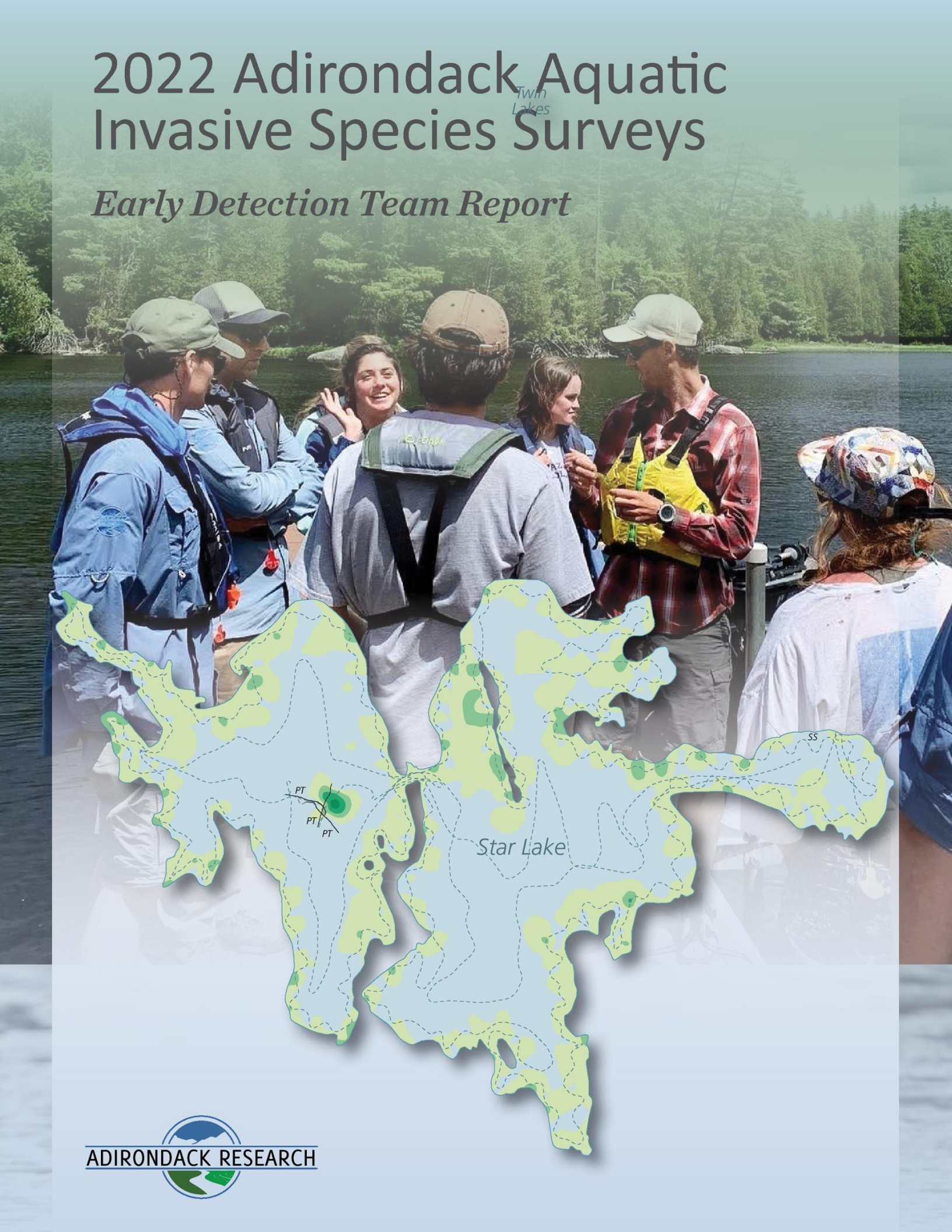
2022 Adirondack Aquatic Invasive Species Surveys

Early Detection Team Report



ADIRONDACK RESEARCH

2022 Adirondack Aquatic Invasive Species Surveys

Written by:
Ezra Schwartzberg, Ph.D., Carrie Griffo, Mia Walton, Masen Sharpe, Meghan Bargabos, Beth Fisher, Kevin Dernier, Evan Spencer, Ingrid Miller and Brian Greene
Adirondack Research
November 2022

This project was contracted by The Adirondack Park Invasive Plant Program, a partnership program hosted by The Nature Conservancy and sponsored by the New York State Department of Environmental Conservation through the Environmental Protection Fund.

Background Cover image: 2022 Field crew members on the second day of training with Brian Greene and Ezra Schwartzberg at Second Pond, Franklin Co. Lake map featured is of Star Lake.

Executive Summary

Invasive species are any kind of living organism that is not native to an ecosystem and causes some sort of ecological, human health, or socio-economic harm. For over two decades, the Adirondack Park Invasive Plant Program (APIPP) and its partners have documented the distribution and spread of invasive species throughout the jurisdictional boundaries of the Adirondack Partnership for Regional Invasive Species Management (PRISM). In 2022, Adirondack Research, a private research and mapmaking firm constituted APIPP's Adirondack Aquatic Invasive Species (AIS) Early Detection Team. The team surveyed prioritized lakes and ponds in the Adirondacks and used data collected in the field to produce individualized maps documenting AIS distribution and abundance, vegetation biovolume, bottom sediment hardness, and bathymetry.

Between June 20th and August 30th 2022, 42 waterbodies (lakes and ponds) were surveyed with the objective of AIS early detection and data collection. One waterbody with a previously identified invasive species was found to have a new invasive presence in 2022. Two waterbodies that had prior records of invasives species were surveyed and no invasive species were observed in the surveyed areas. Two unique invasive species were detected with *Myriophyllum heterophyllum* (variable leaf watermilfoil) occurring most frequently at nine occurrences and *Myriophyllum spicatum* (Eurasian watermilfoil) occurring in three waterbodies. No invasive mollusk infestations were detected.

In this report, we address the results of this year's work along with recommendations for continuing and adapting the survey strategy to enhance APIPP's early detection and rapid response capabilities as well as ways to continually improve ongoing efforts to address AIS impacts in the Adirondacks.

Figure 1: Illustration of the survey techniques utilizing a combination of sonar recording and manual rake toss.

Table of Contents

Lake Maps

Acknowledgments

The Adirondack Park Invasive Plant Program (APIPP), a program hosted by the Adirondack Chapter of The Nature Conservancy, is one of eight Partnerships for Invasive Species Management (PRISMs) in New York State whose mission is to protect the Adirondack region from the negative impacts of invasive species. APIPP contracted Adirondack Research during the 2022 field season to conduct AIS early detection surveys in the western portion of the Adirondack PRISM. Field work, data collection and the compilation of the narrative, maps and materials included in this report were conducted by Evan Spencer, Masen Sharpe, Beth Fisher, Kevin Dernier, Mia Walton, Meghan Bargabos, Carrie Griffo, Ingrid Miller and Dr. Ezra Schwartzberg, who constituted APIPP's Adirondack AIS Early Detection Team. Maps were produced in house by Adirondack Research. Project planning and lake prioritization was conducted by Brian Greene, APIPP's AIS Project Coordinator. This project was advanced by APIPP, under contract with Adirondack Research, with funding provided by New York State's Environmental Protection Fund as administered by the New York State Department of Environmental Conservation.

Photo 1: *Research team pictured outside of office in Saranac Lake, NY, June 2022. Pictured left to right: Carrie Griffo, Mia Walton, Meghan Bargabos, Masen Sharpe, Evan Spencer, Kevin Dernier, Beth Fisher, and Ingrid Miller.*

Introduction

Since 2002, APIPP and partners surveyed over 450 Adirondack lakes and ponds and found approximately 75% to be free of AIS. Since 2015, APIPP has deployed an AIS Early Detection Team to survey lakes for AIS within the Adirondack PRISM. By deploying an Early Detection Team, new infestations can be quickly recognized, and appropriate management actions taken before significant impacts are observed. The Early Detection Team's annual AIS surveys rotate through three regions that comprise the Adirondack PRISM. Region 1 (see Figure 1 right), which was visited in 2018 and 2021, constitutes waterbodies in the Upper Hudson River, Lake George, Sacandaga, and Mohawk watersheds. Region 2, which was visited in 2019 and 2022, covers the Raquette, Black, Oswegatchie, and Grass watersheds. Region 3, which was surveyed in 2020, covers North Lake Champlain, AuSable, Great Chazy- Saranac, St. Regis, and English-Salmon watersheds. The regions were divided in such a way to balance resources across the ~7 million-acre Adirondack PRISM and increase efficiency in surveying the numerous Adirondack lakes and ponds therein.

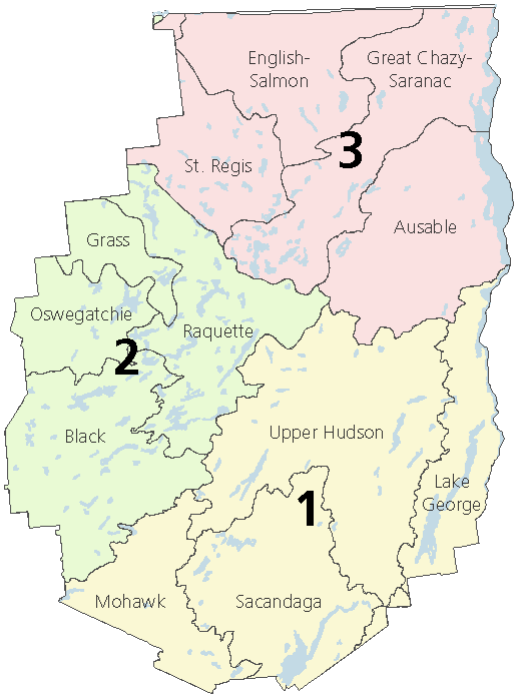


Figure 1: *Regions of yearly AIS survey program.*

Historically, APIPP's AIS Early Detection Team has performed aquatic vegetation surveys and rapid response management on any new, isolated aquatic invasive plant infestations discovered. In 2018, the Team's output shifted to incorporate new technologies and to perform rapid response management on only Tier 1 and Tier 2 species, such as hydrilla, quagga mussels, water chestnut, and rusty crayfish, if found, as well as containment of Tier 3 species with partners. Starting in 2018, the Team began using the Lowrance ELITE-7Ti and HDS Live Chartplotters and C-Map BioBase cloud processing and GIS automation platform (www.biobasemaps.com/) to map vegetation BioVolume, bottom hardness, and bathymetry as part of a standard protocol. As defined by BioBase, BioVolume represents the percent of the water column occupied by plant matter (i.e. how close plant growth is to the surface of the lake) at each GPS location. It does not differentiate between native or invasive plant species. In the maps presented in this report, the darkest shade of green has plants closest to the surface and the lightest shade of green has plants closer to the substrate. Bottom hardness is determined by using the strength of sonar reflectivity to infer whether the bottom is soft, medium or hard. Generally, sound signals reverberate strongly off hard substrates such as gravel and rocks and weakly off soft substrates such as muck and mud. In the maps presented in this report, the darkest shade of orange is the hardest and the lightest shade of orange is the softest. In addition to the BioBase, the team also utilized a different software platform for processing sonar data called Reefmaster. Similar to BioBase, Reefmaster is able to provide bottom hardness and bathymetry data from a waterbody, however it is not able to interpret BioVolume. Sonar data captured on the Lowrance Chartplotters were uploaded to the BioBase web interface, or Reefmaster program and then post-processed to create the maps displayed in this report. This

information will be used to inform invasive species vulnerability assessments to better prioritize and allocate resources for future early detection surveys.

Objectives

The primary objective of the AIS Early Detection Team was to detect and delineate any new or existing aquatic invasive plant or animal infestations within prioritized lakes. The secondary objective was to deploy the Lowrance system to map the vegetation beds, contour lines, and bottom hardness of a select set of those lakes to gather important baseline data on plant distribution and other physical parameters that influence aquatic species invasion. This data can be used in the future to create AIS vulnerability models.

Lake Selection and Prioritization

Region 2 lakes and ponds included in the Early Detection Team's 2022 surveys were selected and prioritized by APIPP's AIS Project Coordinator, Brian Greene, based on existing AIS distribution and monitoring data, the level of public access, risk of invasion and local partner input. The abundant waterways in Region 2, and all three regions for that matter, make it challenging to select target waterbodies to survey. Not every lake or pond is selected for survey each three years. The following outlines the parameters used to select and prioritize lakes for survey in 2022. All lakes have either a public access point or some other form of motorized or non-motorized watercraft access via permission from private property owners.

Photo 2. *Research technician, Kevin Dernier, identifying a plant sample.*

Additionally, in 2022, a few lakes were chosen that had been surveyed in 2019 and that had AIS occurrences. These lakes were resurveyed in an attempt to collect data on changes in AIS bed sizes, bed numbers, and AIS density.

Lake Selection Criteria	
Priority 1	• High Risk of Invasion ○ Public access points, close to roads, near other invaded lakes
Priority 2	• Focus on lakes that have not recently been monitored ○ no records of monitoring in the past three years

Priority 3	• Feedback from regional partners
	  ○ Possible invasive species occurrence
	  ○ Monitor AIS management
	  ○ Expert opinion on local pathways (fishing pressure, recreation use, etc.)

Table 1: Lake selection criteria used for choosing which lakes to survey in 2022.

Methods

Equipment

Equipment used during this project consisted of double-sided rakes for aquatic plant sampling, zooplankton nets, sediment sieves, Lowrance ELITE-7Ti or HDS-Live Chartplotters, Bluetooth GPS antennas (Garmin GLO), and iPad 4 minis. Data and observations were recorded on iPad 4 minis using the New York Natural Heritage Program's iMapInvasives Mobile Advanced (iMMA) via the Esri Field Maps application. Surveys were completed using console motorboats or canoes, depending on waterbody access. When possible, a trolling motor was used on the canoes. Since the team was accessing multiple waterbodies over the course of each week, specific precautionary measures were taken to guarantee all equipment was decontaminated between waterbodies. Equipment was decontaminated using the Adirondack Watershed Institute's Watercraft Inspection Stewardship Program's free boat wash and decontamination services located throughout the Adirondack Park. The team visited a total of five different decontamination stations, multiple times, over the course of the summer. High pressure and hot water were used to remove and/or kill any organisms, native or invasive, present on equipment after surveys. The specific equipment that was decontaminated by professional decontamination technicians included: motorboat hulls, trailers, motor lower units and bilges; canoes and paddles; plankton net and detachable PVC sieve and cap end; brass sediment sieves; ropes; and all jars and containers.

