2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Santeetlah

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 Santeetlah in 2012. Since then the Aquatic Weed Program (AWCP) and Brookfield Renewable 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

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 was completed on September 16 - September 19. Approximately 78 miles of SONAR was logged.

Results

A total of 192 points were sampled during 2020 (Figure 1). Hydrilla was not found at any of those points (Figure 2). Other aquatic vegetation observed during the survey was Proliferating spikerush (*Eleocharis baldwinii*), Small waterwort (*Elatine minima*) and an aquatic moss (*Fontinalis spp.*), which had not been previously found at Lake Santeetlah. Proliferating spikerush was found at 48, or 25%, of the points (Figure 3). Small waterwort was found at 14, or 7%, of the points (Figure 4). The aquatic moss was found at 9, or 5%, of the points (Figure 5). Two species of macroalgae were also observed during the survey, Chara (*Chara spp.*) and Nitella (*Nitella spp.*). Chara was found at 3, or 2%, of the points. Nitella was found at 19, or 10%, of the points.

2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Santeetlah

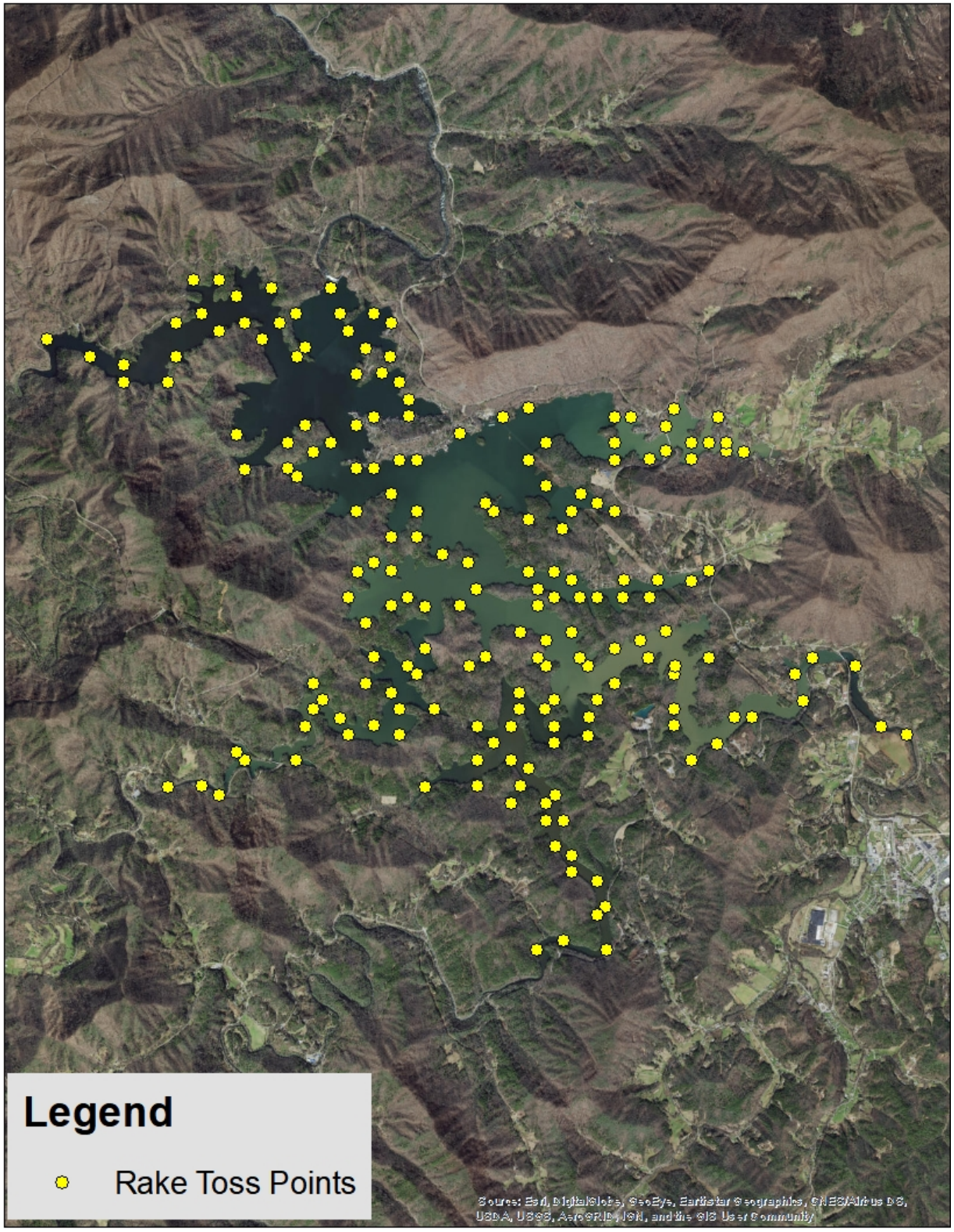

Figure 1. Map showing pre-determined rake toss points at Lake Santeetlah in 2020.

