2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Reidsville and Lake Hunt

Introduction

Hydrilla, (*Hydrilla verticillata*), is one of the most destructive and ecologically damaging invasive aquatic plants in the world. It can form dense monocultures that crowd out native vegetation, reduce the habitat for aquatic organisms and severely impact recreational activities. Hydrilla is a federal and state listed noxious aquatic weed and is also recognized as a noxious aquatic weed by the NC Department of Environmental Quality (NCDEQ) which qualifies it for financial assistance from the NCDEQ. In 2017 the City of Reidsville reached out to the Aquatic Weed Control Program (AWCP) regarding vegetation growth in Lake Hunt. A subsequent site visit by staff from the AWCP confirmed that Lake Hunt was infested with Hydrilla. The following year a fall survey found 17 acres of Hydrilla in Lake Hunt. Hydrilla spreads easily through fragmentation and for this reason a fall survey was also completed on Lake Reidsville. This survey identified 31 acres of Hydrilla in Lake Reidsville. See the table below which gives a brief management history at Lake Hunt and Lake Reidsville (Figure 1).

Methods

The AWCP conducted a full-lake survey at Lake Hunt on October 14th and a full-lake survey on Lake Reidsville October 12th – October 14th. Three rake tosses were conducted at pre-determined points along the shoreline 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. Roughly 10 miles of SONAR was logged at Lake Hunt and 34 miles were logged at Lake Reidsville. The SONAR data was uploaded to a third-party company, Biobase, to quantify the depth and biovolume data. The biovolume is the percentage of the water column taken up by vegetation when vegetation exists. All of this was then combined with the rake-toss data using GIS software to estimate coverage.

Results

Lake Hunt

A total of 59 points were sampled during the 2020 survey. Of those 59 points, Hydrilla was found at 1, or 2%, of them (Figure 2). This was a decrease from 2019 where Hydrilla was found at 11, or 23%, of the rake toss points. The estimated Hydrilla coverage in 2020 is 0.7 acres (Figure 3). The only other SAV that was found during the survey was Proliferating Spikerush, *Eleocharis baldwinii*. It was found at 1, or 2%, of the points sampled (Figure 4). The estimated coverage is <1 acre. The cyanobacteria Lyngbya, *Microseira wollei*, was also found during the survey. It was found at 17, or 29%, of the 59 points sampled (Figure 5). This was a slight decrease from the 2019 survey where Lyngbya was found at 20, or 42%, of the points sampled. The estimated overall coverage of Lyngbya in the lake is 4.5 acres (Figure 6). Other vegetation that was found during the survey was Spadderdock, *Nuphar advena*, and Smartweed, *Polygonum spp.*

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Lake Reidsville

A total of 125 points were sampled during the 2020 survey. Of those 125 points, Hydrilla was found at 4, or 3%, of them (Figure 7). This was a decrease from 2019 where Hydrilla was found at 47, or 39%, of the 122 points sampled. The estimated Hydrilla coverage in 2020 is 0.6 acres (Figure 8). This was a decrease from 2019 where the estimated Hydrilla coverage was 45 acres. Other SAV that was found during the survey was Proliferating Spikerush and Bladderwort, *Utricularia spp*. Proliferating Spikerush was found at 13, or 10%, of the points sampled and the estimated coverage is 1.1 acres (Figure 9-10). Bladderwort was found at 1, or 1%, of the points sampled (Figure 11). The estimated coverage is <1 acre. The macroalgae Chara, *Chara spp.*, was also found during the survey. It was found at 3, or 2%, of the points sampled (Figure 12). The estimated coverage is <1 acre. Lyngbya was found at 5, or 4%, of the points sampled and the estimated overall coverage is 0.3 acres (Figure 13-14).

Water Body	Year	# of Grass Carp Stocked	Treated acres	Hydrilla coverage (acres)
Lake Hunt	2018	0	0	17
	2019	280	3	4
	2020	0	0	0.7
Lake Reidsville	2018	0	0	31
	2019	515	12	45
	2020	320	7	0.5

Figure 1. Table summarizing previous management and Hydrilla acreage at Lake Hunt and Lake Reidsville.

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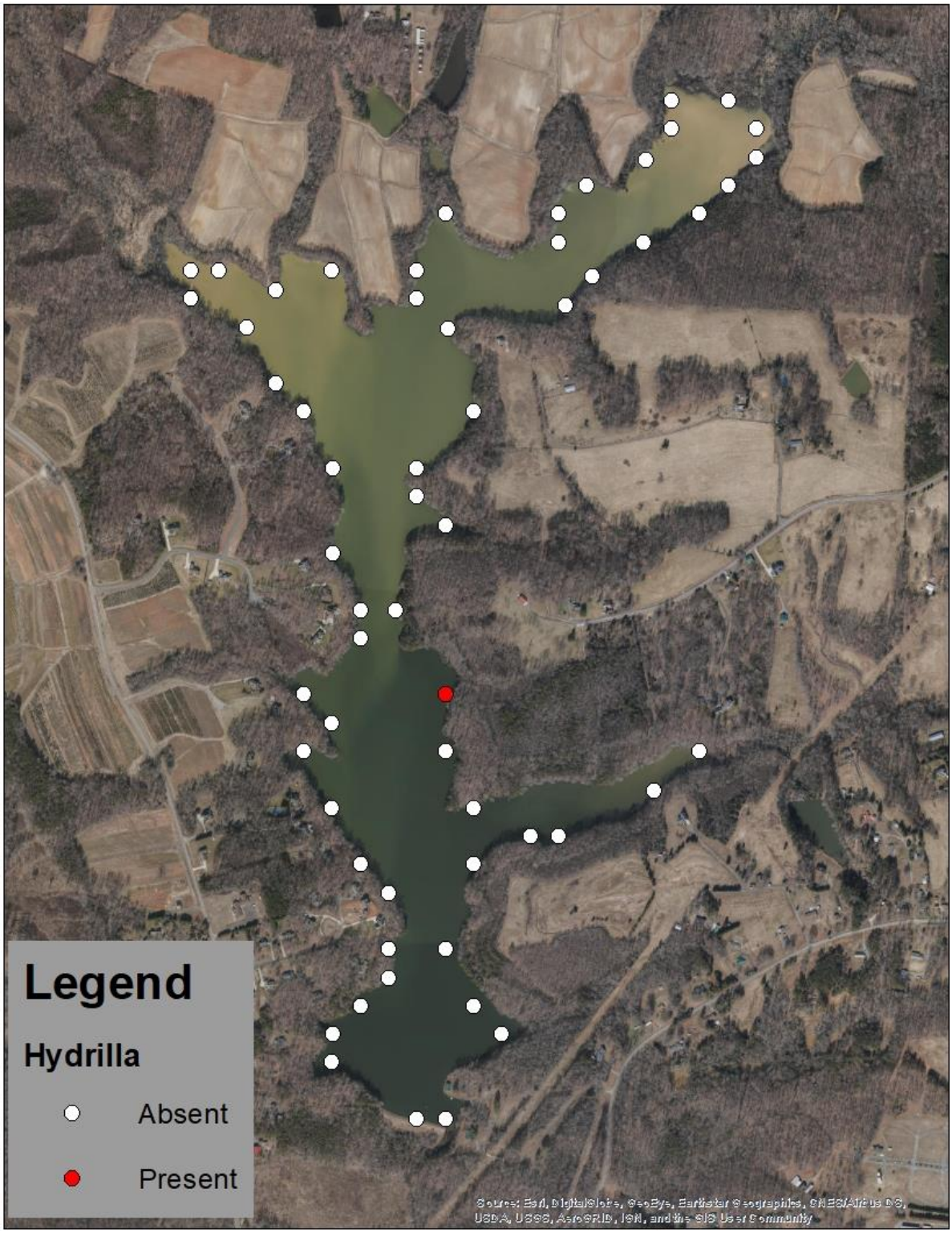

