 4). Other native SAV found during the survey was Sandhills milfoil ((*Myriophyllum laxum*), Bladderwort (*Utricularia spp.*), Variable leaf pondweed (*Potamogeton diversifolius*), and Bog moss (*Mayaca fluviatilis*). The most dominant SAV found during the survey was Sandhills Milfoil. It was found at 20, or 83%, of the sampled points (Figure 5). Bladderwort (*Utricularia spp*.) was the next most dominant species found during the survey. It was found at 15, or 63%, of the survey points (Figure 6). Variable leaf pondweed (*Potamogeton diversifolius*) was the next most dominant species. It was found at 4, or 17%, of the rake toss points. (Figure 7). Bog moss was found at 2, or 8%, of the points (Figure 8). The macroalgae Nitella (*Nitella spp.*) was also found during the survey. It was found at 1, or 4%, of the points (Figure 9). Other native aquatic vegetation found during the survey was Watershield (*Brasenia schreberi*), Waterpod (*Hydrolea quadrivalvis*), Fragrant water lily (*Nymphaea odorata*), and

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Spatterdock (*Nuphar lutea*). Alligatorweed (*Alternanthera philoxeroides*), an invasive, non-native plant, was observed growing along much of the western shoreline.

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

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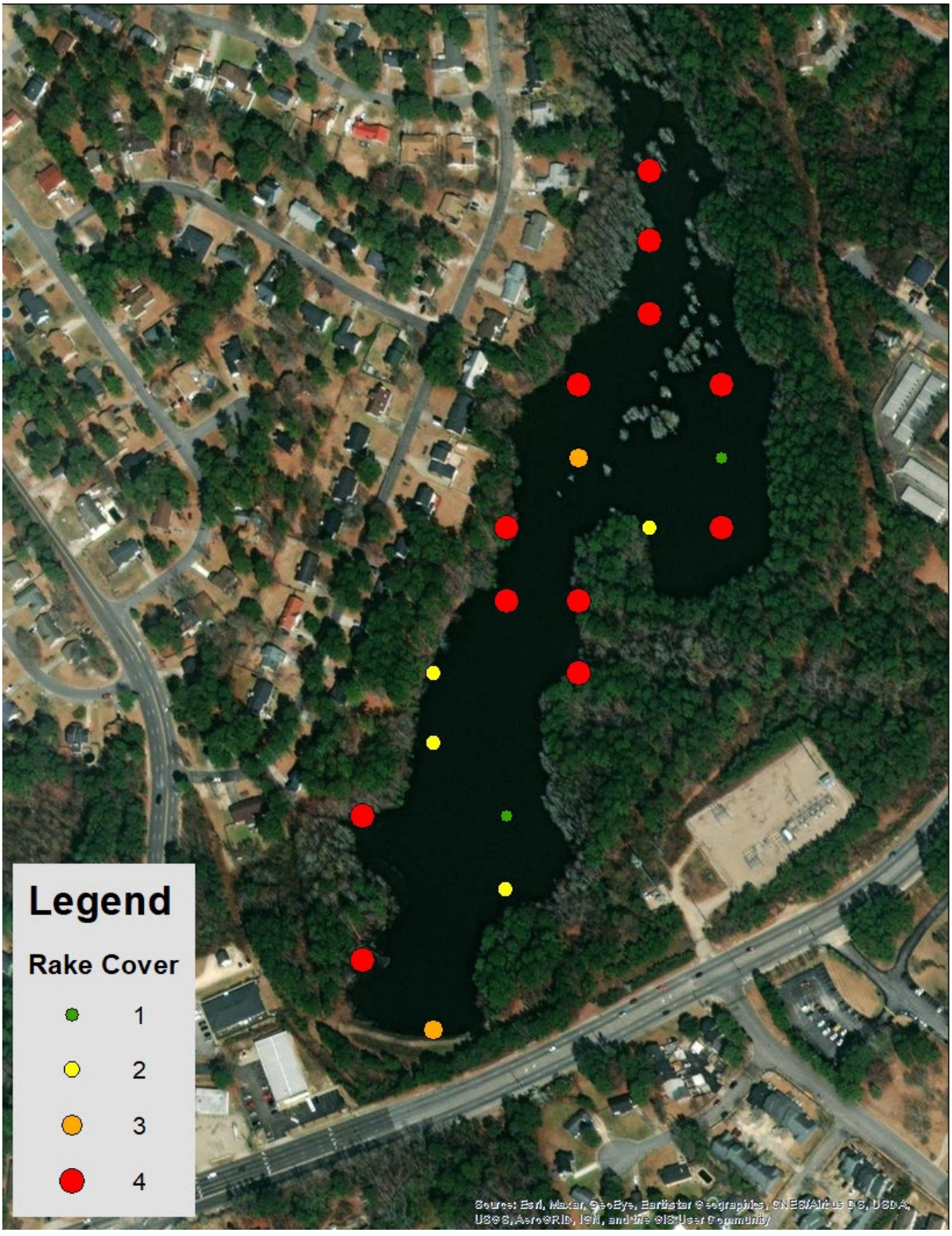