2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Santeetlah

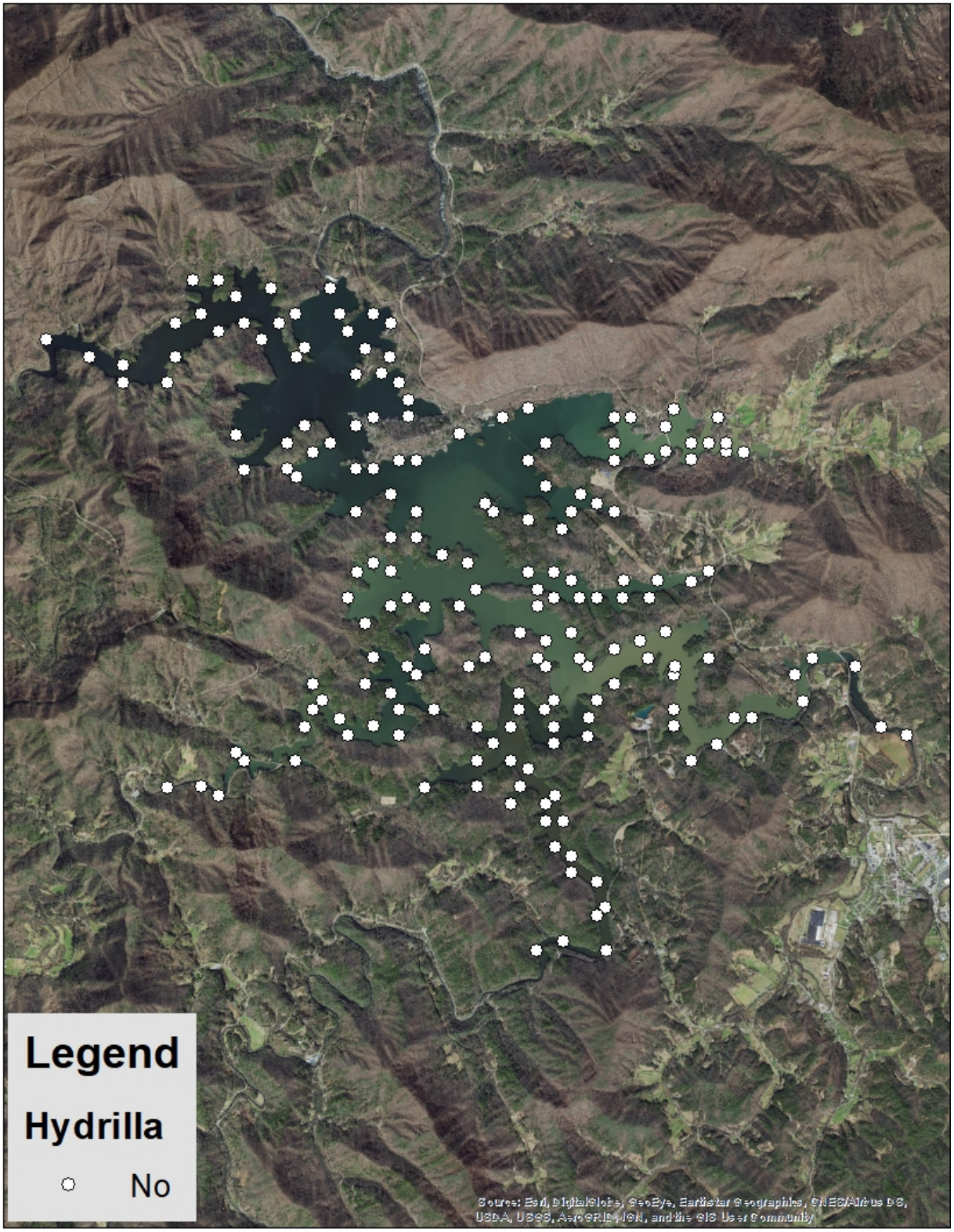

Figure 2. Map showing absence of Hydrilla in 2020.