Figure 2. Map showing Hydrilla presence/absence at Lake Hunt.

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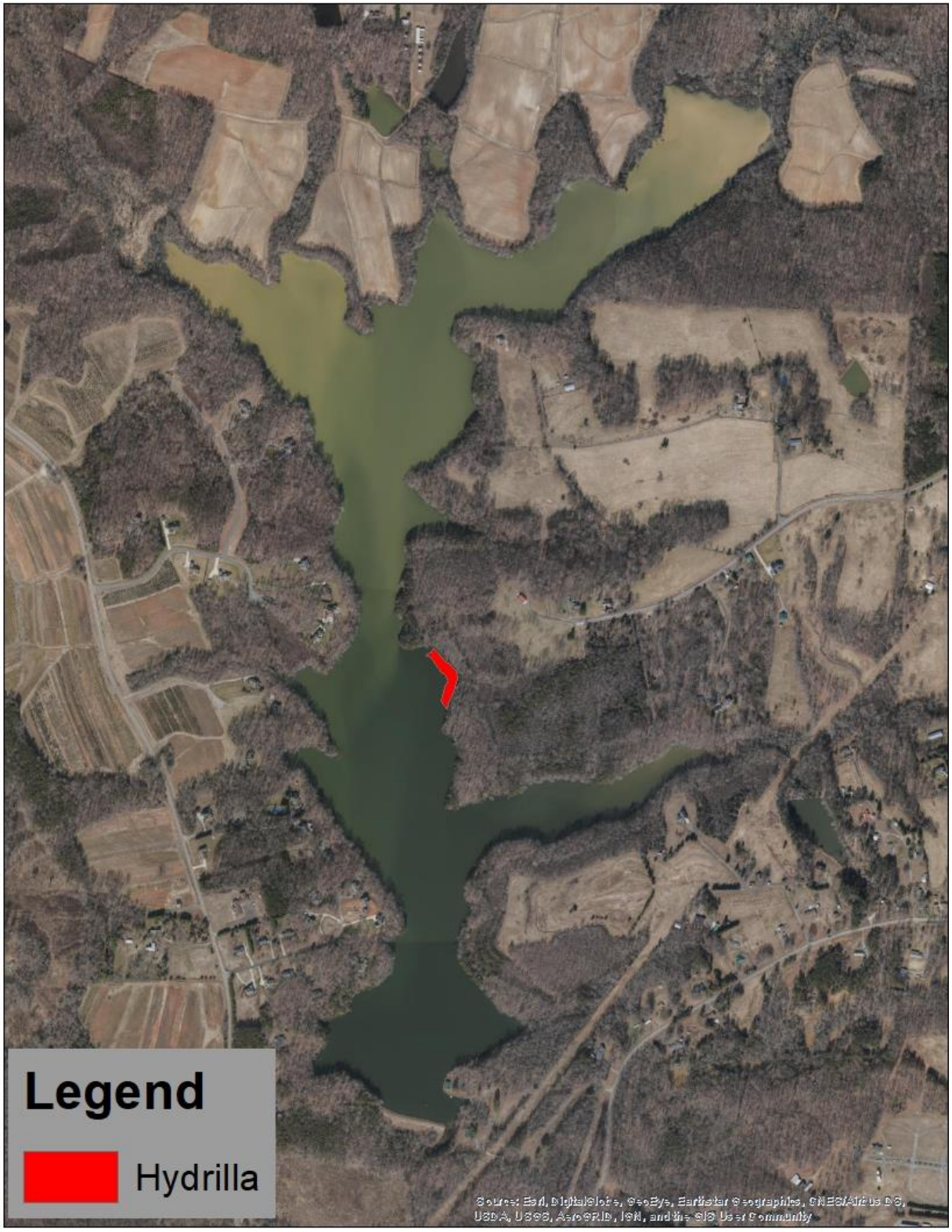

Figure 3. Map showing Hydrilla coverage at Lake Hunt.