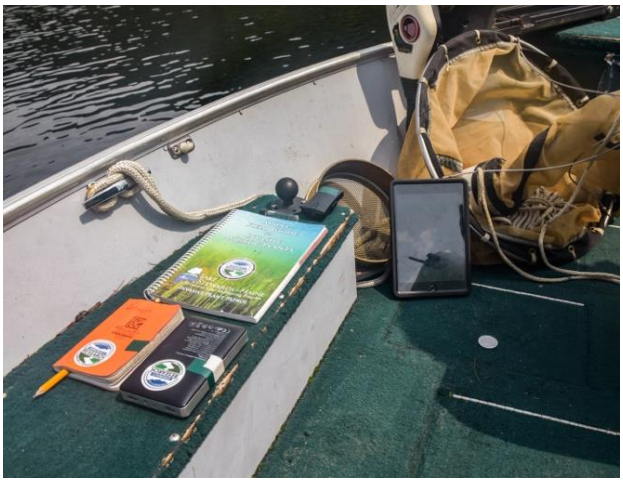


Photo 3: *A sampling of the equipment used for lake surveys.*

Photo 4: Beth Fisher holding up a double-sided rake after a toss.

Photo 5: *Two of Adirondack Research's field vehicles and motor boats used for surveys. Second Pond DEC boat launch, NY.*

Photo 6: *Decontamination Steward of the Adirondack Watershed Institute decontaminating a research vessel after being in Upper Saranac Lake, Franklin County.*

Plant Surveys and Identification

The littoral zone of each lake was surveyed for aquatic plants by the Early Detection Team from shoreline to a depth of about 15 feet, although the littoral zone water depth and distance from shore varied between waterbodies. Some waterbodies were completely comprised of littoral zone; others contained little area that supported plant growth. The team surveyed in a meandering search pattern, using visual detection from the surface in combination with the sonar output from the Lowrance unit, to locate plant beds. Once a plant bed was located, rake tosses were conducted to retrieve and identify plants that could not be confirmed through visual detection alone.

Photo 7: *Brian Greene of the Adirondack Park Invasive Plant Program (APIPP) going over invasive species with our field crew during pre-season training at Second Pond.*

All plants retrieved, invasive and native, were identified using the field guides: "Aquatic Plants of the Upper Midwest" by Paul M. Skawinski and/ or "Maine Field Guide to Invasive Aquatic Plants and Their Common Look Alikes" by the Maine Center for Invasive Aquatic Plants and Maine Volunteer Lake Monitoring Program. If an AIS infestation was detected, an occurrence point was marked in its approximate center using iMMA. The occurrence feature classifies which species is present and contains unique naming and attribute information for the specific infestation. After an occurrence was entered, the team collected an assessment polygon for the infestation. An assessment polygon was mapped by circumnavigating or visually estimating the exterior boundary of the infestation. The percent cover of the invasive plant was documented for each assessment polygon. Since the polygon is marked with GPS points, changes in acreage and percent cover can be monitored over time. Native plants that were identified were also recorded and noted in narrative form for this report. Complete lists of native plants and their abundance were not recorded. Comprehensive native plant identification and abundance was not set as a priority in 2022.

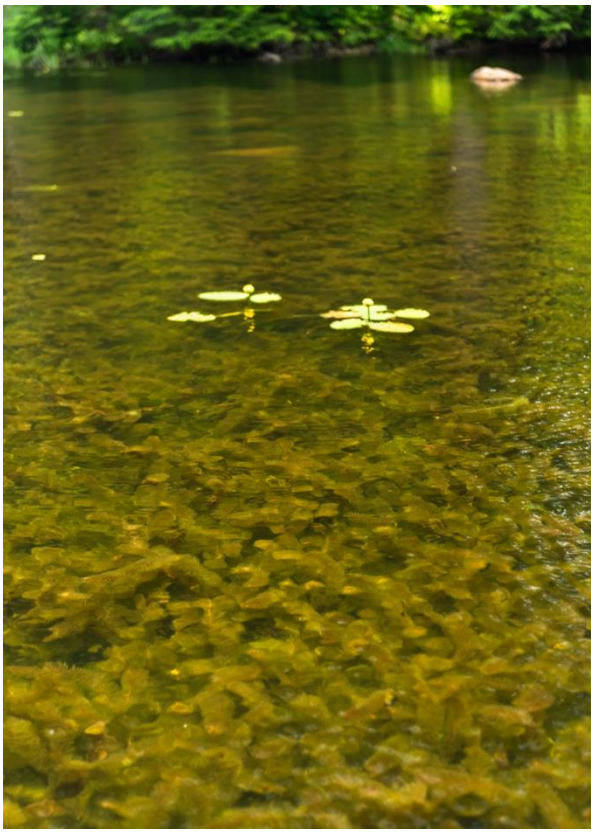


Photo 8: Variable leaf watermilfoil recorded on Peck Lake by the Early Detection Team in 2021.

In 2015, APIPP and the Adirondack Watershed Institute's (AWI) Adirondack Aquatic Invasive Rapid Response Team conducted similar research, and comprehensive information regarding plant species

richness and abundance can be found in their report (2015 Report: Adirondack Regional Aquatic Response Team). As previously mentioned, the watershed regions are surveyed on a three-year rotation. Region 1 was surveyed in 2018 was also surveyed in 2015, when native plant identification and abundance was prioritized.

Cover Class	Description
0	No vegetation present; zero plants
<5	Trace (1-2 stems)
5-25	Low Density
26-50	Medium Density (Rakefull; no visible rake tines)
51-75	High Density (Difficult to bring to boat)
76-100	Very High Density (Difficult to bring to surface)

Table 2: Vegetation cover class categories used for surveys.

Relative percent cover class range estimates of invasive plant species were taken using a rating system as follows: 0, <5, 5-25, 26-50, 51-75, and 76-100%. Note that we have two high density categories (51-75% and 76-100% while most systems clump our two highest categories together).

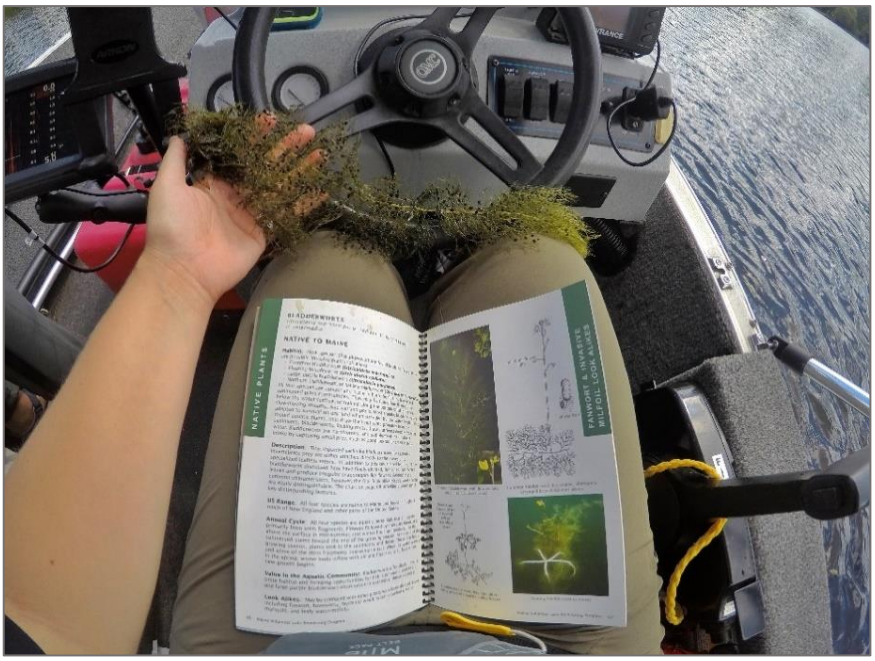


Photo 9: *Identifying native plants using multiple field guide, including the Maine Field Guide to Invasive Aquatic Plants (pictured).*

Animal Surveys and Identification

Two methods were utilized to survey for aquatic animal species. 2mm sediment sieves were used at shorelines with sandy substrates to search for aquatic invasive mollusks, specifically *Corbicula fluminea* (Asian clams). Five samples were taken at each location using a ray pattern method. In addition to sediment sieves, plankton tows were used to search for aquatic invasive zooplankton using a 500-

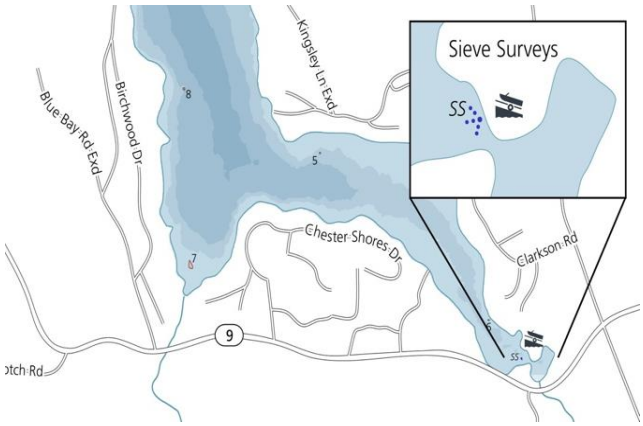


Photo 10: *(left) Ray pattern sieve survey method and (right) Field Technicians Beth Fisher and Evan Spencer looking at mussels collected in sieve from Soft Maple Reservoir, Lewis County.*

micron plankton net at the deepest point of the lake. Species of primary concern were: *Bythotrephes longimanus* (spiny waterflea) and *Cercopagis pengoi* (fishhook waterflea). The plankton tow was dropped off the bow of the stationary boat, released to a depth below the thermocline, and then towed for two minutes at a speed of 2mph behind the motorboat or as fast as possible by canoe, allowing the attached line to lie at a 45-degree angle. The net was then retrieved and samples were placed into Nalgene jars or plain white containers for examination in the field. Any samples that were suspected to contain AIS were stored in ethanol and brought back to the Adirondack Research lab for further analysis.

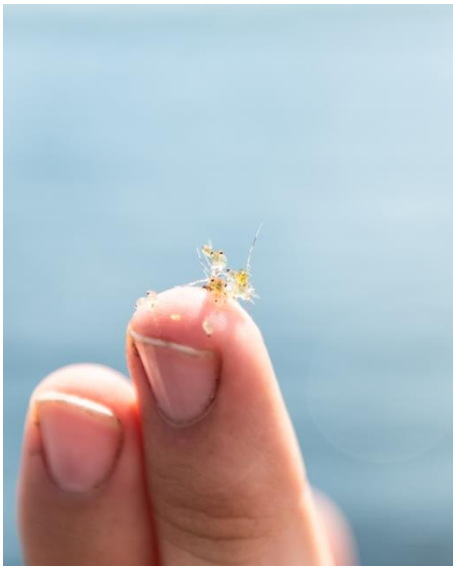


Photo 11 & 12: (*Left*) *Meghan Bargabos preparing to deploy our plankton tow net, looking for invasive zooplankton on White Lake, Oneida County in 2022.* (*Right*) *A clump of invasive spiny waterflea resting on a finger for scale on Peck Lake, Fulton County.*

Complete Lake Mapping

When conducting plant surveys, the AIS Early Detection Team focused efforts in the littoral zone of each waterbody. In the littoral zone, sunlight can penetrate through to the bottom of the lake, which allows for plant growth. Typically, the littoral zone of a lake is exclusively near shore. However, as advancements are made in underwater mapping and new technologies arrive, it's becoming more apparent that we are all still learning about what lies below the surface of many lakes and ponds. Sunken islands or ridges can arise in seemingly deep water, resulting in potential aquatic plant habitat in unexpected locations of the lake. Covering all acreage of a waterbody lessens that chance of missing a "hidden" area of plant growth.

On lakes or ponds on which complete lake mapping/surveys were conducted, the Team generally split the waterbody in half and each team of two paddled or drove from shore to shore in their respective half. To ensure no gaps in coverage occurred, each pass was done about 120 feet apart, which is within the range that BioBase can automatically interpolate lake characteristic parameters. For the purposes of this report, complete lake mapping/surveys refer to this method of data collection from the entire acreage of a lake or pond. Surveys of the littoral zone are still considered "completed," but they do not typically include waterbodies in their entirety.

Photo 13: *Adirondack Research Director, Ezra Schwartzberg mapping out a bed of invasive Eurasian water milfoil on Loon Lake, Warren County.*

2016, 2019 and 2022 Comparison

APIPP's system of dividing the Adirondack PRISM into three regions and surveying each region on a three-year rotation allows for frequent re-visitation of waterbodies to accommodate early detection and potential rapid response as well as opportunity to conduct assessments of trends over time. Surveys completed in 2016 provide baseline data for Region 2. Upon revisiting in 2019 and 2022, the team implemented new protocols using different technologies to increase the amount and types of data collected in the field. By using the Lowrance Chartplotter, iMMA, Reefmaster and the BioBase platform, detailed maps were produced documenting biovolume, bottom substrate hardness, and lake bathymetry for many of the lakes surveyed. Mapping invasive plant beds using GPS and iMMA, coupled with biovolume data recorded with BioBase, allowed for accurate delineation of AIS infestations even when located within larger native plant beds. Reefmaster allowed the team to process larger files that we wouldn't have been able to do in BioBase. Additionally, it was useful for resolving potential issues with corrupt sonar files, and processing files that could no longer be accessed in the BioBase servers. Nine of the 42 waterbodies surveyed this Summer were processed using Reefmaster. The addition of an in-office Field Crew Coordinator in 2022 also benefited to the efficiency of the team. Navigation Sheets were created for each lake including information such as QR codes to directions and the address of the boat launch location, launch type, motor restrictions, number of boats and staff required, information and maps of any past AIS, shoreline miles and acres, contact information, and any additional notes that may be helpful for the team. Sheets were organized into three binders, one per team, that also included all

SOPs, emergency contact information, weekly schedule with back-up plans, and any other important documentation. This organization streamlined the survey process for the team and they were able to focus on conducting their surveys, rather than searching for access points in real time.

In 2022, we did not focus on doing complete BioBase surveys of waterbodies. This was due to complete sonar surveys of the interior of lakes whose depths exceeded the maximum depth that supports aquatic vegetation being time consuming. In 2022 the team did not map the entirety of waterbodies unless they had available time after completing their scheduled survey. The sonar collection goal for this year's surveys was to complete a full sonar of 30% of lakes surveyed. We revisited some lakes that were surveyed in 2019, including lakes with no AIS (still early detection of these lakes) as well as some lakes with confirmed AIS in 2019 to see if beds changed in size or density of AIS.

Data Management

To ensure all data collected in the field were safely stored, redundant copies were kept at multiple steps throughout the collection process. Following are the steps taken to store and organize data:

Lowrance Chartplotter

- Data collected on the Lowrance Chartplotter were saved on 32GB memory cards in the field.
- Files were saved every one to two hours to lessen the amount of data lost if a file became corrupted.
- At the end of each week, data collected from the Lowrance Chartplotter and stored on memory cards were saved on a computer and backed up on a separate external hard drive.
- Once backed up, data from the Lowrance Chartplotter were uploaded to the BioBase or Reefmaster platform and processed. All processed data were then copied onto Adirondack Research's cloud data storage. Chartplotter data were also backed up (third copy) to cloud storage periodically.