2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Santeetlah

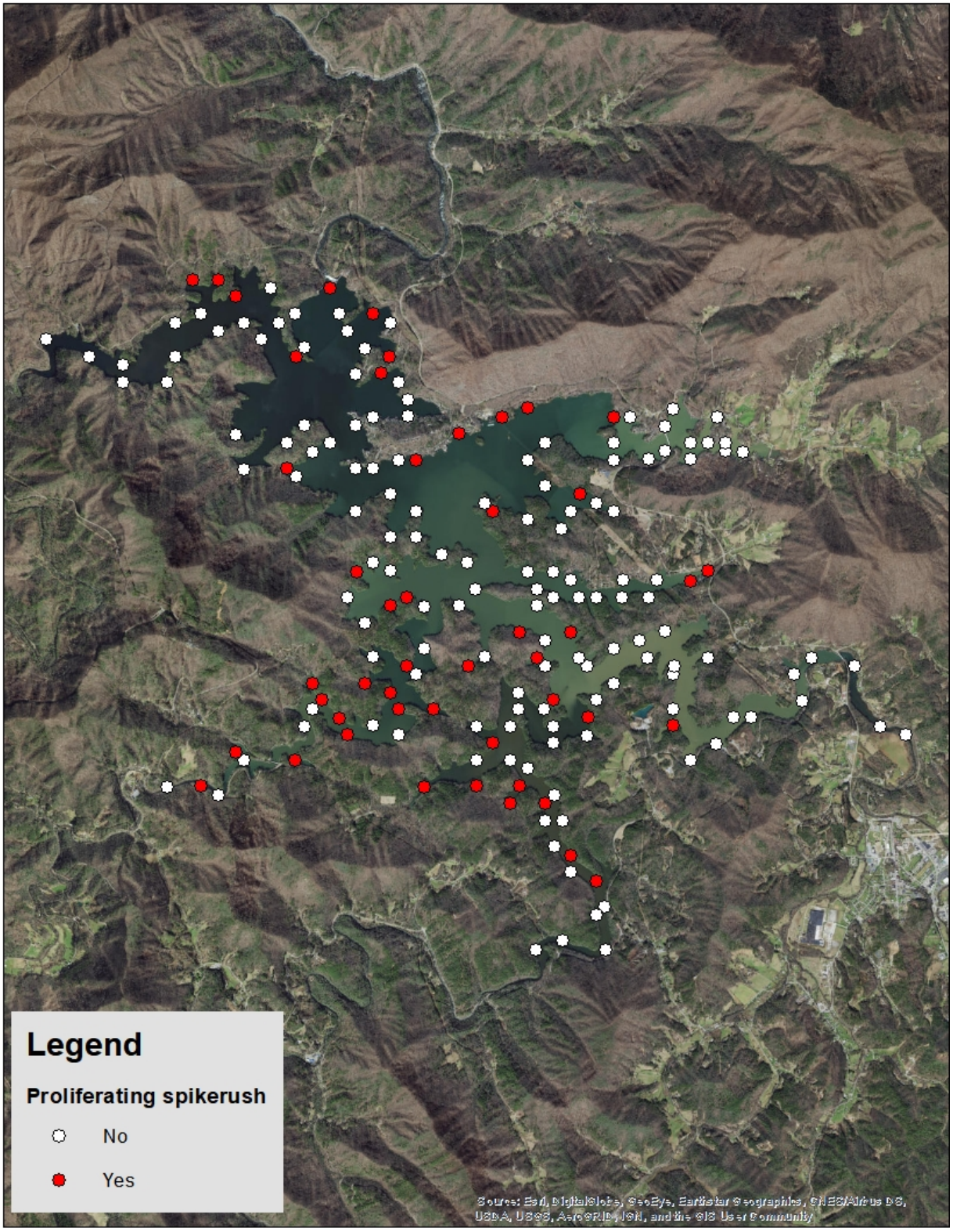

Figure 3. Map showing presence/absence of Proliferating spikerush in 2020.