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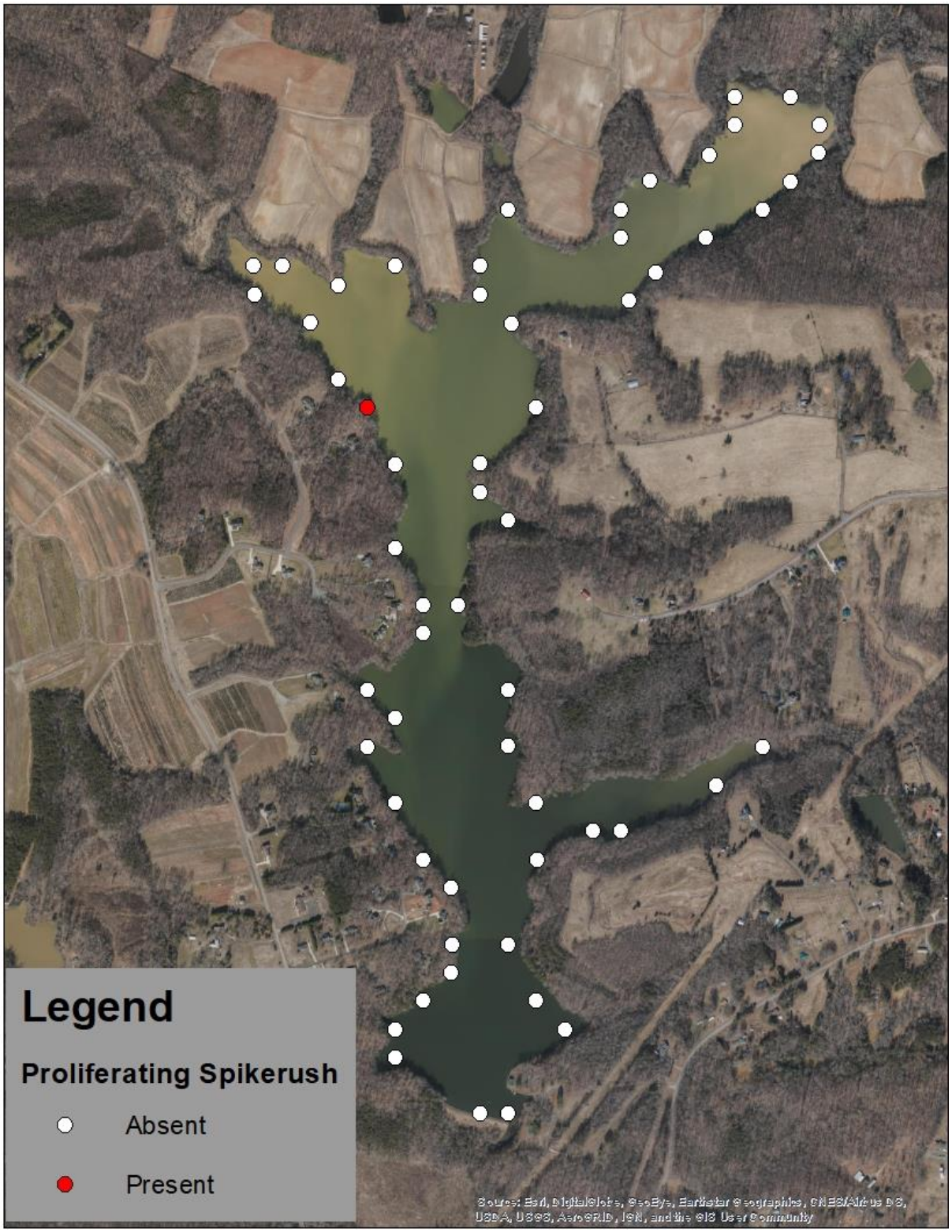

Figure 4. Map showing presence/absence of Proliferating Spikerush at Lake Hunt.

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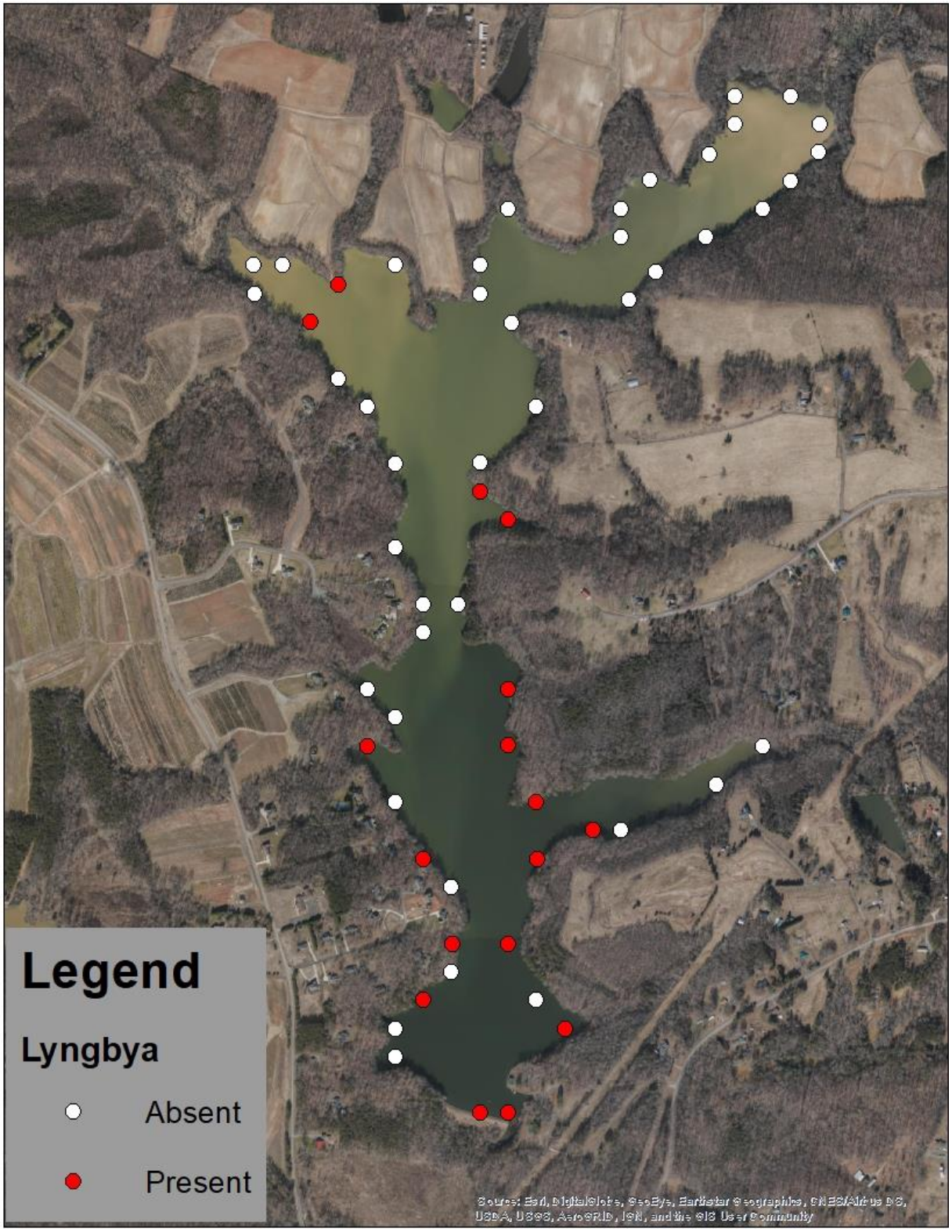

Figure 5. Map showing presence/absence of Lyngbya at Lake Hunt.