Figure 2. Map showing location and density of SAV.

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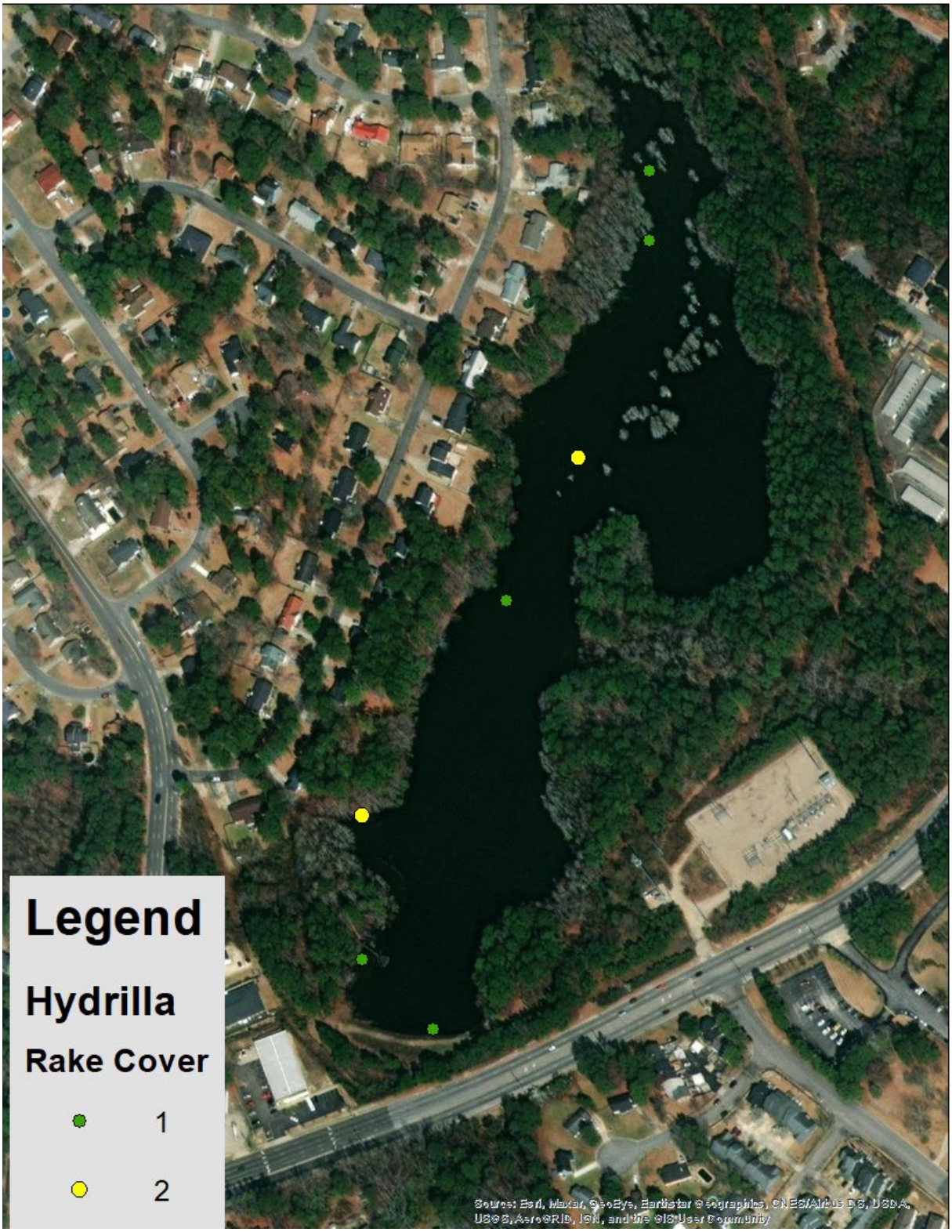