ESRI Field Maps / Survey 123 App – iMapInvasives Mobile Advanced (iMMA)

- Esri ArcGIS Field Maps and Survey123 data were backed up on the Esri server weekly. All ArcGIS data were uploaded to Adirondack Research's cloud storage in the middle of the field season, then again at the end of the season.

iNaturalist

- Lists and photos of native plants identified were recorded in the iNaturalist mobile application and exported as a CSV at the end of the season.

GIS

- Post processed GIS data (lake boundaries, invasive plant bed polygons and associated data, point data from Kriging interpolated biovolume, bottom hardness and bathymetry) were stored as CSV and raster format, depending on data source.
- All GIS shapefiles and attribute tables were packaged and submitted to APIPP with this report.

Data were also used to create visually appealing lake maps for each of the 42 lakes surveyed. Because AIS presence data were collected using iMMA, the original shapefiles recorded during each survey are stored in and are accessible through APIPP's GIS database and online at www.imapinvasives.org.

Photo 14: *Thomas Firkins uploading lake data to BioBase, a server that creates bathymetric maps in 2021.*

Scheduling and Travel

The team of seven worked 40-hour weeks, spending the majority of time in the field and the rest in the office planning for the following week and uploading and processing data. To increase efficiency and reduce travel costs, lodging near clusters of lakes to be surveyed were selected each week. Lake survey order for the week was determined by distance to lodging, weather, and scheduling with lake associations.

Results

Between June 20th and August 30th 2022, 42 waterbodies (lakes and ponds) were surveyed with the objective of AIS early detection and data collection, and if discovered, management of Tier 1 and Tier 2 species. Invasive plant species were detected in 10 of these waterbodies with a total of 12 specific occurrences by species. Two unique invasive species were detected with *Myriophyllum heterophyllum* (Variable leaf watermilfoil) occurring most frequently at ten occurrences and *Myriophyllum spicatum* (Eurasian watermilfoil) was detected in two waterbodies. One new record of an invasive species in a previously invaded waterbody, (Eurasian watermilfoil in Forked Lake) was discovered by the 2022 Early Detection Team. Additionally, the team surveyed two lakes that had previous records of invasive species and detected none. This does not mean these lakes are AIS free, but that on the day we surveyed we did not observe any AIS. No invasive mollusk or zooplankton were detected in any of the waterbodies. Overall, the team surveyed a total of 334.22 miles of shoreline across 17,722.33 acres of water. Survey areas ranged from 5.42 acres (Raquette Lake Reservoir, Hamilton County) to 2,052.71 acres (Fourth Lake, Herkimer and Hamilton Counties).

Photo 15: Jabe Pond, 2021. Photo by Patrick Bly.

Invasive Species Presence

Water Body	Acres Surveyed	Shoreline Miles	AIS Reported Previously	AIS Reported in 2022	AIS Present 2022	Past AIS	Notes
Cranberry Lake - *Partial Survey*	1442.8	24.2	Yes	Yes	VLM	VLM	Concentrated and scattered beds were located in the north-eastern and south-western bays.
Forked Lake	893.3	15.7	Yes	Yes	VLM, EWM	VLM	**NEW detection of EWM discovered on the north eastern bays of the lake.** Scattered dense beds of VLM were found mainly in the eastern and western ends of the lake in high densities
Fulton Chain Lakes - First Lake	706.0	13.1	Yes	Yes	VLM	VLM	Scattered presence of VLM were found throughout First Lake. Dense beds were found, on the southern side of Old Forge Pond.
Fulton Chain Lakes - Fourth Lake	2052.7	19.2	Yes	Yes	VLM	VLM, EWM	**Did not detect EWM this year.** A single small low density bed of VLM was found on southern shore of the lake
Fulton Chain Lakes - Second Lake	199.1	3.4	Yes	Yes	VLM	EWM, VLM	**Did not detect EWM this year.** Small beds of VLM were detected on the northern end of the lake in semi-dense coverage
Fulton Chain Lakes - Seventh Lake	834.5	13.0	Yes	Yes	VLM, EWM	EWM, VLM	Dense beds of VLM and EWM were found mainly in the northeastern portion of the lake with a few scattered beds on the southwestern ends as well.
Fulton Chain Lakes - Third Lake	230.6	4.6	Yes	Yes	VLM	VLM	A small, low density bed and two separate points of VLM were found on the western and north-eastern shorelines.
Horseshoe Lake (St. Lawrence)	398.6	4.5	Yes	Yes	VLM	VLM	Two scattered beds of VLM were detected, one on the far south east bay and one on the western shoreline
Rainbow Falls Reservoir	678.0	11.2	Yes	Yes	VLM	VLM	Scattered beds of VLM were detected throughout the waterbody ranging from low to high densities
Raquette Lake - *Partial Survey*	683.6	13.0	Yes	Yes	VLM	VLM	Scattered beds of VLM were detected throughout the southern and western ends of the lake.
Soft Maple Reservoir	330.6	12.7	Yes	No		VLM	**NO AIS Detected by ED team 2022**
Stillwater Reservoir - *Partial Survey*	1250.8	17.5	Yes	No		VLM	**NO AIS Detected by ED team 2022**
Beaver Lake	324.7	12.2	No	No			
Big Moose lake	1230.1	18.8	No	No			
Bog River Flow	148.5	7.1	No	No			
Eagle Lake	158.0	3.1	No	No			
Eagles Nest Lake	15.1	0.7	No	No			
Eaton, Lake	568.0	5.6	No	No			
Fulton Chain Lakes - Eighth Lake	305.9	4.1	No	No			
Grass Pond	111.1	2.3	No	No			
Hitchens Pond to Lows Lake	216.6	8.8	No	No			
Hitchins Pond	240.5	11.1	No	No			
Joe Indian Pond	343.6	5.6	No	No			
Limekiln Lake	470.8	6.6	No	No			
Little Tupper Lake - *Partial Survey*	632.1	7.6	No	No			
Moshier Reservoir	310.1	8.7	No	No			
Mud Pond	64.4	3.1	No	No			
North Lake	431.6	11.4	No	No			
Otter Lake	147.0	4.6	No	No			
Quiver Pond	18.9	0.8	No	No			
Raquette Lake Reservoir	5.4	0.7	No	No			
Reeds Pond	8.6	0.8	No	No			
Rondaxe, Lake	243.8	12.2	No	No			
Sagamore Lake	175.3	2.6	No	No			
Silver Lake	113.2	2.7	No	No			
South Lake	485.4	8.8	No	No			
South Pond	431.9	7.5	No	No			
Star Lake	205.1	6.6	No	No			
Stony Creek Ponds	186.8	5.8	No	No			
Tooley Pond	45.9	1.6	No	No			
Twitchell Lake	142.6	4.4	No	No			
White Lake	240.6	6.3	No	No			
42 Lakes Surveyed	**17,722**	**334.2**			**10 Waterbodies**	**12 Waterbodies**	**Totals**

Table 3: AIS presence in lakes surveyed in 2022.

Data and Research Limitations

Project results were affected by various sources of data error, time limitations, and equipment issues. Acknowledging these limitations provide a more prudent analysis of the data and assist with planning for future surveys.

Survey Accessibility

The team used either a canoe or motorboat to complete surveys depending on the accessibility and size of each waterbody. The canoe allowed the team to access lakes with restrictions on motorized usage, whereas the motorboat gave the team opportunity to conduct field work on a sturdier platform. There were limitations associated with each mode of transportation. Lakes and ponds are not always comprised of unobstructed, open water. Many waterbodies surveyed contained downed trees, stumps, rocks, emergent tussocks, mats of floating and submerged plants, or human improvements, such as docks and blocked off swimming areas. These obstacles limited the team's accessibility by both canoe and motorized watercraft. When accessibility was limited, the team maneuvered the vessel as close to the obstacles as possible while ensuring their safety and that of other lake users. When not using canoes, shallow bottom low draft aluminum boats used for this project worked well for these situations, but an outboard motor with electric trim was critical. However, even with this setup some areas were still inaccessible by boat. As a result of these accessibility limitations, the maps produced for this report may not provide a complete representation of the aquatic vegetation in each lake or pond – especially for shallow areas near shore. Areas unable to be accessed have been identified by hatch marks and labeled "Not Surveyed" in each map's legend. The dashed line on the maps show the boats GPS traced path.

Photo 16: *Not every water body is as accessible as Lake Algonquin, Hamilton County, pictured here next to a road. Photo by Pat Bly.*

Boat Wash Station Staffing Shortages

2022 was a challenging year for staffing watercraft inspection decontamination boat wash stations. The team is required to find open and accessible boat wash stations between surveying each waterbody. This required on some instances the team driving over two hours mid-day to wash the boats, consuming valuable survey time. In some cases, and only when a previously surveyed lake was free of all invasive species, we hand-washed and dried boats. We used car washes with cold pressurized water for this purpose. Adirondack Research is looking into acquiring a hot water pressure washer for decontaminating boats between surveys when boat wash stations are not available or convenient.

Technology

Various technologies were deployed over the course of this project to improve survey effectiveness and efficiency. The Esri Field Maps App and iMMA ran on a cellular-enabled iPad Mini 4 tablet. This set-up was used to map invasive plant beds and mark locations of plankton tows and sediment sieves, but spatial accuracy was often limited to around 16 feet due to terrain and insufficient satellite signals. Therefore, spatial data collected over the course of the project is potentially affected by this 16-foot variance. The team did their best to hold the boat stationary and reduce any drifting of the canoe or motorboat while collecting GPS data. Even with this care, the team had difficulty mapping the area of smaller plant beds.

While APIPP's AIS Early Detection Team has been in existence since 2015, the Lowrance Chartplotter and C-Map BioBase platform were new to survey protocols in 2018. During the 2018-2021 seasons, the team identified potential sources of error associated with the Lowrance Chartplotters and BioBase platform. First, when navigating through dense beds of vegetation, the sonar was not able to accurately detect the lake or pond bottom to map sediment hardness, bathymetry, and/or biovolume. In relation to vegetation, a major limitation of the BioBase platform is that it does not produce accurate vegetation biovolume outputs for areas less than 2.4 feet in depth. This has the potential to impact the thoroughness of maps produced for shallow waterbodies or if water levels are seasonally low. It is also important to remember that this BioVolume data is a snapshot of the amount of plant growth on the day of the survey and will change as plants grow and die throughout a normal growth season. Second, when the transducer is in less than 2 feet of water, the sonar is not able to collect data. This results in data gaps that can only be corrected with visual confirmation and GPS mapping of plant beds. Outputs may show areas of no vegetation because of these limitations. All three of these limitations are also identified by hatch marks and labeled "Not Surveyed" in each map's legend.

Future deployment of the Lowrance Chartplotter, transducer and BioBase platform will likely improve over time as APIPP and its early detection teams become more familiar with the intricacies and limitations of these technologies.

Survey Thoroughness

The serpentine meandering search pattern used per our methodology increases the total area surveyed per lake but is not the most comprehensive technique to identify every species in each waterbody. Since the main goal of this project is to detect and identify invasive species, overall abundance of native vegetation is not a primary concern, and therefore the meandering search pattern offers the most efficient method to meet our goals. With the meandering search pattern, not every inch of each lake is covered, but enough of the lake's littoral area is covered to minimize the likelihood that we are missing invasive plant beds. There is the possibility that we missed

Photo 17: *Research technicians, Tim Murphy and Joshua Young surveying Lake Pleasant, Hamilton County, 2021.*

some small beds (or single plants), but future repeat surveys will help to ensure any missed small or isolated infestations will be detected. Survey techniques aside, other factors may affect the thoroughness of surveys including seasonal survey timing, water clarity or weather conditions. Day to day and year to year changes in survey conditions may result in minor variations in documented plant species and abundance. We encourage volunteers and lake associations to participate in Lake Protectors and monitor a lake to ensure that we have more eyes on the water helping with early detection.

While management of invasive species is important to maintain the quality of aquatic resources, it does pose a challenge for mapping existing invasive plant beds. The maps produced for this project are intended to be used to inform future surveys and management. If a team surveys a lake after management has occurred, the resulting maps will not indicate where the invasive species were growing in the lake or pond, as the plants have already been removed. All distribution data and plant bed locations produced during this survey reflect the lake as it was the day of the survey.

Recommendations

Adirondack Research provides the following set of recommendations to improve future project effectiveness and techniques used to detect AIS infestations as they relate to informing management decisions.

Crew Size and Training

Optimal early detection team size depends on the project scope of work. If deploying the BioBase platform to produce detailed maps becomes a higher priority, a larger crew will be necessary, as this component of the survey protocol add considerably to the time/resources required to survey and map each waterbody. This especially applies to larger lakes and ponds which have larger surface areas to map. In 2022, the team of six over 10 weeks was able to complete meandering search surveys for AIS on 42 lakes or ponds and collect data to produce lake maps with lake characteristics data in C-Map BioBase for 29 of these waterbodies.

Setup and maintenance of the technology used for this project are vital to collecting accurate, reliable data. Familiarity with the equipment is not a penultimate prerequisite, but it does keep the short field season running smooth. With new technologies comes troubleshooting and periods of trial and error. Understanding intricacies, nuisances and common issues with the system will prove invaluable in the field.

Photo 18: Adirondack Research's 2020 field crew during a training day on First Pond, Franklin Co., NY.

Number and Types of Surveys

As with crew size, the annual number of waterbodies surveyed is dependent on the project scope of work. Using the Lowrance Chartplotter to make complete maps of each waterbody, in contrast to only running the system during littoral zone surveys, significantly adds to the time/resources required to survey each lake. Adding additional lakes or ponds to be fully mapped with BioBase will necessitate a larger crew, as well as additional motorboats, sonar units, and subscription-based services. The same will be true with lakes with large acreage, as a minimal speed will need to be maintained to ensure accurate data collection. Since the data collected during this project will have great value in future AIS management and research, we recommend performing sonar collection throughout the lakes' littoral zones and omit the centers of the lakes.