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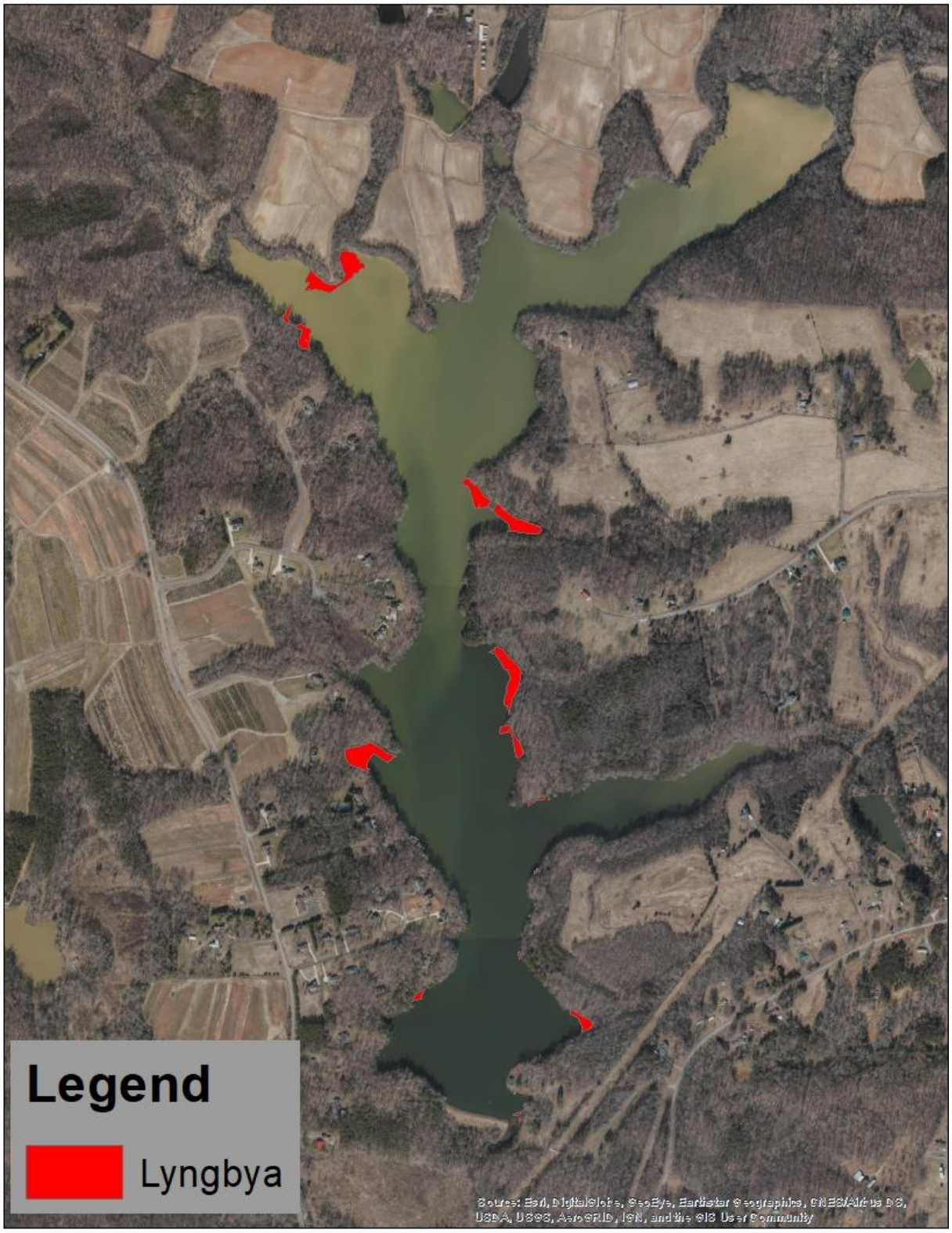

Figure 6. Map showing Lyngyba coverage at Lake Hunt.

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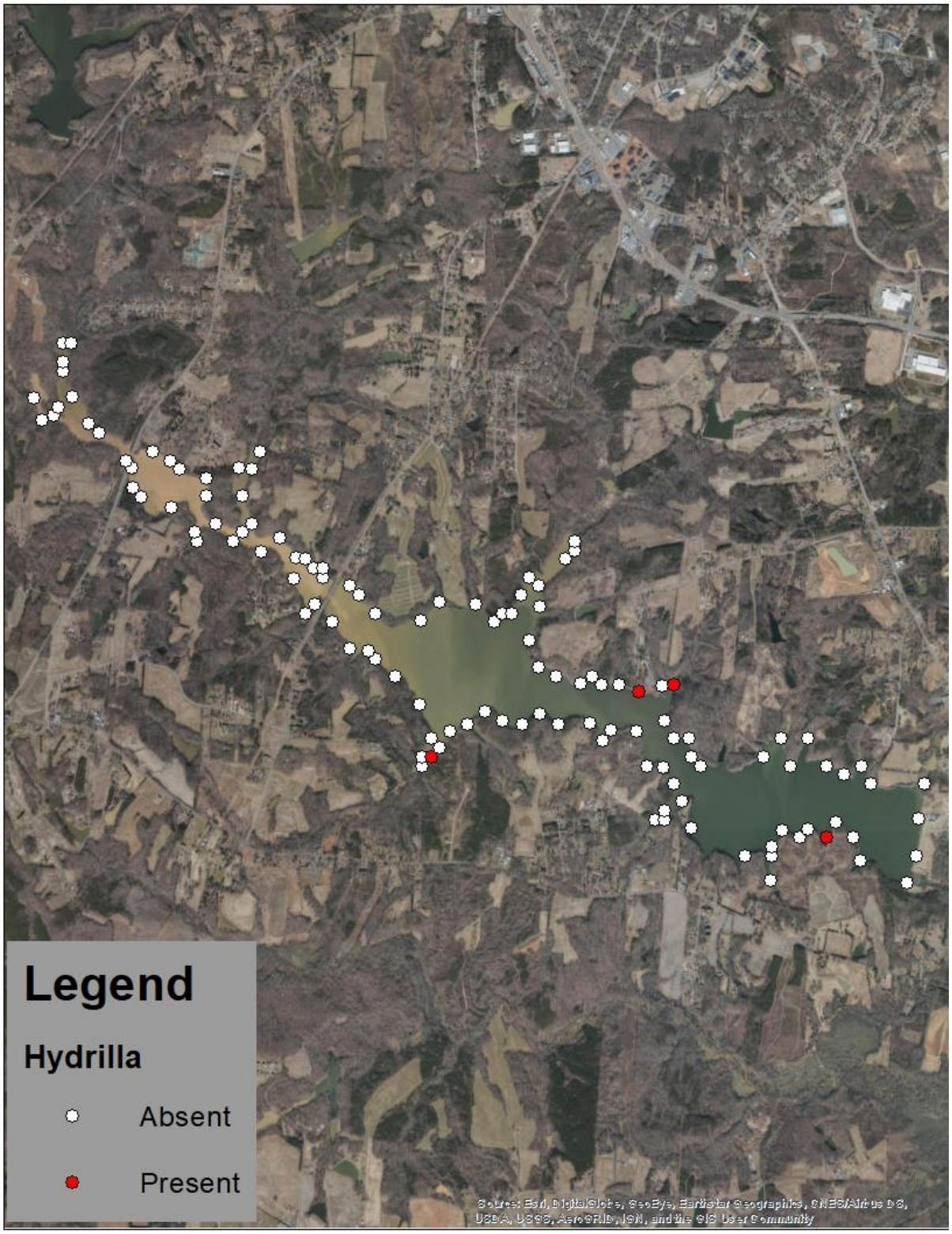

Figure 7. Map showing presence/absence of Hydrilla at Lake Reidsville.