2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Santeetlah

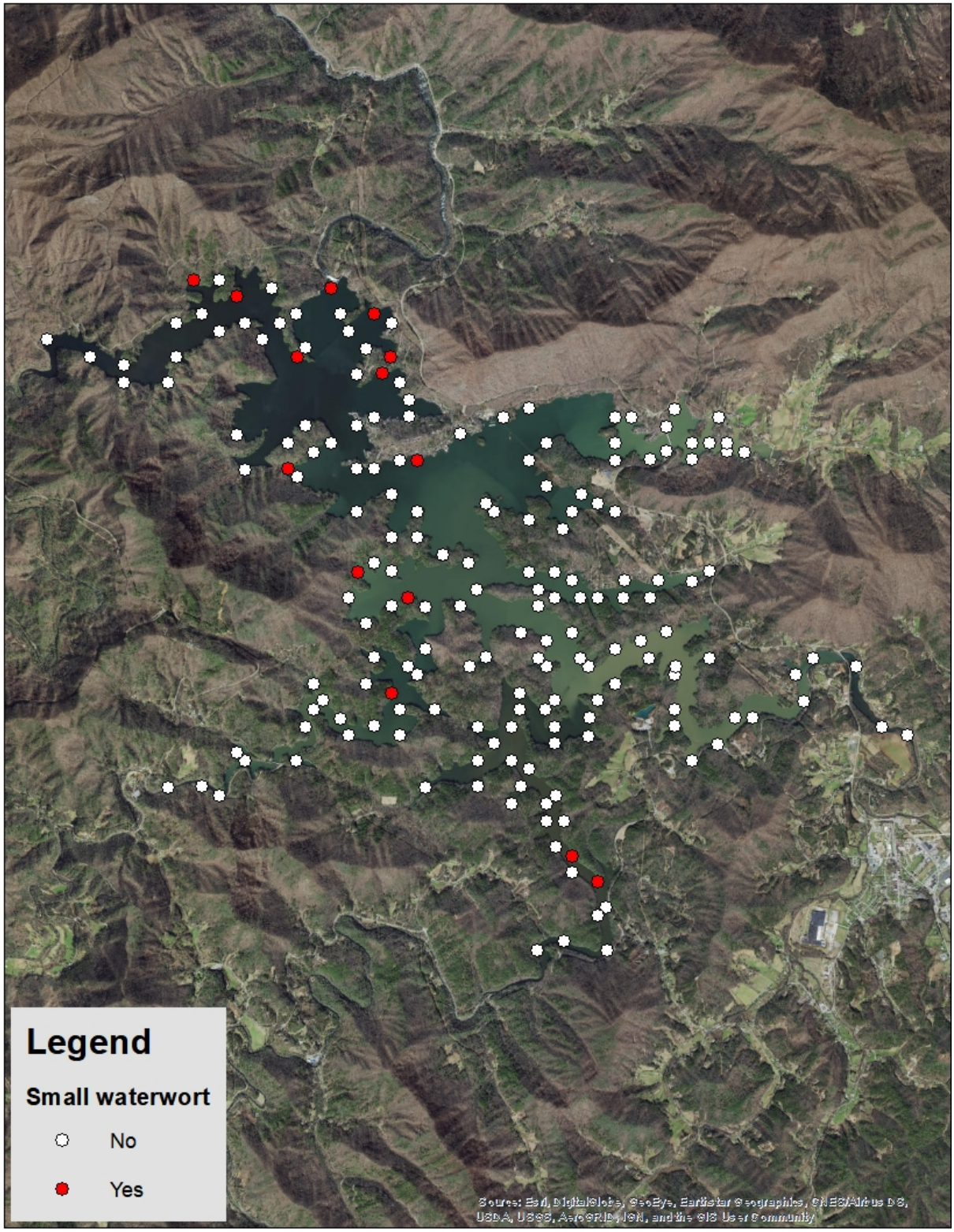

Figure 4. Map showing presence/absence of Small waterwort in 2020.