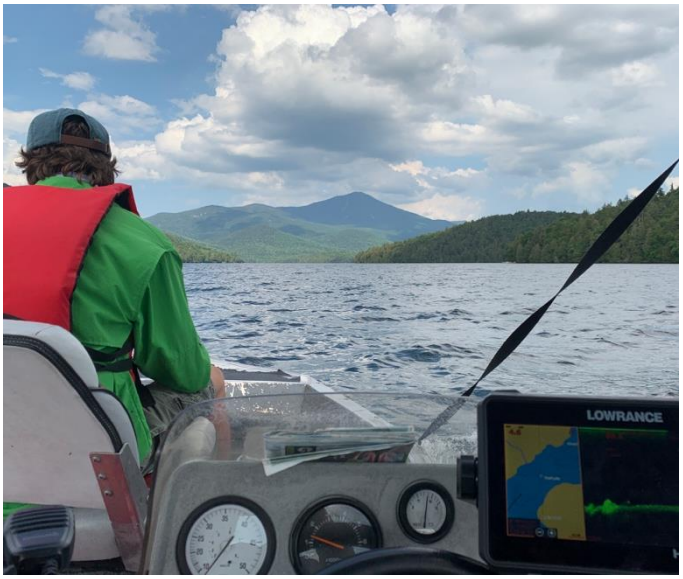


Photo 19: *2020-21 Crew Leader Thomas surveying on Lake Placid.*

Management of aquatic invasive plants pose a challenge for accurately mapping the invasive plant beds in a lake. If the survey is conducted before or after management has occurred, the resulting map does not capture the full extent of the infestation for that year. All invasive species distribution data and plant bed location maps produced will document only the current conditions in the lake the day the survey was completed. We recommend that APIPP compiles a list of lakes with active management when prioritizing lakes for surveys.

We recommend continuing to collect sonar data on lake in which it has not yet been collected. We also recommend continuing to survey lakes for which no invasive plants have been detected, including lakes that have been surveyed in previous years. If partners can benefit from detailed surveys on lakes for which we know to be invaded, then we think it is valuable to perform sonar recordings along with AIS surveys on those lakes. Besides that, we think it is important to continue to perform AIS surveys on lakes, especially those without known infestations of AIS so that if and when we find new AIS infestations of species that can be managed, we have the opportunity to perform rapid response.

Conclusions

The 2022 Aquatic Invasive Species Early Detection Team surveyed 42 lakes and ponds in the western section of the Adirondack Park. We did find new infestations of AIS during the 2022 field season highlighting the importance of having an early detection program in place to identify new invasions. While we did find new infestations of invasive species previously known in the region, no new species (APIPP Tier 1) to the region were detected. The majority of waterbodies surveyed this year were previously surveyed in 2016 and 2019, however seven lakes that have no previous records of AIS monitoring, were surveyed for the first time this year.

We used a combination of BioBase and ReefMaster software to map aquatic vegetation and other lake characteristics. We were able to produce fully biobased maps, recording biomass, bathymetry and bottom hardness for 15 waterbodies, 36% of all lakes. While BioBase has the ability to be a great asset, the free version is too hindering and we would need to utilize an account with greater storage to continue to use this platform. We now have collected sonar data on at least the littoral zones of over 150 lakes in the three survey regions of the Adirondack PRISM. These data can be modeled to help guide prioritization of lakes for future surveys.

Maps

The following section provides lake survey maps and description narratives of the 42 lakes and ponds surveyed in 2022. Each lake map comprises a vegetation survey area (which document plant bed Biovolume) unless stated otherwise in the map notes section, invasive plant beds (as delineated by iMMA if found), the locations of plankton tows (PP), invasive mollusk sieve survey (SS) locations if available and the GPS path of the boat as a dashed line. Seventeen lakes and ponds also include bathymetric and bottom hardness composition maps, with two of these only displaying bathymetric and bottom hardness (no biovolume). Some waterbodies have areas denoted as excessively interpolated. For these lakes, we interpolated across areas of water greater than 200 feet. At these distances, the potential for error and mis-interpolation are greater than data standards employed by BioBase. For this reason, we show a visualization of the interpolation, but also denote that the data presented may contain error. These are represented by a grid pattern across the area in question.

Invasive Species Maps

Each lake description is followed by 1-3 maps. The first map, is the “Vegetation Map” and shows presence of aquatic invasive species (AIS) beds (polygons) and points if AIS are present along with BioVolume output. Points are labeled directly on the map with the acronym of the invasive species name and consist of individual plants. Polygons denote beds of invasive species. These polygons are labeled with numbers that correspond to a bed density and size in both acres and square feet in the facing table. The tables have only polygon data and do not include individual plant occurrences, which are denoted only with a point and acronym on the map. The acronym is listed in each map legend. Also noted on this map with a dashed line is the GPS track of the boat to show where the crew went and searched.

Aquatic Invasive Species Acronyms—The maps contain acronyms for invasive species occurrences. These occur when a polygon or point record for an invasive species are labeled directly on a map. The following acronyms and their full common names occur throughout.

Invasive Species	Acronym
Curly Leaf Pondweed	CLP
Variable Leaf Milfoil	VLM
Eurasian Watermilfoil	EWM
Yellow Iris	YI
Water Chestnut	WC
Phragmites	Phrag
Purple Loosestrife	PL

Bathymetry Maps

The next map is the bathymetry map. This map shows water depth in increments contingent with the overall maximum depth of the waterbody.

Bottom Hardness

The next and last map is the bottom hardness map. The values of bottom hardness range from 0 to 0.5 and are an interpretation of sonar made by BioBase. The values are linear in hardness and range from the low end of 0, denoting a mucky bottom to 0.5, denoting a sandy or hard bottom.

Excessive Interpolation

We create the bathymetry and bottom hardness layers on the lake maps on the following pages by utilizing BioBase output (csv files of grid formatted values) and then interpolate them with one another to form a matrix raster image. This raster image estimates the values between each of the points. One issue we face with performing this type of interpolation of these data is that sometimes we interpolate over large distances. This results in errors of over guessing. For example, we can interpolate across a lake, but we will not take into consideration changes in depth or bottom hardness that exist in areas where we did not collect data directly with sonar. While these interpolations are inaccurate, it can help make a map look much nicer. For that reason, we have interpolated across larger areas, but we show these areas as being “excessively interpolated” by denoting their areas with a hatch marking. These can be seen over the centers of several of the lakes that follow.

Beaver Lake

Survey Date: 8/24/2022
Last Surveyed: N/A
Survey Team: M. Sharpe, K. Dernier

Lake Description

Beaver Lake is 330.5 acres with approximately 10 miles of shoreline. It is located in the Town of Watson and Webb in Lewis County. The team launched a motorboat with permissions from a private camp.