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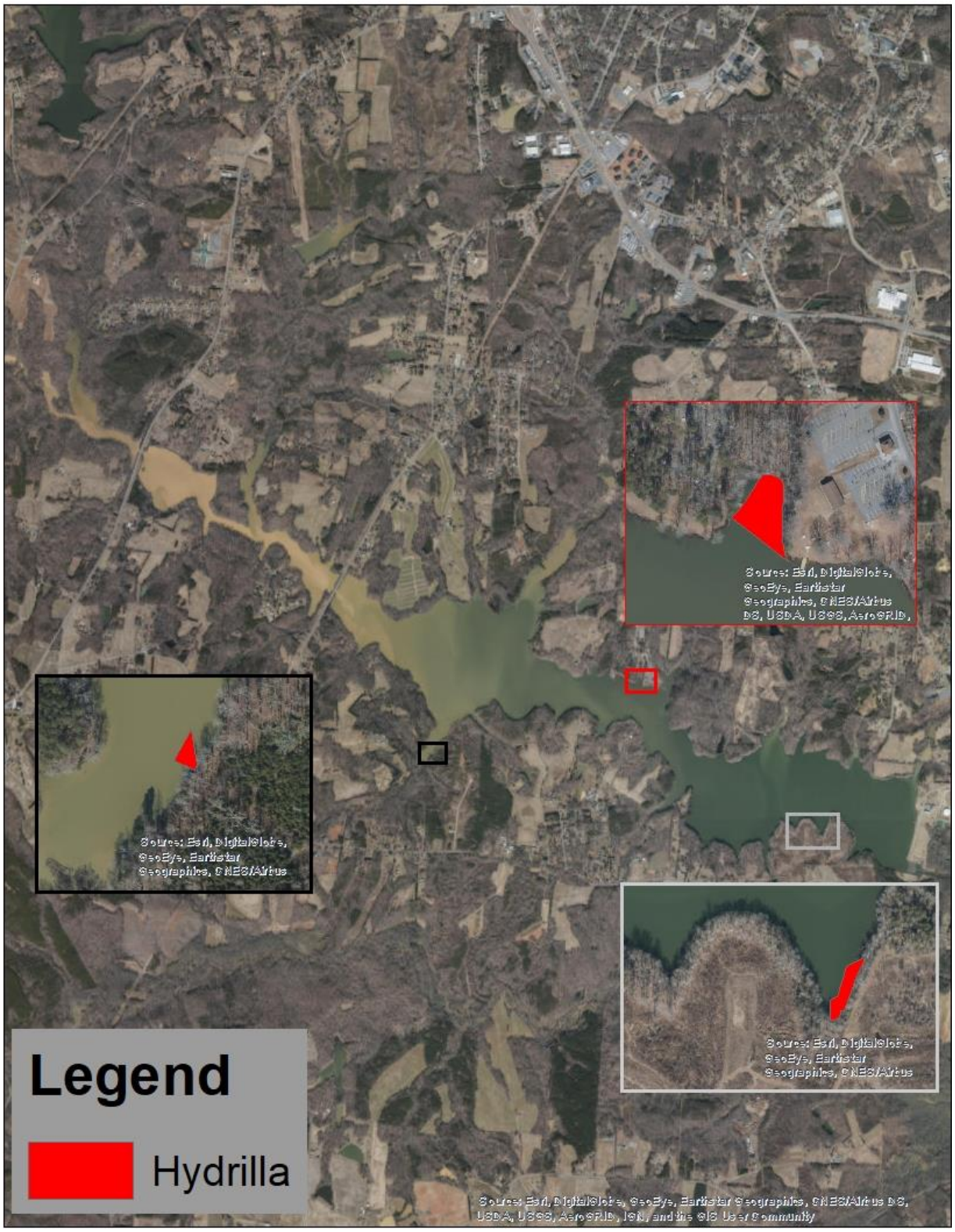

Figure 8. Map showing Hydrilla coverage at Lake Reidsville.

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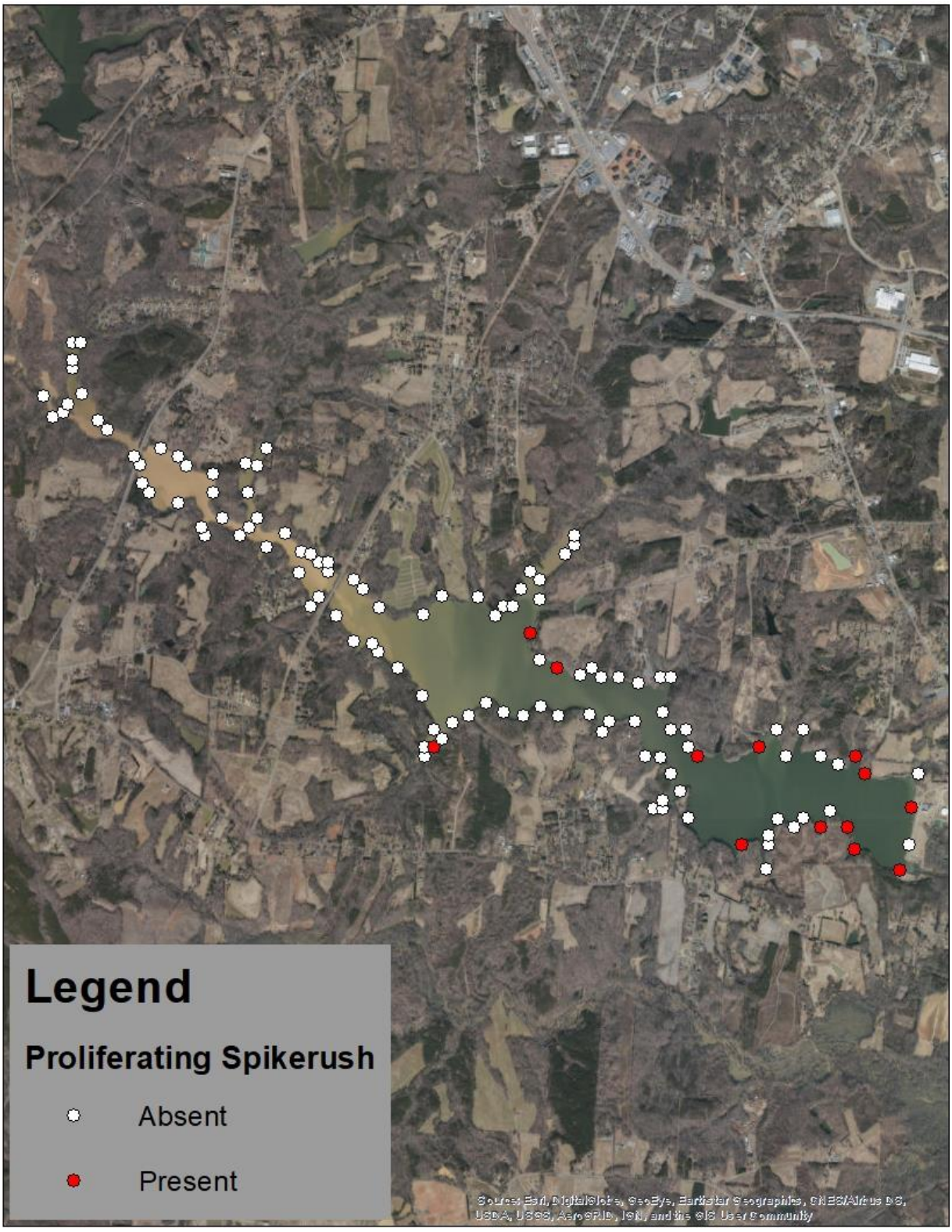

Figure 9. Map showing presence/absence of Proliferating Spikerush at Lake Reidsville.