2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Santeetlah

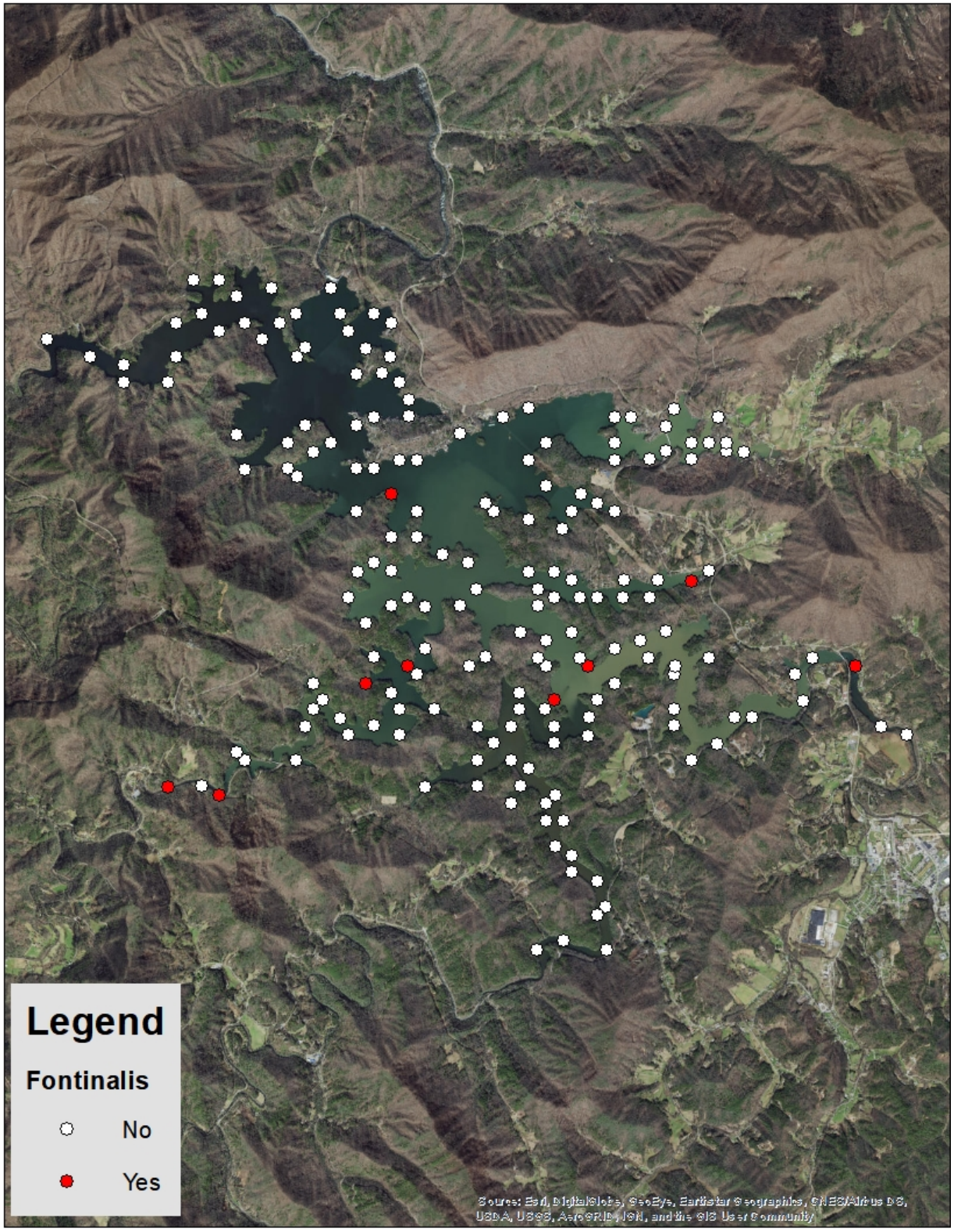

Figure 5. Map showing presence/absence of Fontinalis (aquatic moss) in 2020.