Aquatic Invasive Plant Presence

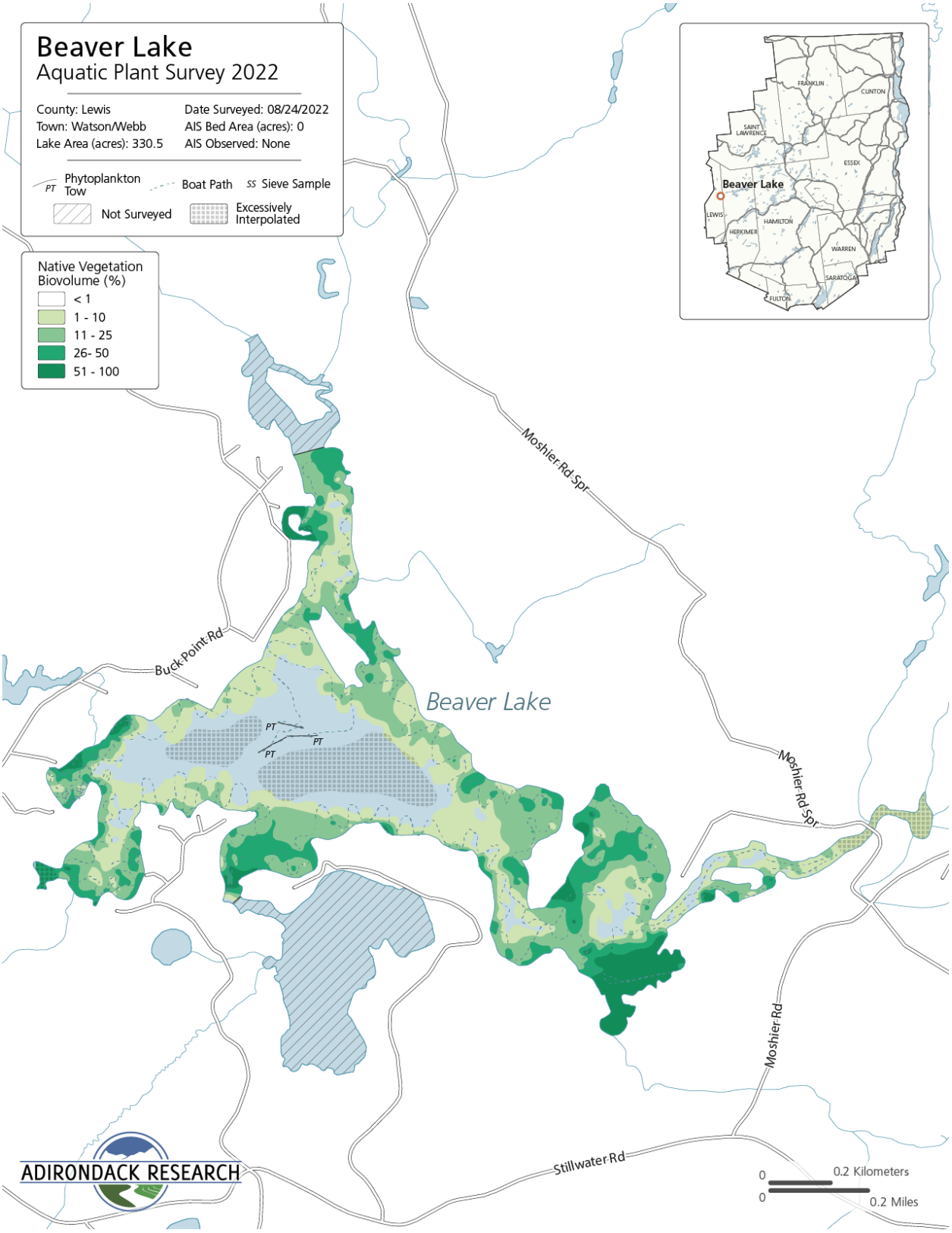
No invasive species were detected

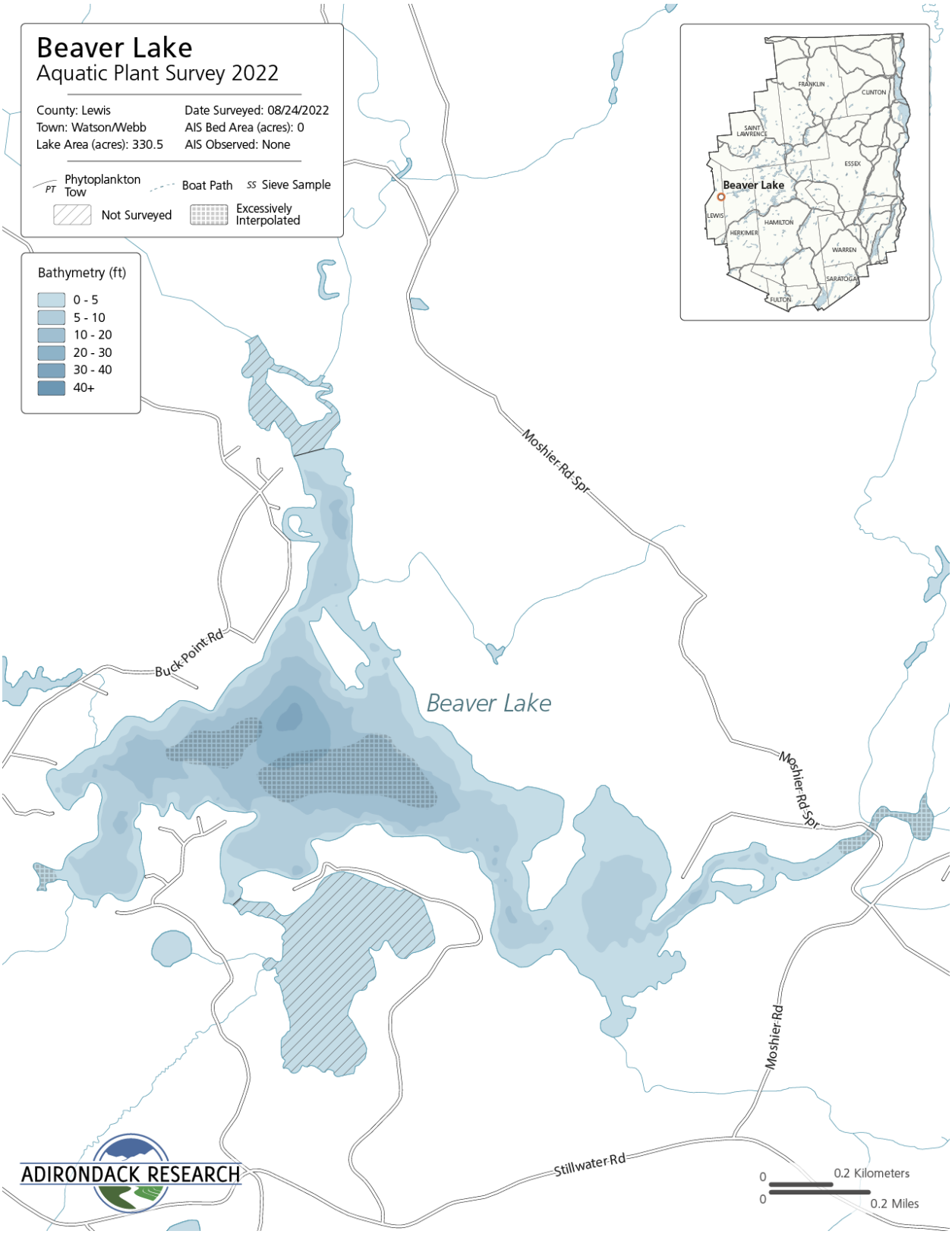
Native Plant Biota

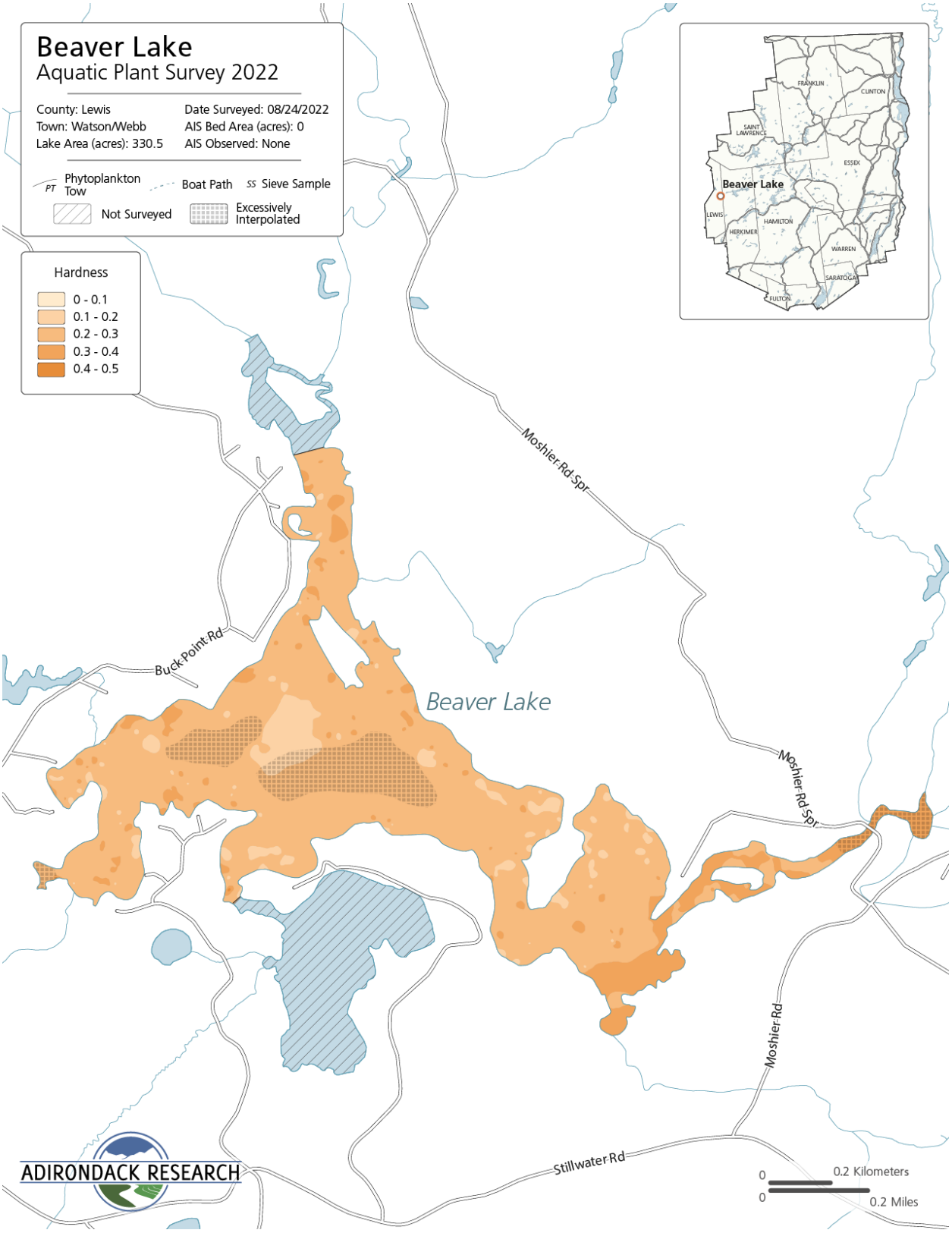
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Vallisneria americana* (American eelgrass), *Nymphaea odorata* (American white waterlily), *Cephalanthus occidentalis* (buttonbush), *Utricularia macrorhiza* (common bladderwort), *Myriophyllum farwellii* (Farwell's watermilfoil), *Persicaria amphibia stipulacea* (flanged smartweed), *Potamogeton natans* (floating-leaved pondweed), *Utricularia geminiscapa* (hidden-fruit bladderwort), *Utricularia minor* (lesser bladderwort*), Nymphoides cordata* (little floatingheart), *Sparganium angustifolium* (narrow-leaved bur-reed), *Eleocharis acicularis* (needle spikerush), *Pontederia cordata* (pickerelweed), *Utricularia purpurea* (purple bladderwort), *Najas flexilis* (slender water-nymph), *Nuphar advena* (spatterdock), *Brasenia schreberi* (watershield).

Aquatic Invasive Animal Presence

Plankton tows were conducted with no invasive zooplankton detected. Sediment sieves to determine the presence of *Corbicula fluminea* (Asian clams) were not recorded.


Beaver Lake
Aquatic Plant Survey 2022
County: Lewis
Town: Watson/Webb
Lake Area (acres): 330.5
Date Surveyed: 08/24/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
Boat Path
SS Sieve Sample
Not Surveyed
Excessively Interpolated
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Beaver Lake
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Moshier Rd Spr
Buck Point Rd
Beaver Lake
PT
PT
PT
Moshier Rd Spr
Moshier Rd
Stillwater Rd
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles


Beaver Lake
Aquatic Plant Survey 2022
County: Lewis
Town: Watson/Webb
Lake Area (acres): 330.5
Date Surveyed: 08/24/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
Boat Path
SS Sieve Sample
Not Surveyed
Excessively Interpolated
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Beaver Lake
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Moshier Rd Spr
Buck Point Rd
Beaver Lake
Moshier Rd Spr
Moshier Rd
Stillwater Rd
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles


Beaver Lake
Aquatic Plant Survey 2022
County: Lewis
Town: Watson/Webb
Lake Area (acres): 330.5
Date Surveyed: 08/24/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
Boat Path
SS Sieve Sample
Not Surveyed
Excessively Interpolated
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Beaver Lake
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Moshier Rd Spr
Buck Point Rd
Beaver Lake
Moshier Rd Spr
Moshier Rd
Stillwater Rd
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles

Big Moose Lake

Survey Date: June 22, 2022
Last Surveyed: 2019
Survey Team: M. Bargabos, K. Dernier, B. Fisher, E. Spencer

Lake Description

Big Moose Lake is 1230.11 acres and has 18.85 miles of shoreline. It is located in the towns of Long Lake and Webb, in Hamilton/Herkimer County, and lies in the Black River watershed. Two teams launched motor boats from Dunn's Boat Service Marina.

Aquatic Invasive Plant Presence

No invasive plants were detected.

Native Plant Biota

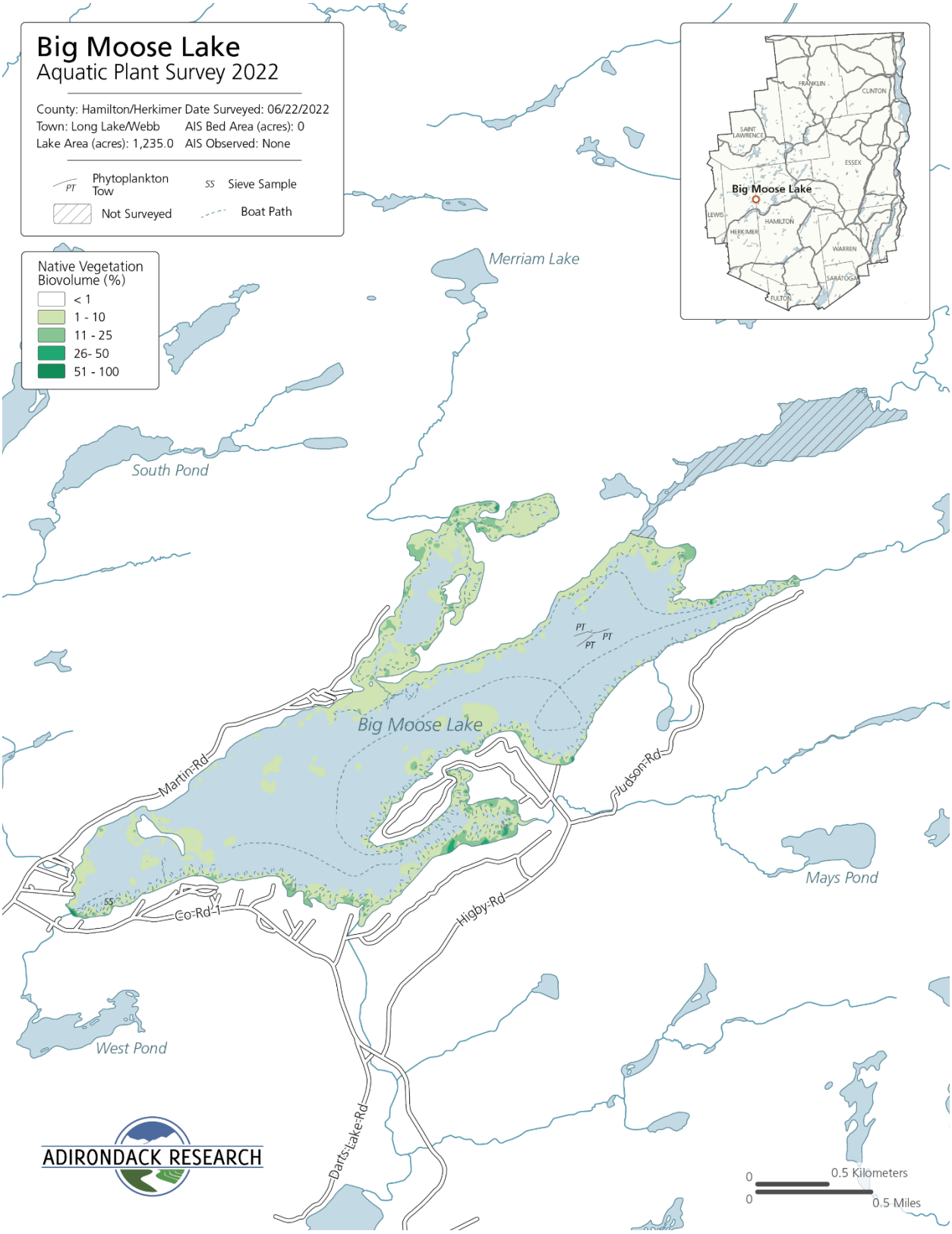
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Brasenia schreberi* (watershield), *Potamogeton praelongus* (Whitestem pondweed), *Potamogeton bicupulatus* (snailseed pondweed), *Utricularia macrorhiza* (common bladderwort), *Drosera intermedia* (oblong-leaved sundew), *Brasenia schreberi* (watershield)

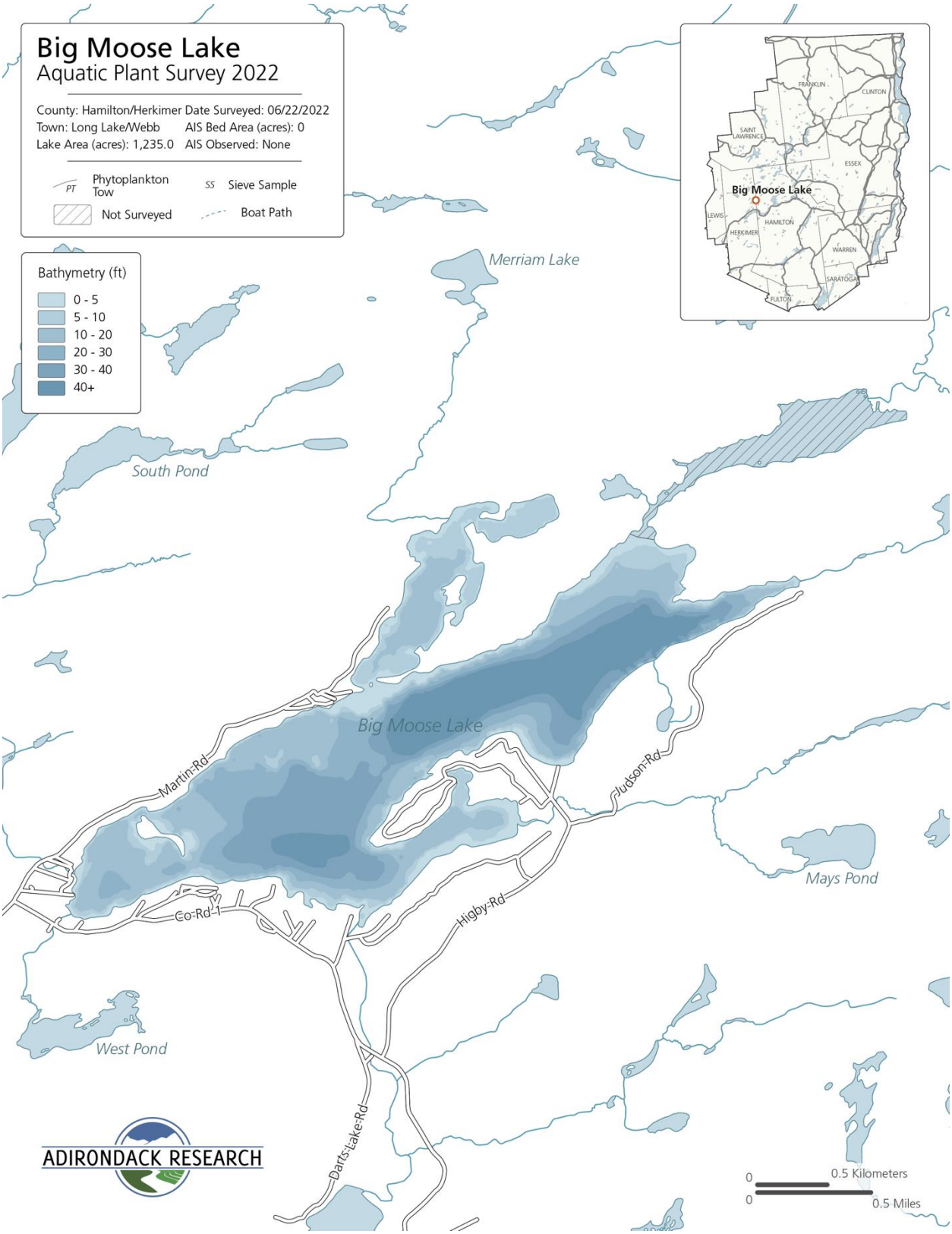
Aquatic Invasive Animal Presence

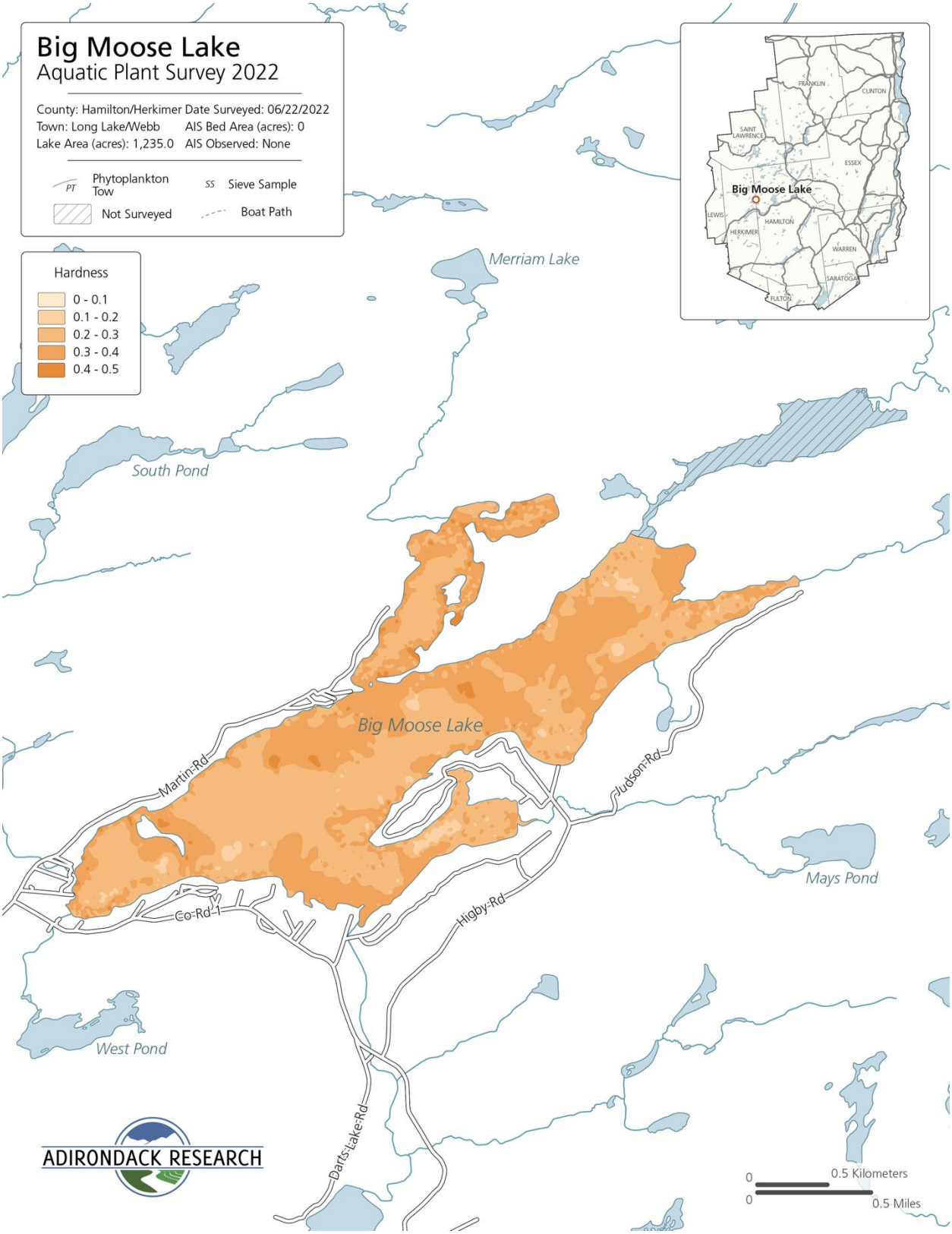
Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.