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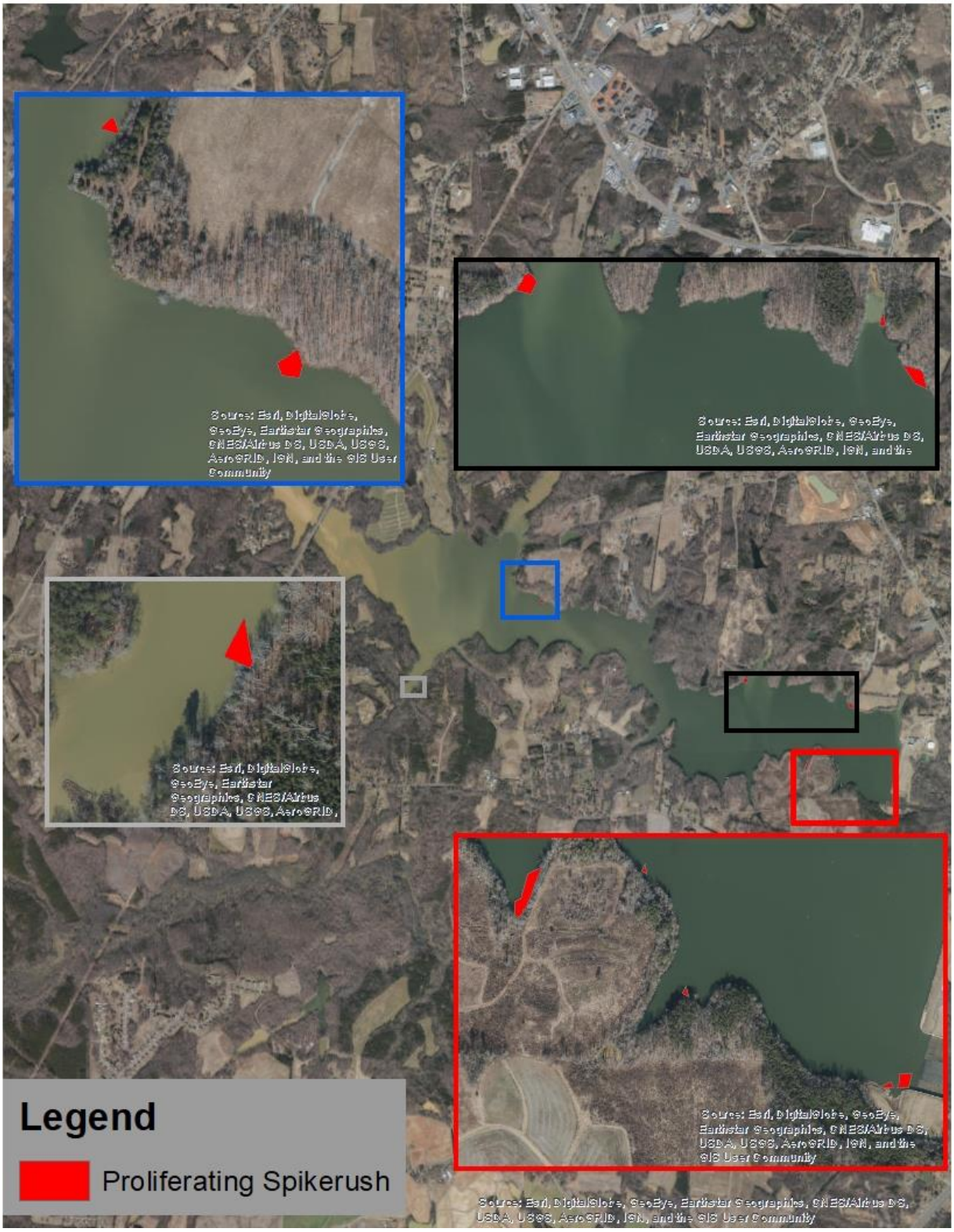

Figure 10. Map showing Proliferating Spikerush at Lake Reidsville.

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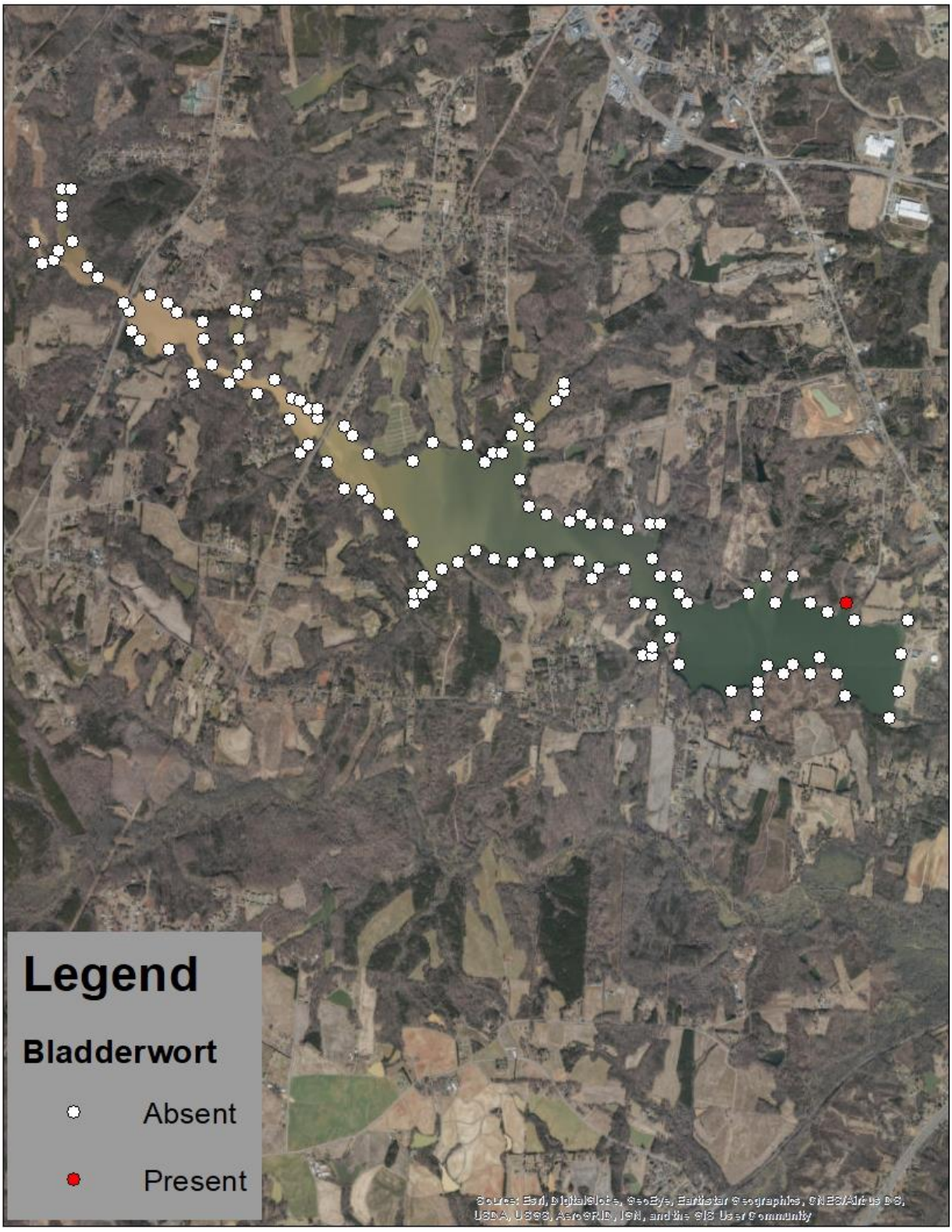