2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Santeetlah

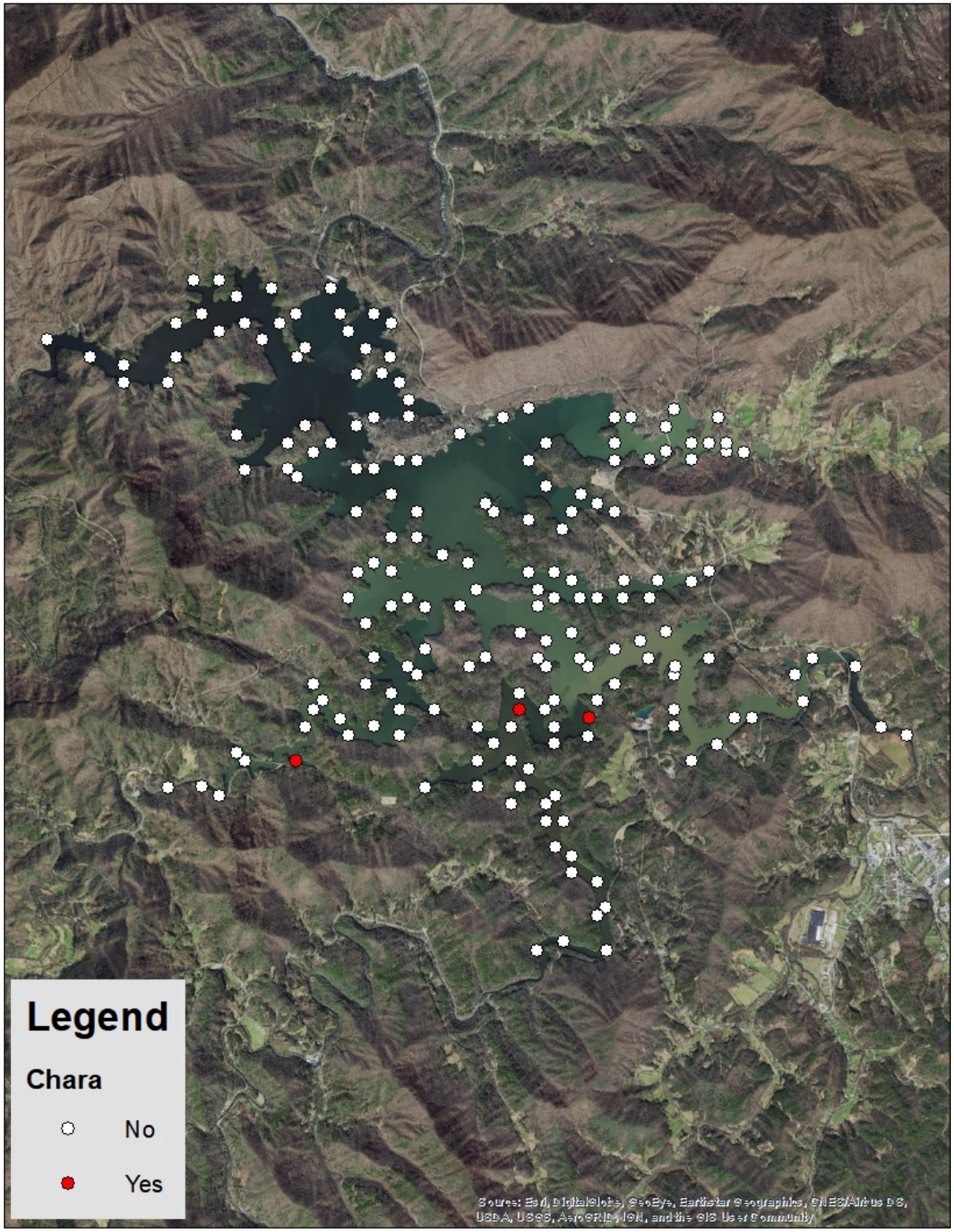

Figure 6. Map showing presence/absence of the macroalgae Chara in 2020.