Map Notes

Sonar data was processed using BioBase. For this particular waterbody BioVolume sonar was merged from both the 2022 and 2019 surveys with the boat path representing the survey track only from 2019. There are missing boat tracks along the north-western shore. Sonar files from this region were corrupt and unable to be restored, however this shoreline was still surveyed for invasive and native species.


Big Moose Lake
Aquatic Plant Survey 2022
County: Hamilton/Herkimer Date Surveyed: 06/22/2022
Town: Long Lake/Webb AIS Bed Area (acres): 0
Lake Area (acres): 1,235.0 AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Big Moose Lake
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Merriam Lake
South Pond
Big Moose Lake
PT
PT
PT
Martin-Rd
Judson-Rd
Mays Pond
SS
Co-Rd-1
Higby-Rd
West Pond
Darts-Lake-Rd
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles


Big Moose Lake
Aquatic Plant Survey 2022
County: Hamilton/Herkimer Date Surveyed: 06/22/2022
Town: Long Lake/Webb AIS Bed Area (acres): 0
Lake Area (acres): 1,235.0 AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Big Moose Lake
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
Merriam Lake
South Pond
Big Moose Lake
Martin Rd
Judson Rd
Mays Pond
Co Rd 1
Higby Rd
West Pond
Darts Lake Rd
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles


Big Moose Lake
Aquatic Plant Survey 2022
County: Hamilton/Herkimer Date Surveyed: 06/22/2022
Town: Long Lake/Webb AIS Bed Area (acres): 0
Lake Area (acres): 1,235.0 AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Big Moose Lake
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Merriam Lake
South Pond
Big Moose Lake
Martin-Rd
Judson-Rd
Co-Rd-1
Higby-Rd
Mays Pond
West Pond
Darts-Lake-Rd
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Bog River Flow

Survey Date: July 25, 2022
Last Surveyed: N/A
Survey Team: K. Dernier, B. Fisher

Lake Description

The Bog River Flow is 148.53 acres with 7.10 miles of shoreline. It is located in the town of Colton and Piercefield, St. Lawrence County, and lies in the St. Lawrence River watershed. The team launched a canoe from a soft launch at the Bog River Lower Dam off of New York Route 421.

Aquatic Invasive Plant Presence

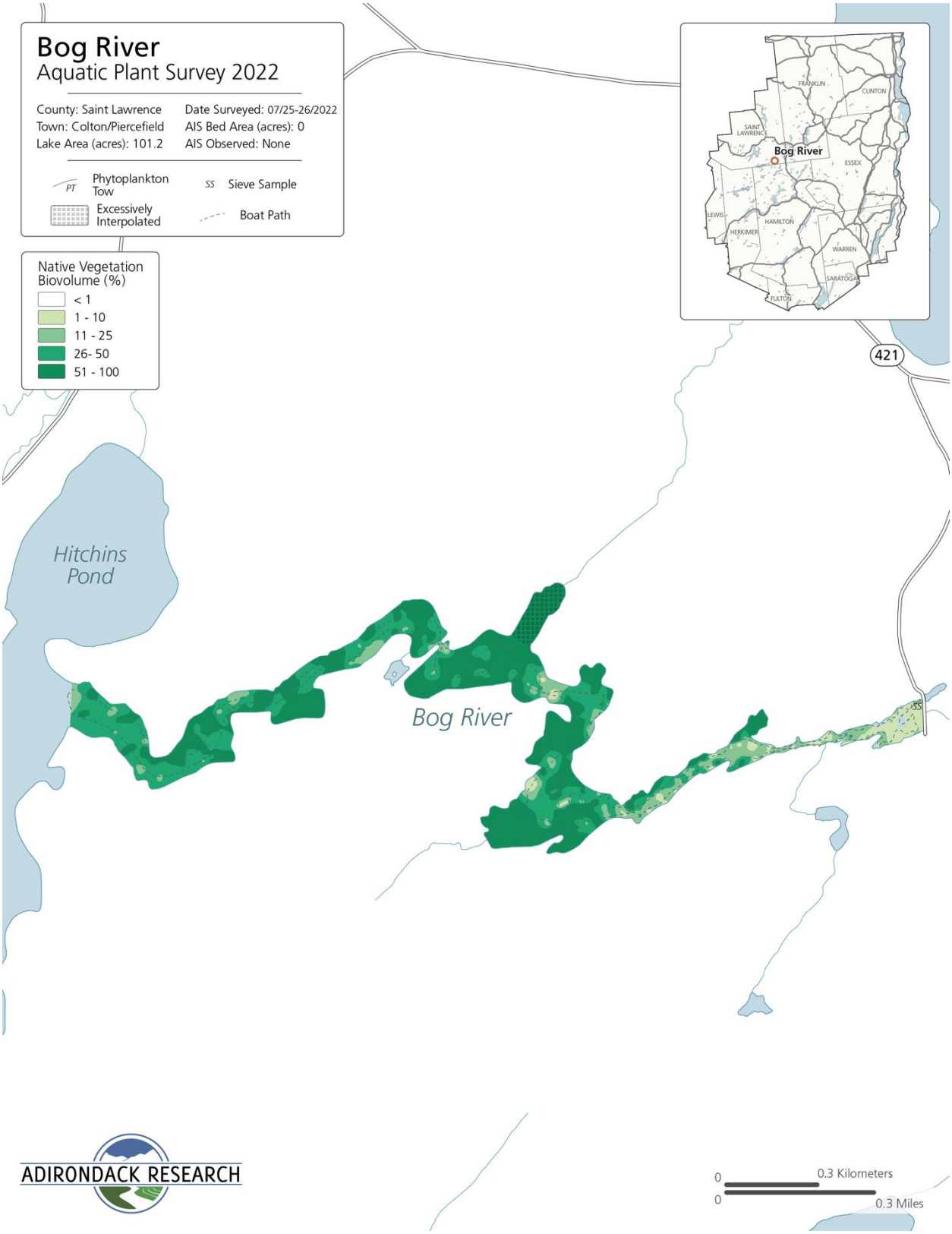
No invasive plants were detected.

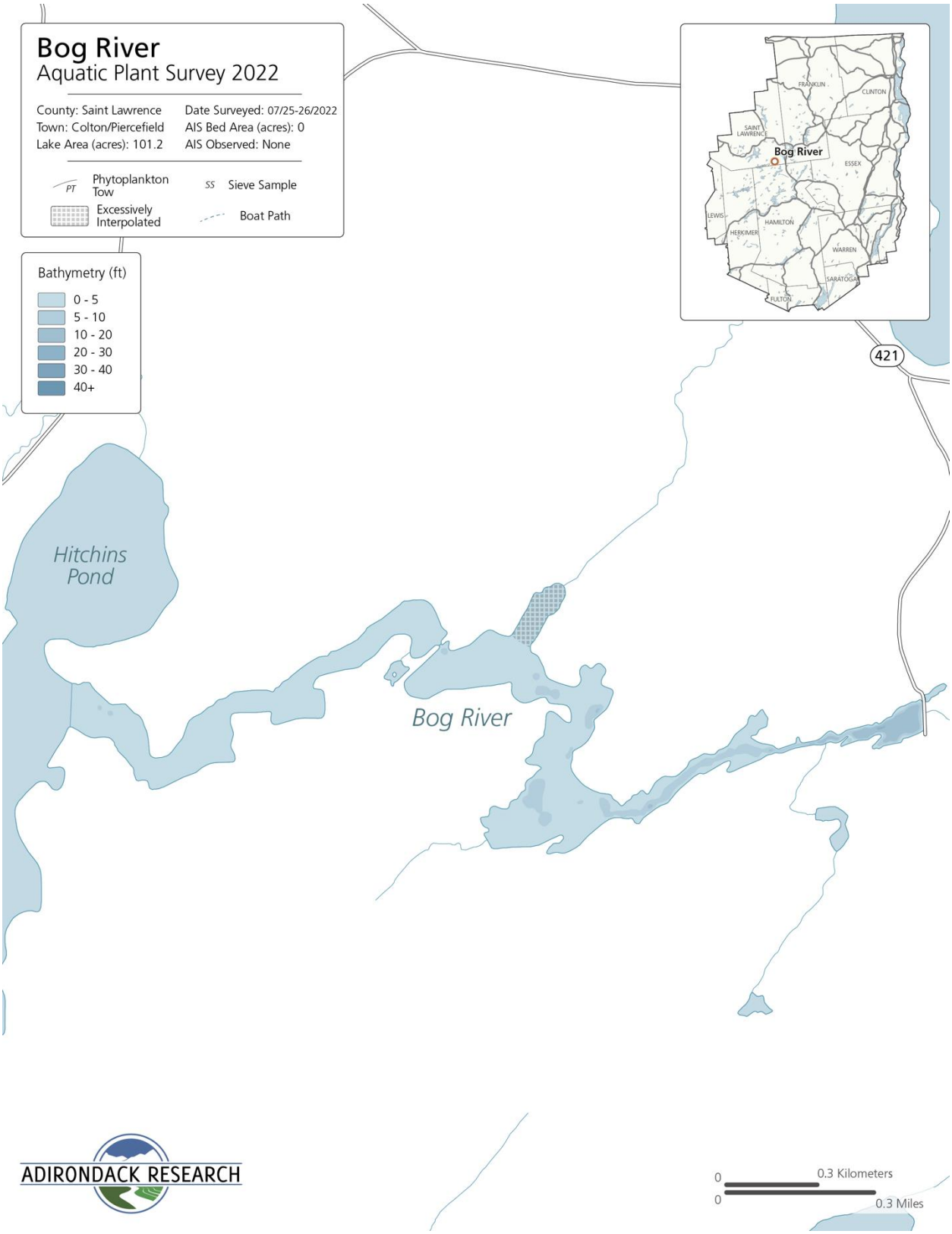
Native Plant Biota

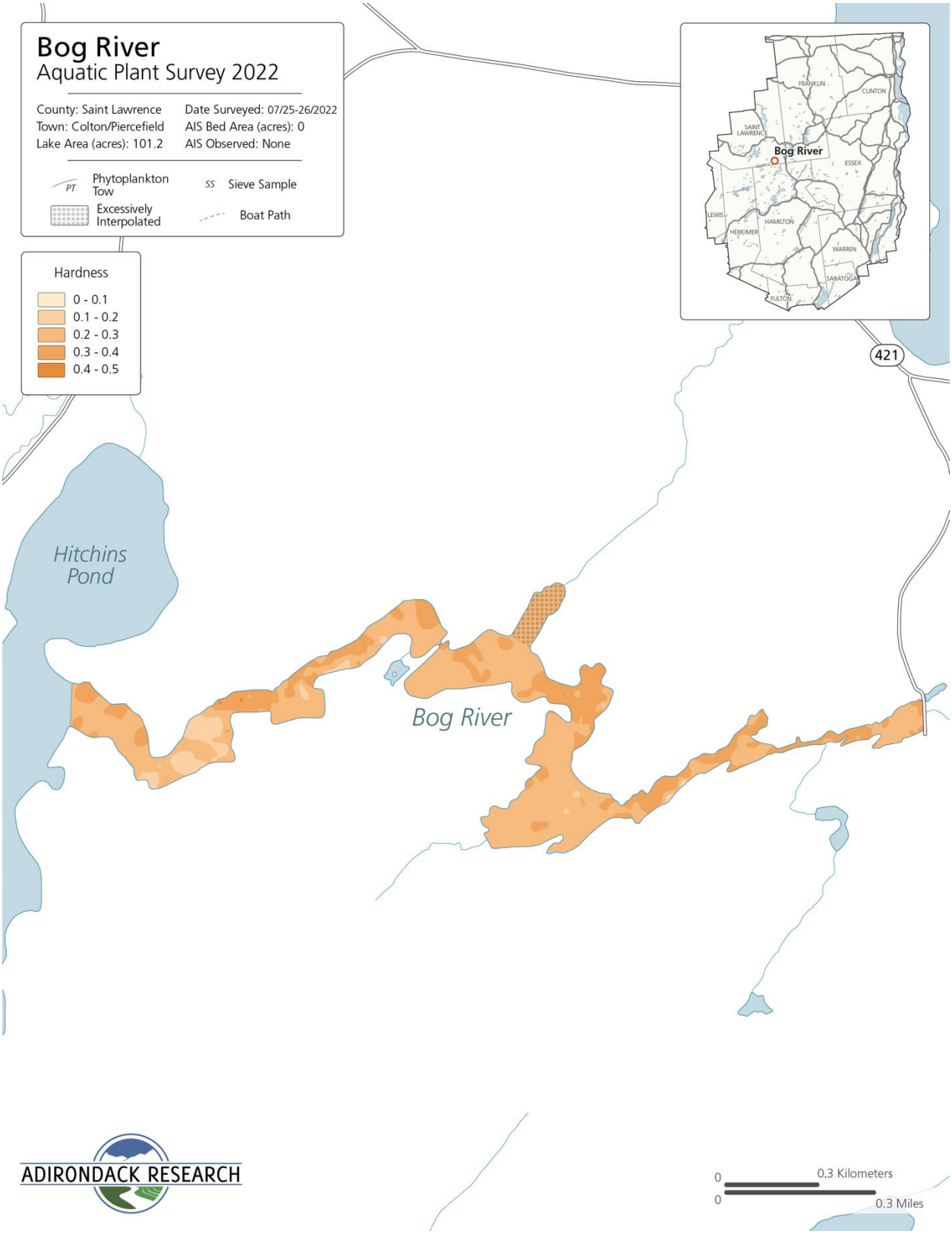
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found across the connecting waterbodies of Bog's River Flow, Hitchins Pond, and Hitchins to Lows Lake: *Myriophyllum alterniflorum* (alternate water-milfoil), *Mentha canadensis* (American cornmint), *Nymphaea odorata* (American white waterlily), *Potamogeton amplifolius* (broad-leaved pondweed), *Magnoliopsida* (dicots), *Myriophyllum farwellii* (Farwell's watermilfoil), *Sparganium fluctuans* (floating bur-reed), *Potamogeton natans* (floating-leaved pondweed), *Utricularia geminiscapa* (hidden-fruit bladderwort), *Utricularia intermedia* (intermediate bladderwort), *Liliopsida* (monocots), *Pontederia cordata* (pickerelweed), *Ludwigia* (primrose-willows), *Utricularia purpurea* (purple bladderwort), *Potamogeton epihydrus* (ribbon-leaved pondweed), *Najas flexilis* (slender water-nymph), *Nuphar advena* (spatterdock), *Potamogeton spirillus* (spiral pondweed), *Bidens beckii* (water marigold), *Persicaria amphibia* (water smartweed), *Callitriche* (water starworts).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. *Viviparus georgianus* (banded mystery snail) shells were observed floating in the pond, but no live samples were obtained.