Figure 11. Map showing presence/absence of Bladderwort at Lake Reidsville.

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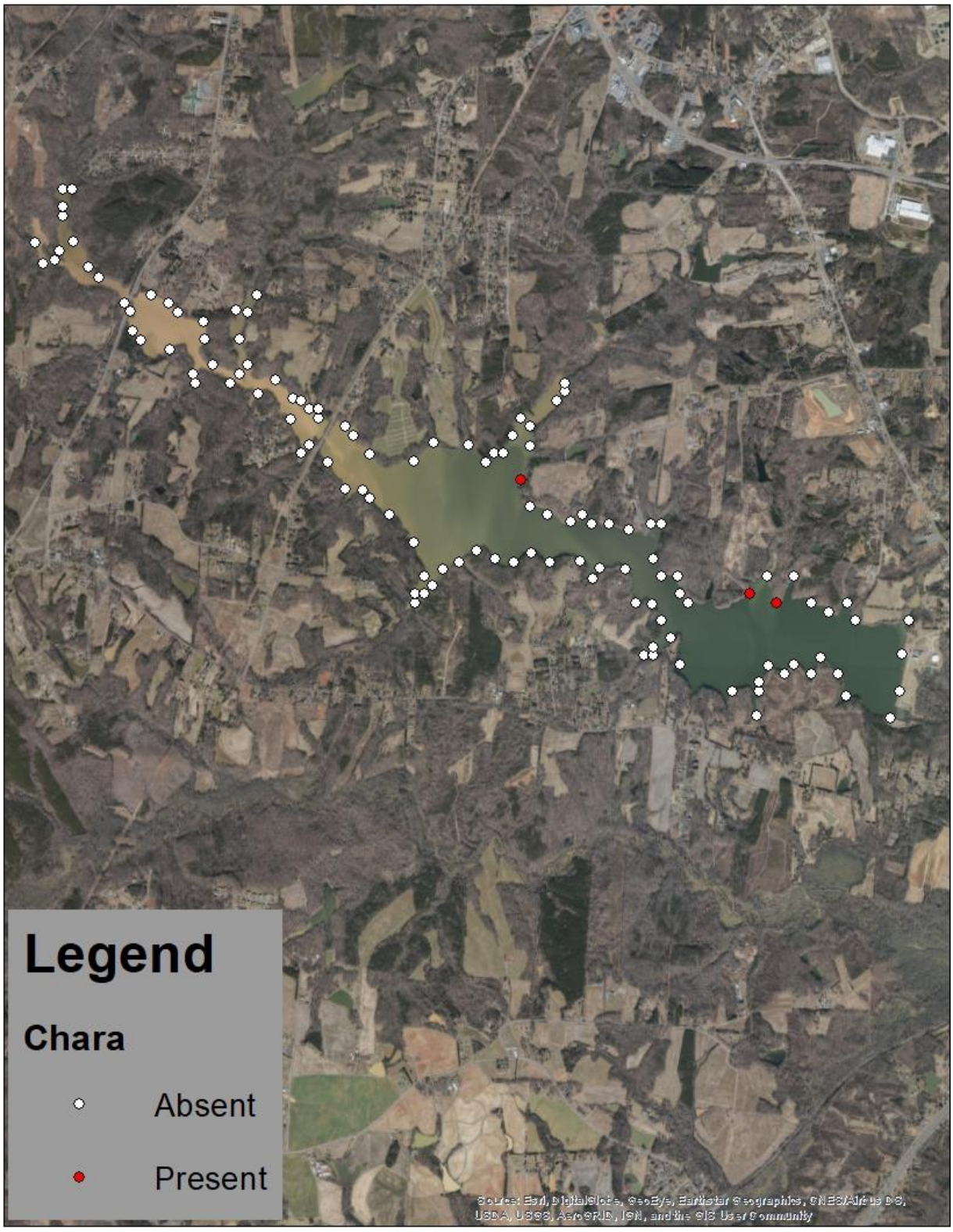

Figure 12. Map showing presence/absence of Chara at Lake Reidsville.