2020 DWR Submerged Aquatic Vegetation Survey Report
Lake Santeetlah

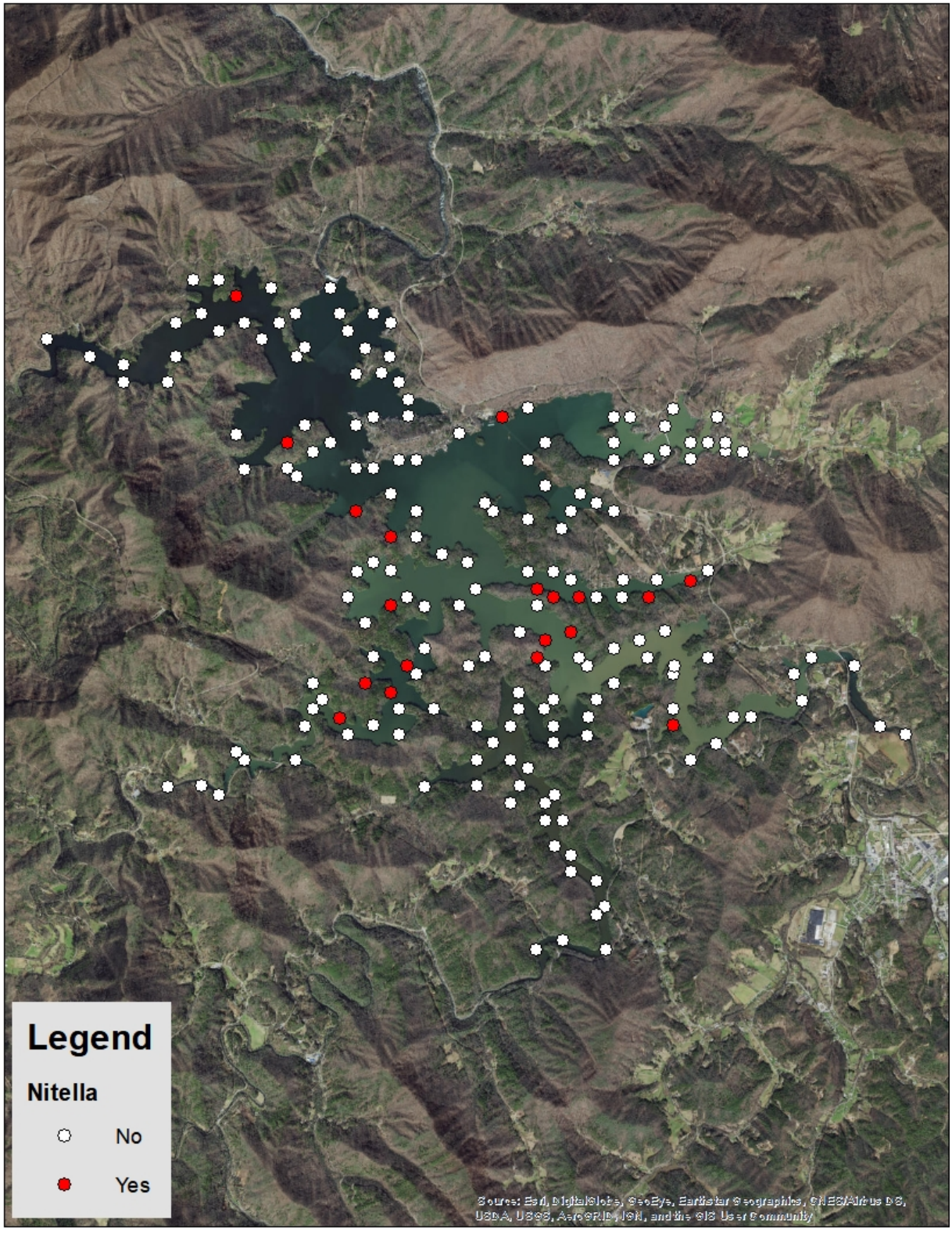

Figure 7. Map showing presence/absence of the macroalgae Nitella in 2020.