Bog River
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Colton/Piercefield
Lake Area (acres): 101.2
Date Surveyed: 07/25-26/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
Bog River
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
421
Hitchins Pond
Bog River
SS
ADIRONDACK RESEARCH
0
0
0.3 Kilometers
0.3 Miles


Bog River
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Colton/Piercefield
Lake Area (acres): 101.2
Date Surveyed: 07/25-26/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
Bog River
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
421
Hitchins Pond
Bog River
ADIRONDACK RESEARCH
0
0
0.3 Kilometers
0.3 Miles


Bog River
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Colton/Piercefield
Lake Area (acres): 101.2
Date Surveyed: 07/25-26/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
Bog River
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
421
Hitchins Pond
Bog River
ADIRONDACK RESEARCH
0
0
0.3 Kilometers
0.3 Miles

Cranberry Lake

Survey Date: August 1, 2022 & August 2, 2022
Last Surveyed: 2017
Survey Team: M. Bargabos, K. Dernier, B. Fisher, M. Sharpe

Lake Description

Cranberry Lake is 6,795.53 acres with 79.77 miles of shoreline. It is located in the town of Cranberry Lake, St, Lawrence County, and lies in the Oswegatchie River watershed. The team launched two motorboats from the Cranberry Lake boat launch off of Columbian Road and conducted a partial survey of the northern and south-western bays, covering a total of 1442.75 acres and 24.2 miles of shoreline.

Aquatic Invasive Plant Presence

Concentrated and scattered beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) were located in the north-eastern and south-western bays of Cranberry Lake. A total of 223.39 acres were detected.

Native Plant Biota

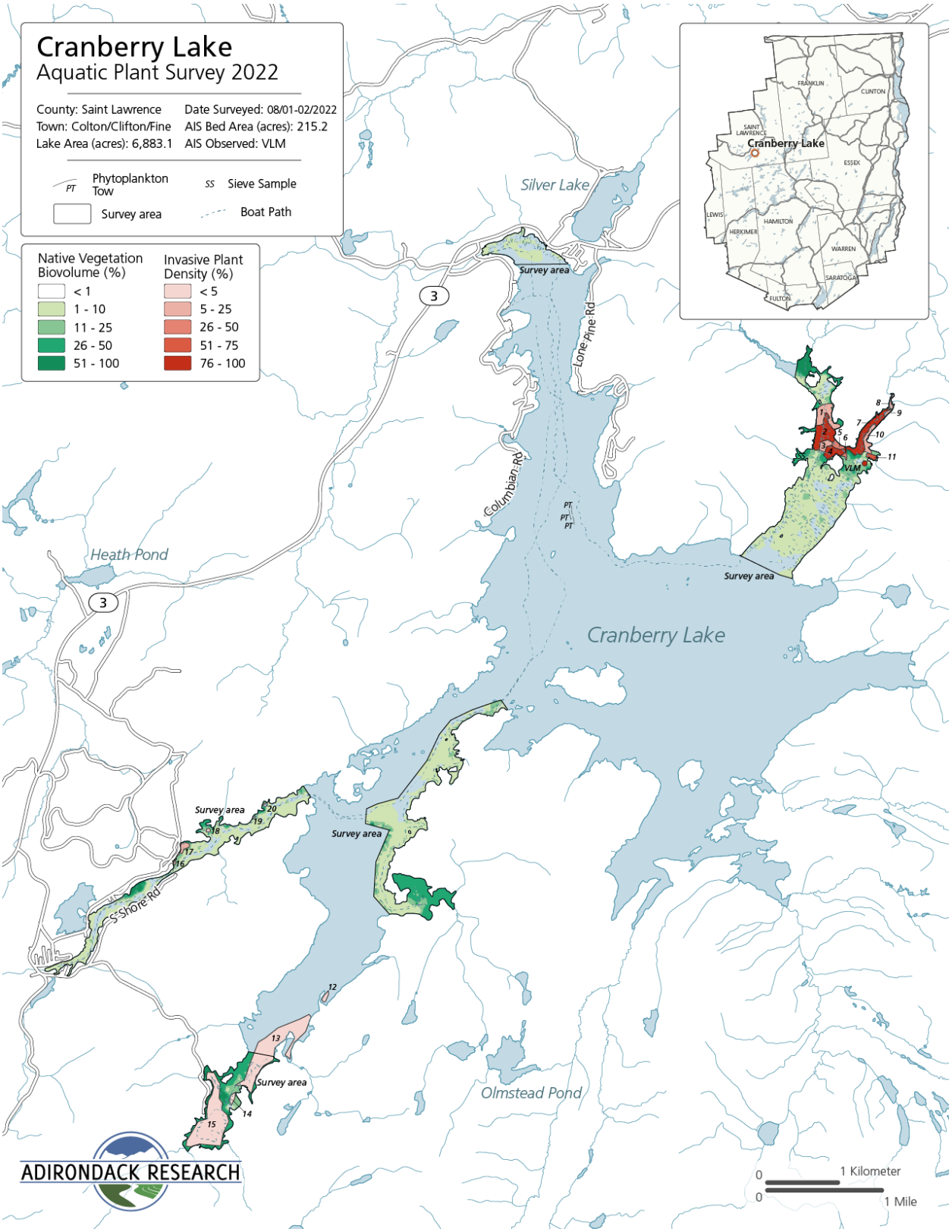
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nymphaea odorata* (American white waterlily), P*otamogeton amplifolius* (broad-leaved pondweed), *Drosera intermedia* (oblong-leaved sundew), *Sparganium fluctuans* (floating bur-reed), *Elodea canadensis* (common waterweed), *Utricularia intermedia* (flat-leaved bladderwort), *Brasenia schreberi* (watershield), *Utricularia cornuta* (horned bladderwort), *Myriophyllum verticillatum* (whorled milfoil), *Potamogeton natans* (floating-leaved pondweed), *Potamogeton pusillus* (small pondweed), *Nuphar advena* (spatterdock).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.

Variable Leaf Watermilfoil				Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover	Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	13.95	607542.46	5% - 25%	13	64.78	2821849.87	less than 5%
2	19.32	841726.31	76% - 100%	14	1.99	86883.38	less than 5%
3	4.50	196115.31	5% - 25%	15	63.72	2775593.32	less than 5%
4	7.88	343405.76	76% - 100%	16	0.46	20069.57	5% - 25%
5	3.18	138563.17	26% - 50%	17	2.87	125073.89	5% - 25%
6	1.03	44778.12	26% - 50%	18	0.54	23449.75	less than 5%
7	17.36	756387.58	76% - 100%	19	0.20	8719.00	less than 5%
8	1.61	70196.79	N/A	20	0.53	23039.06	less than 5%
9	0.98	42675.38	5% - 25%				
10	6.53	284413.53	5% - 25%				
11	2.02	88176.68	51% - 75%				
12	1.69	73638.91	less than 5%				

Asian Clam	Spiny Waterflea
Present (Y/N)	Present (Y/N)
No	No


Cranberry Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Colton/Clifton/Fine
Lake Area (acres): 6,883.1
Date Surveyed: 08/01-02/2022
AIS Bed Area (acres): 215.2
AIS Observed: VLM
Phytoplankton Tow
Sieve Sample
Survey area
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26 - 50
51 - 100
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
Silver Lake
Heath Pond
Cranberry Lake
Olmstead Pond
Lone Pine Rd
Columbian Rd
S Shore Rd
Survey area
VLM
PT
3
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
1 Kilometer
0
1 Mile

Eagle Lake

Survey Date: August 22, 2022
Last Surveyed: 2021
Survey Team: M. Sharpe, K. Dernier

Lake Description

Eagle Lake is 158.02 acres with 3.13 miles of shoreline. It is located in the Town of Indian Lake, Hamilton County, and lies in the Raquette River watershed. The team launched a motorboat from Blue Mountain Lake Livery and traveled through the channel from Blue Mountain Lake to Eagle Lake.

Aquatic Invasive Plant Presence

No invasive plants were detected.

Native Plant Biota

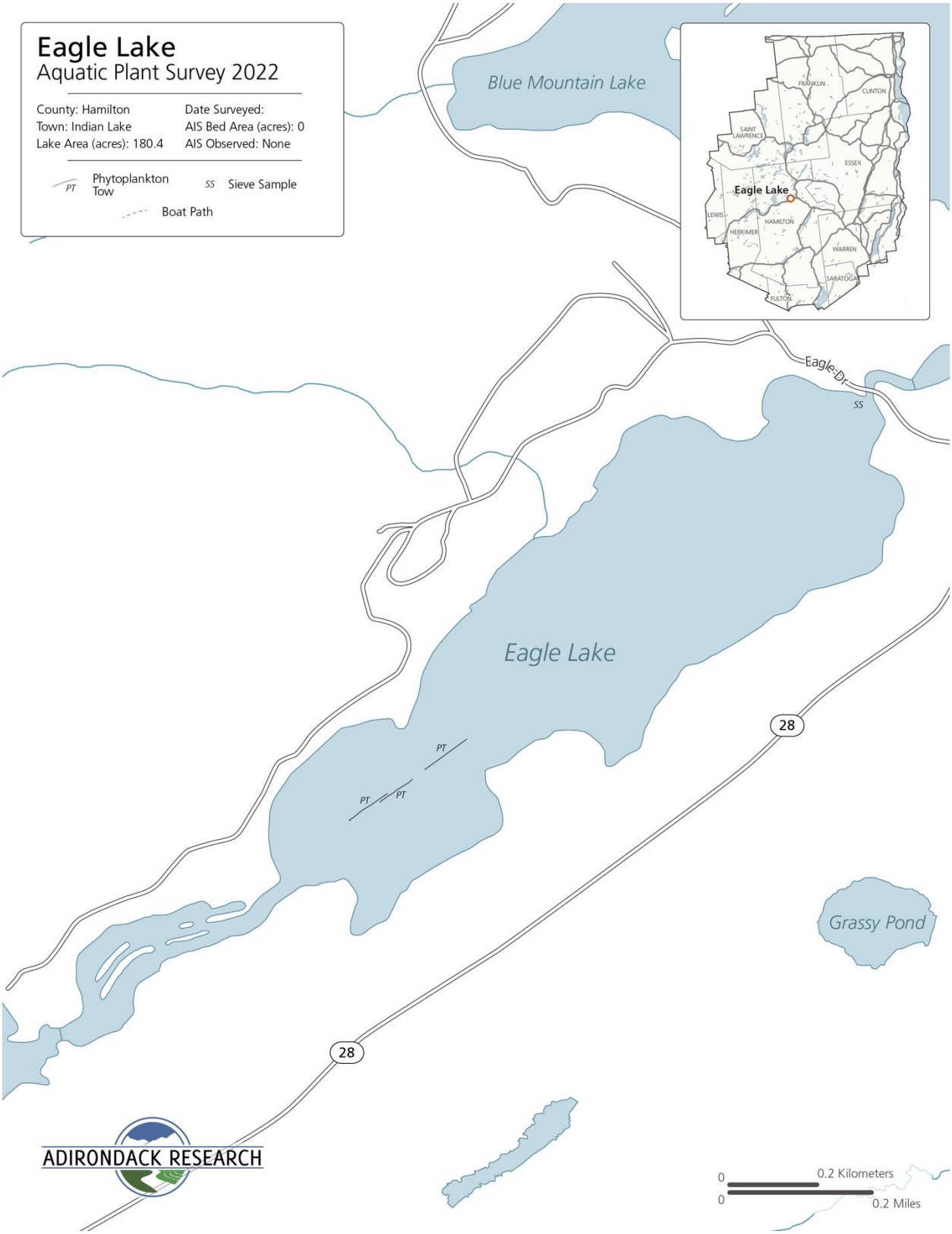
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Potamogeton amplifolius* (broad-leaved pondweed), *Eriocaulon aquaticum* (common pipewort), *Potamogeton natans* (floating-leaved pondweed), *Sparganium angustifolium* (narrow-leaved bur-reed), *Eleocharis acicularis* (needle spikerush), *Potamogeton perfoliatus* (perfoliate pondweed), *Pontederia cordata* (pickerelweed), *Utricularia purpurea* (purple bladderwort), *Najas flexilis* (slender water-nymph).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.

Map Notes

No sonar data was recorded for Eagle Lake due to a malfunction with our transducer.


Eagle Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Indian Lake
Lake Area (acres): 180.4
Date Surveyed:
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Blue Mountain Lake
Eagle Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Eagle Dr
SS
Eagle Lake
PT
PT
PT
28
28
Grassy Pond
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles

Eagles Nest lake

Survey Date: 8/30/2022
Last Surveyed: N/A
Survey Team: M. Sharpe, M. Wilson

Lake Description

Eagles Nest Lake is 15.08 acres with 0.73 miles of shoreline. It is located in the Town of Inlet in the County of Hamilton, and lies in the Black River watershed. The team attempted a 3-mile canoe carry from Eighth Lake Campgrounds, however were unable to access the waterbody by canoe due to overgrowth. The team conducted a rake toss survey along the perimeter of the lake by land.