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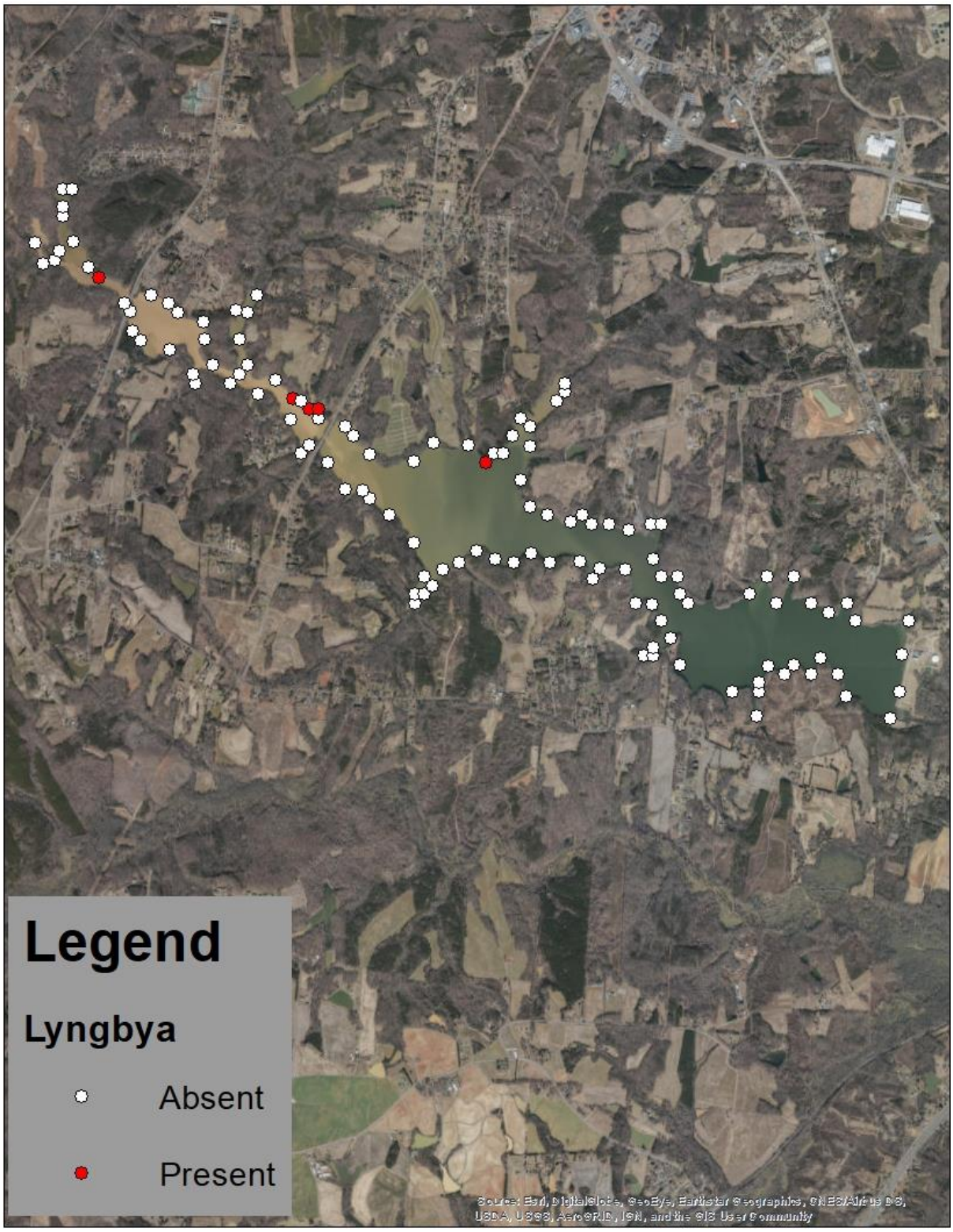

Figure 13. Map showing presence/absence of Lyngbya at Lake Reidsville.

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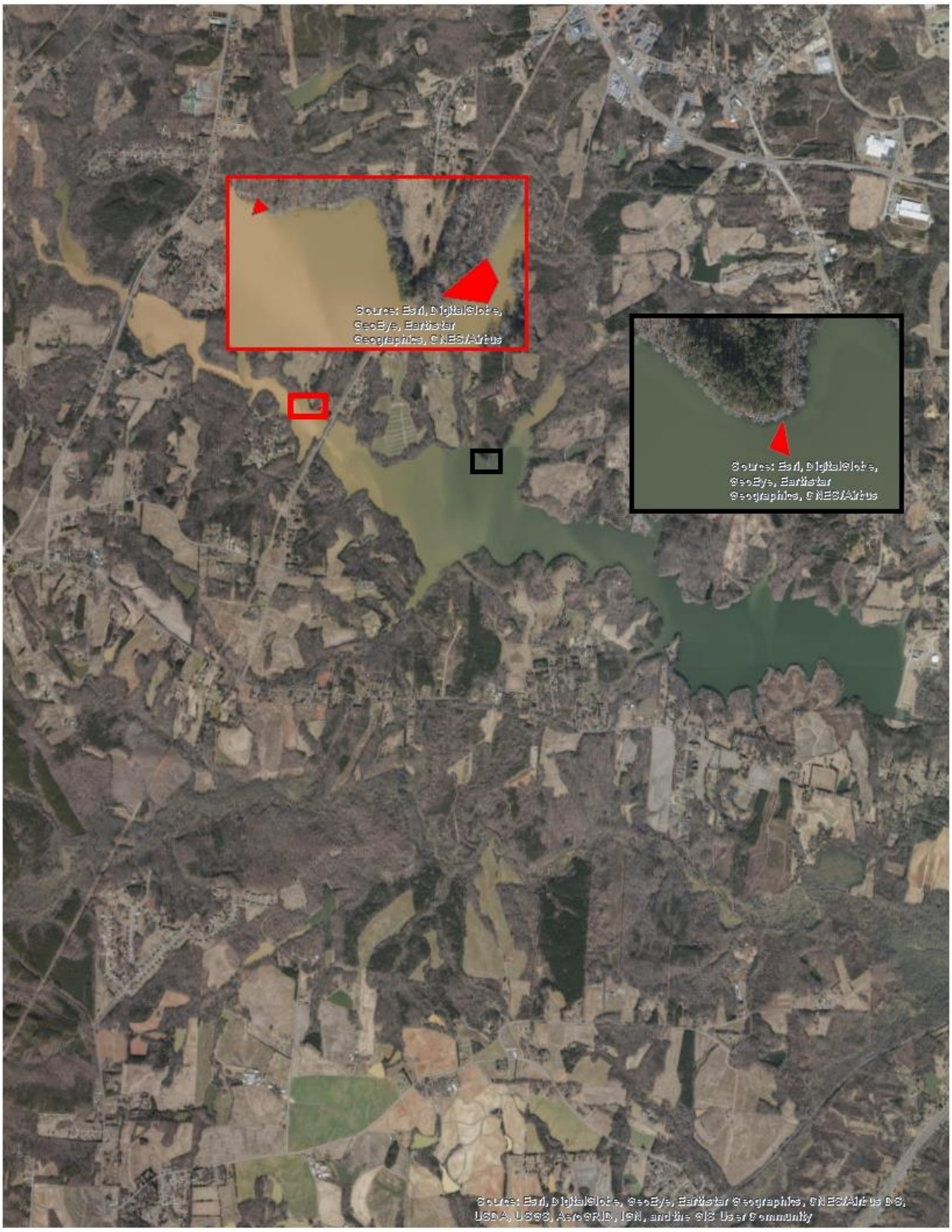

Figure 14. Map showing Lyngbya coverage at Lake Reidsville.