Figure 3. Map showing location and density of Hydrilla.

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Figure 4. Map showing Hydrilla coverage (0.3 acres).

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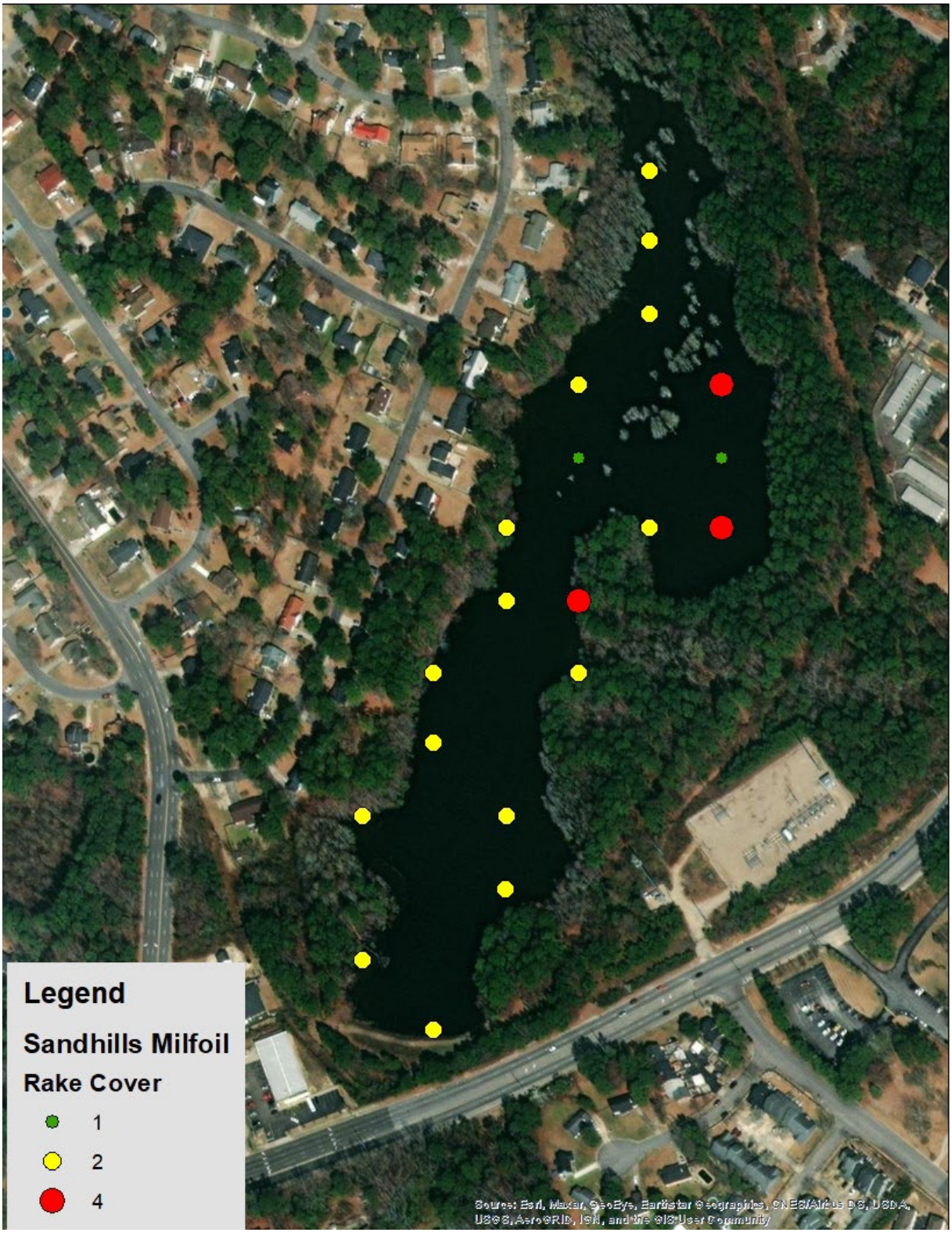

Figure 5. Map showing location and density of Sandhills Milfoil.

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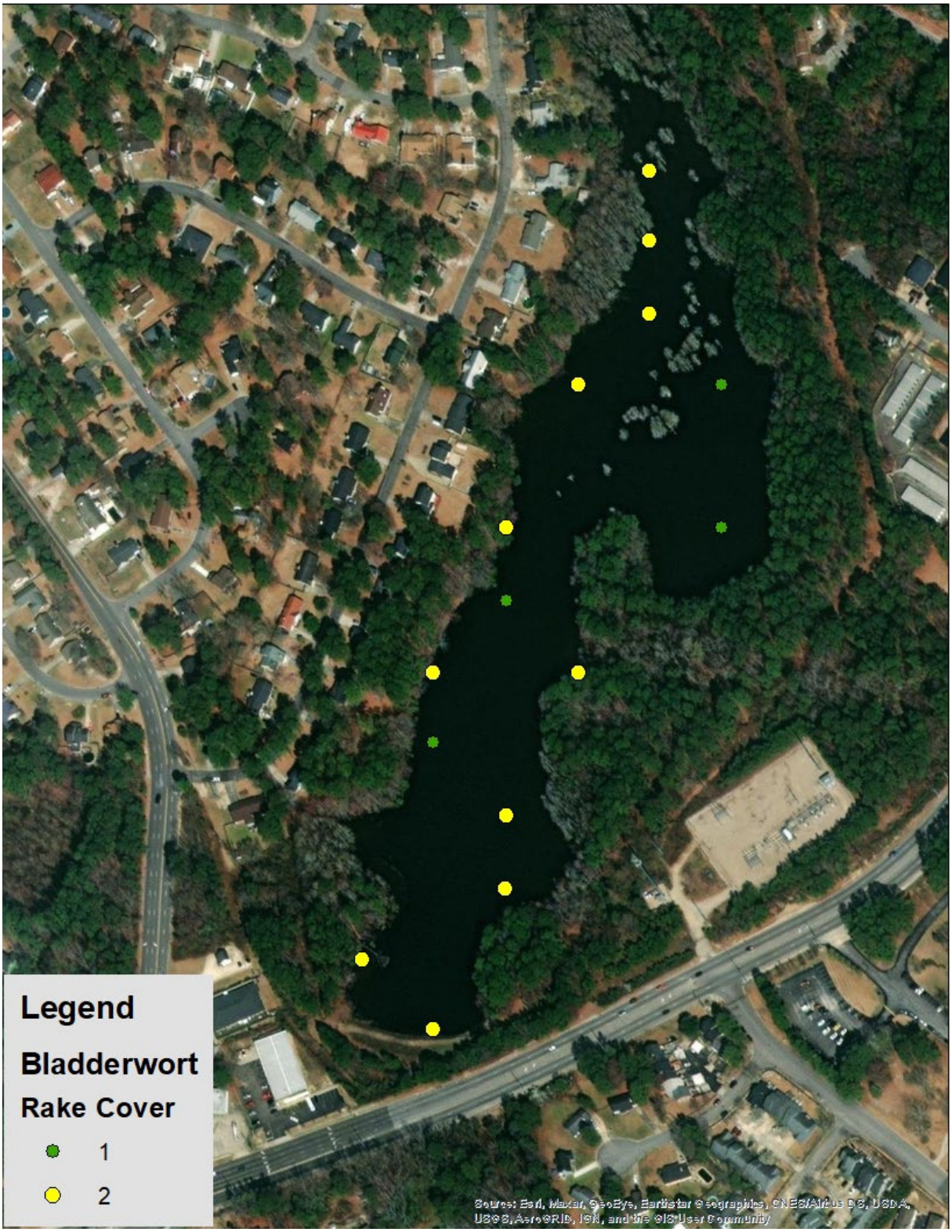

Figure 6. Map showing location and density of Bladderwort.

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Figure 7. Map showing location and density of Variable Leaf Pondweed.

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Figure 8. Map showing location and density of Bog Moss.

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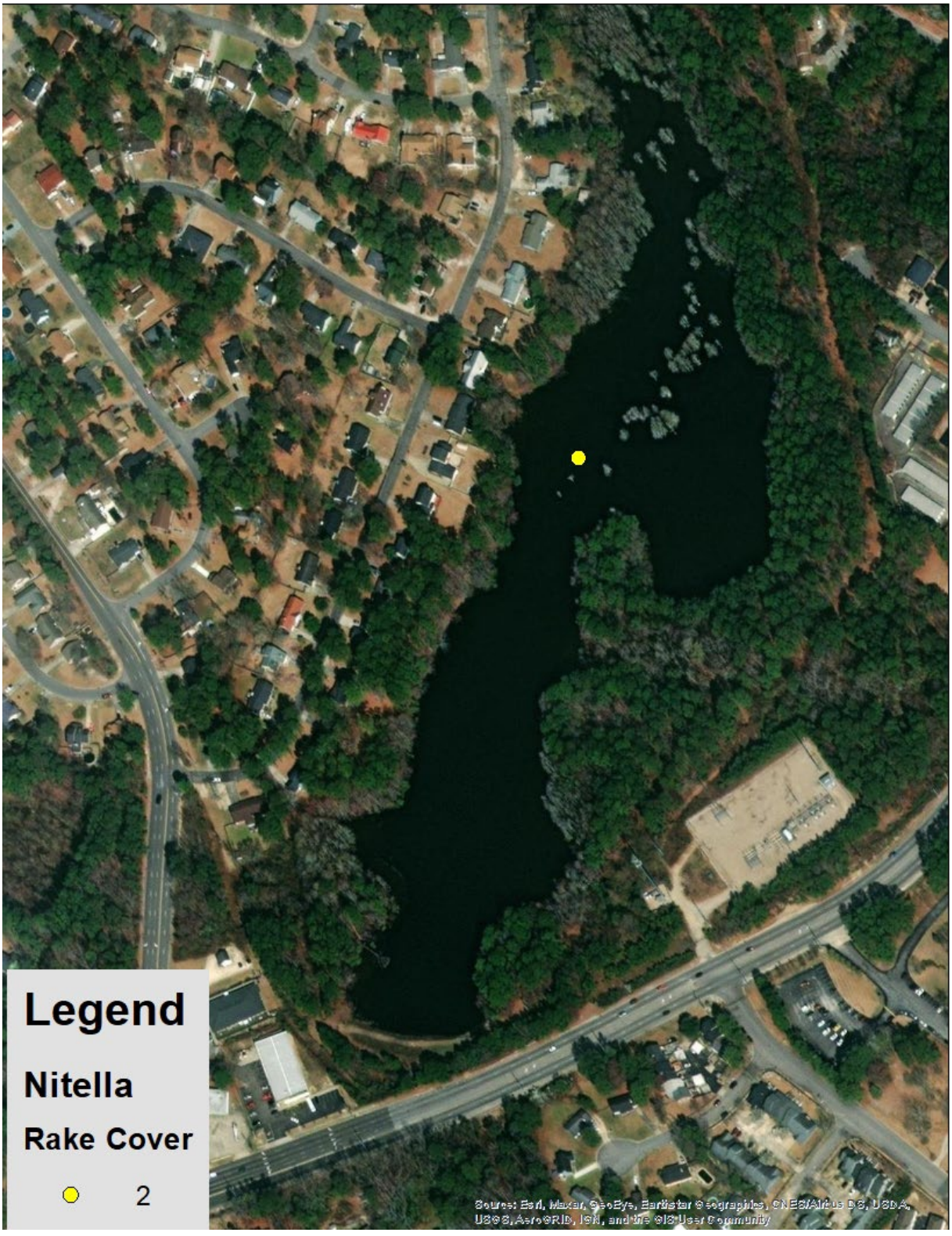

Figure 9. Map showing location and density of the macroalgae Nitella.