Aquatic Invasive Plant Presence

No invasive species were detected.

Native Plant Biota

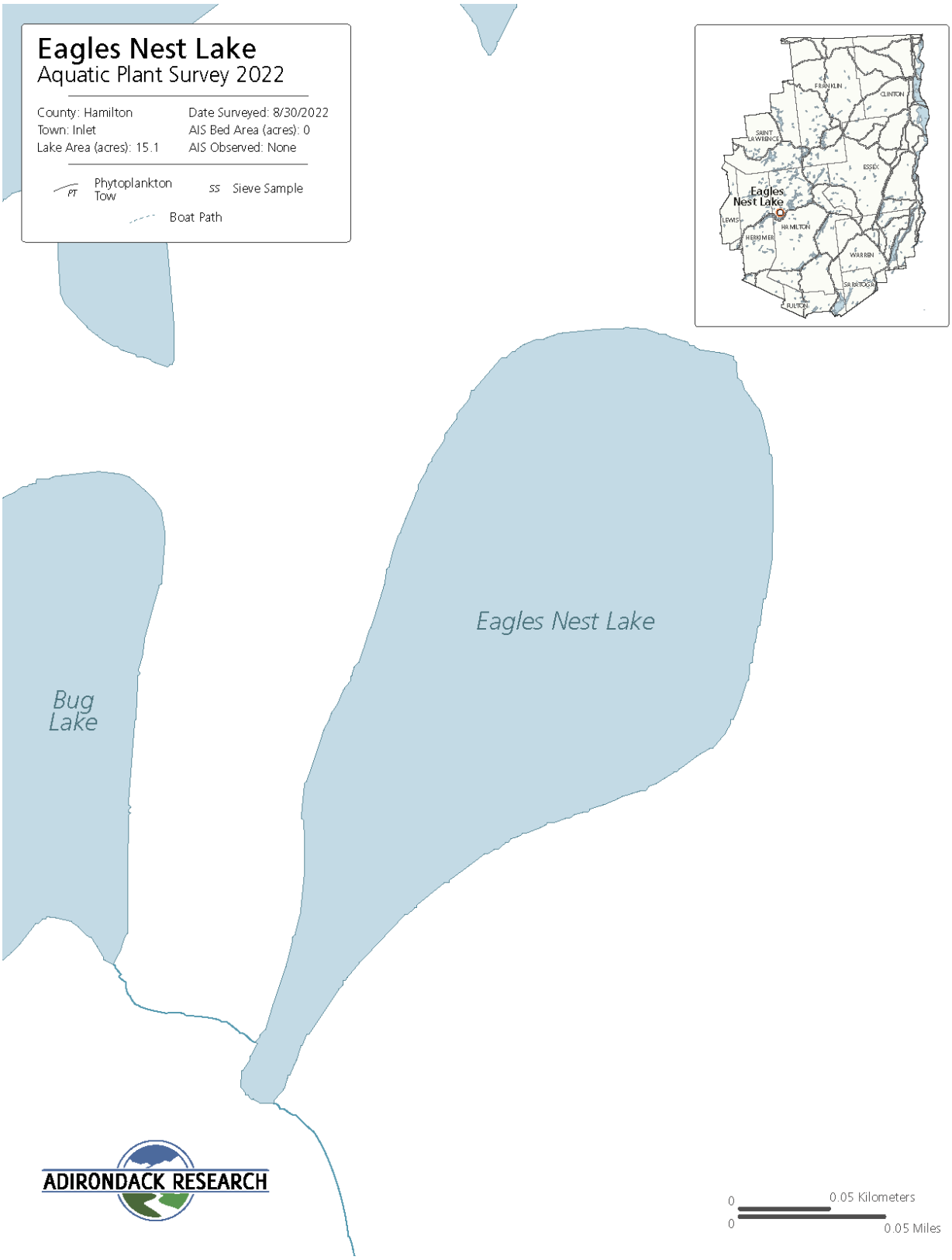
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Sparganium americanum* (American bur-reed*), Iris versicolor* (northern blue flag), *Dulichium arundinaceum* (three-way sedge).

Aquatic Invasive Animal Presence

Plankton tows were not conducted due to access restraints. Sediment sieves to determine the presence of *Corbicula fluminea* (Asian clams) were also not recorded due to access restraints.

Map Notes

No sonar data was recorded for Eagles Nest Lake due to the survey being conducted by land.


Eagles Nest Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Inlet
Lake Area (acres): 15.1
Date Surveyed: 8/30/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Eagles Nest Lake
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
Eagles Nest Lake
Bug Lake
ADIRONDACK RESEARCH
0
0
0.05 Kilometers
0.05 Miles

Forked Lake

Survey Date: June 20, 2022 & June 21, 2022
Last Surveyed: 2016
Survey Team: M. Bargabos, K. Dernier, B. Fisher, E. Schwartzberg, E. Sharpe, E. Spencer, M. Walton

Lake Description

Forked Lake is 893.36 acres and 15.75 miles of shoreline. Forked Lake is located in the town of Long Lake, Hamilton County, and lies in the Raquette River watershed. The team launched three motorboats from the Forked Lake DEC Boat Launch on the southwest end of the lake. In total the team spent two days on Forked Lake.

Aquatic Invasive Plant Presence

Scattered dense beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) was found mainly in the eastern and western ends of the lake in high densities. New presence of *Myriophyllum spicatum* (Eurasian watermilfoil) was also discovered on the north eastern bays of the lake. The invasive beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) combined to a total of 42.10 acres and 30.61 acres for *Myriophyllum spicatum* (Eurasian watermilfoil).

Native Plant Biota

The following native plants were found: *Utricularia purpurea* (purple bladderwort), *Pontederia cordata* (pickerel weed), *Potamogeton epihydrus* (ribbon-leaved pondweed), *Nymphaea odorata* (American white waterlily), *Potamogeton robbinsii* (Robbins/pondweed), *Elodea canadensis* (Canadian Waterweed), *Potamogeton natans* (Floating-leaved pondweed), *Brasenia schreberi* (Watershield).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.

Variable Leaf Watermilfoil (Forked Lake)

Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	0.24	10432.27	less than 5%
2	4.22	183996.87	26% - 50%
3	2.23	97108.26	less than 5%
4	1.44	62660.44	5% - 25%
5	4.41	192143.49	5% - 25%
6	0.29	12766.96	5% - 25%
7	0.49	21409.78	5% - 25%
8	4.22	183777.76	5% - 25%
9	23.97	1044294.19	26% - 50%
10	0.07	2926.72	5% - 25%
11	0.05	1997.45	5% - 25%
12	0.10	4410.64	less than 5%
13	0.18	7776.97	26% - 50%
14	0.06	2407.31	less than 5%
15	0.03	1155.96	less than 5%
16	0.11	4761.48	less than 5%

Eurasian Watermilfoil (Forked Lake)

Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
4	1.44	62660.44	5% - 25%
5	4.41	192143.49	5% - 25%
6	0.29	12766.96	5% - 25%
7	0.49	21409.78	26% - 50%
9	23.97	1044294.19	26% - 50%

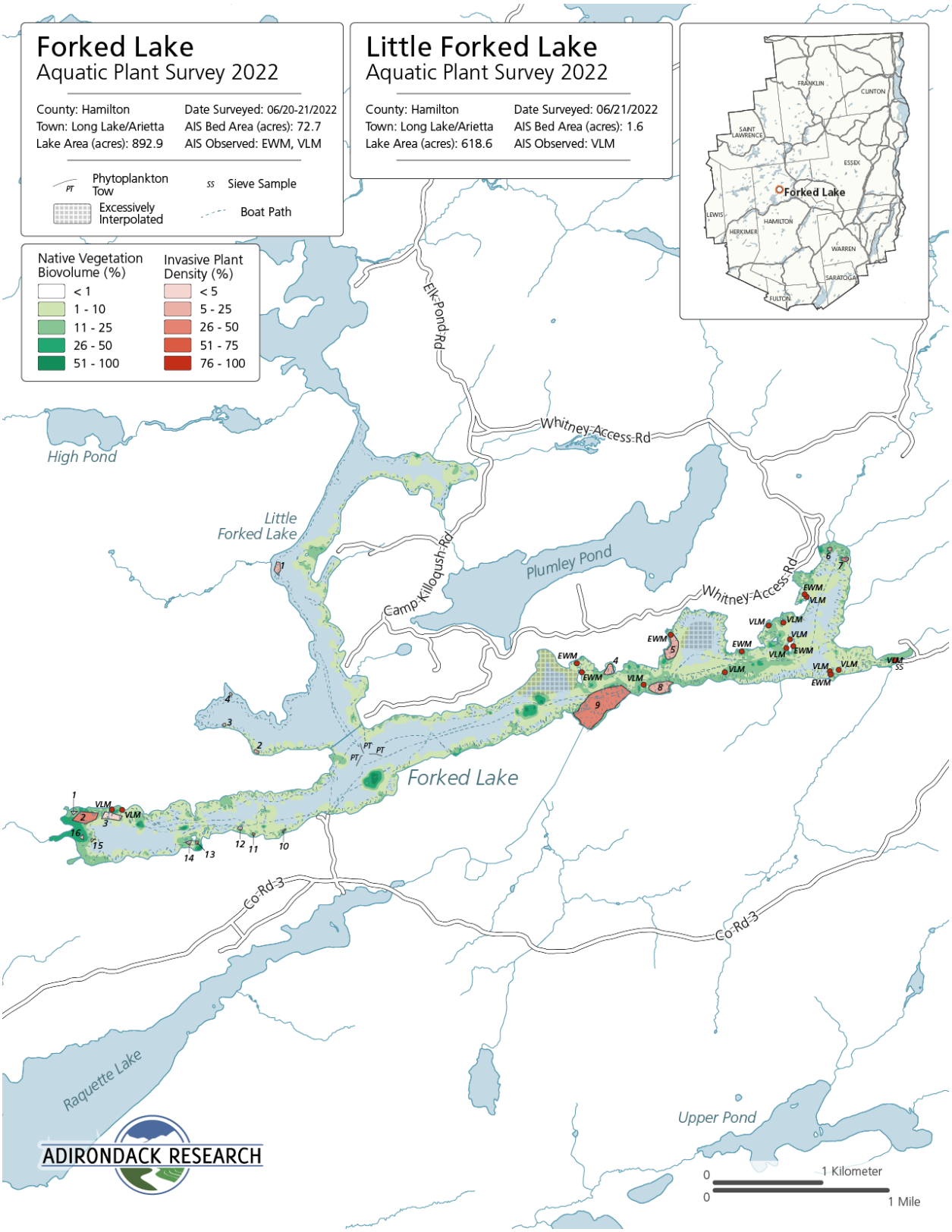
Variable Leaf Watermilfoil (Little Forked Lake)

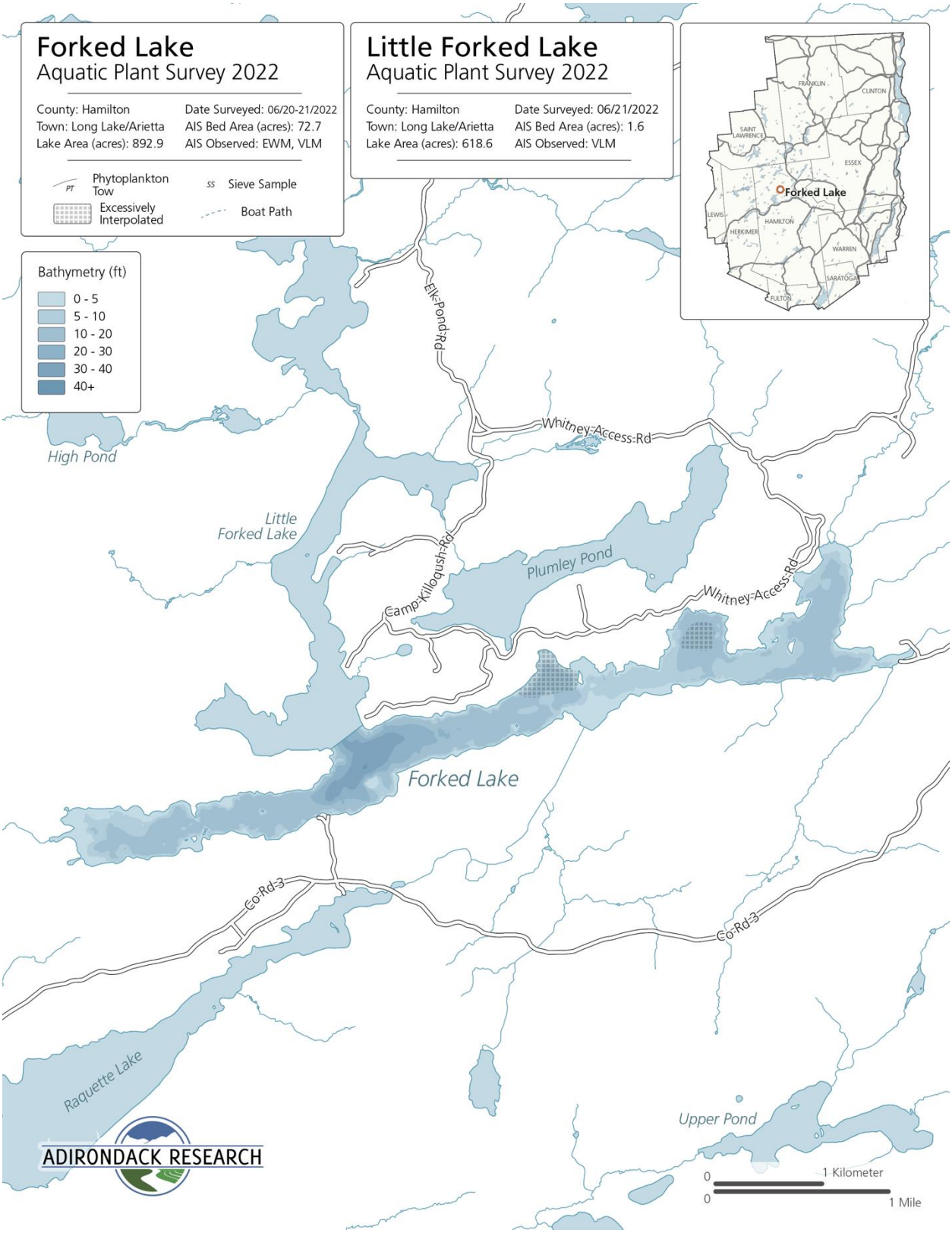
Bed	Size (Ac.)	Size (Sq.Ft.)	% Cover
1	1.11	48215.89	5% - 25%
2	0.31	13290.95	5% - 25%
3	0.19	8100.45	less than 5%
4	0.01	336.85	less than 5%

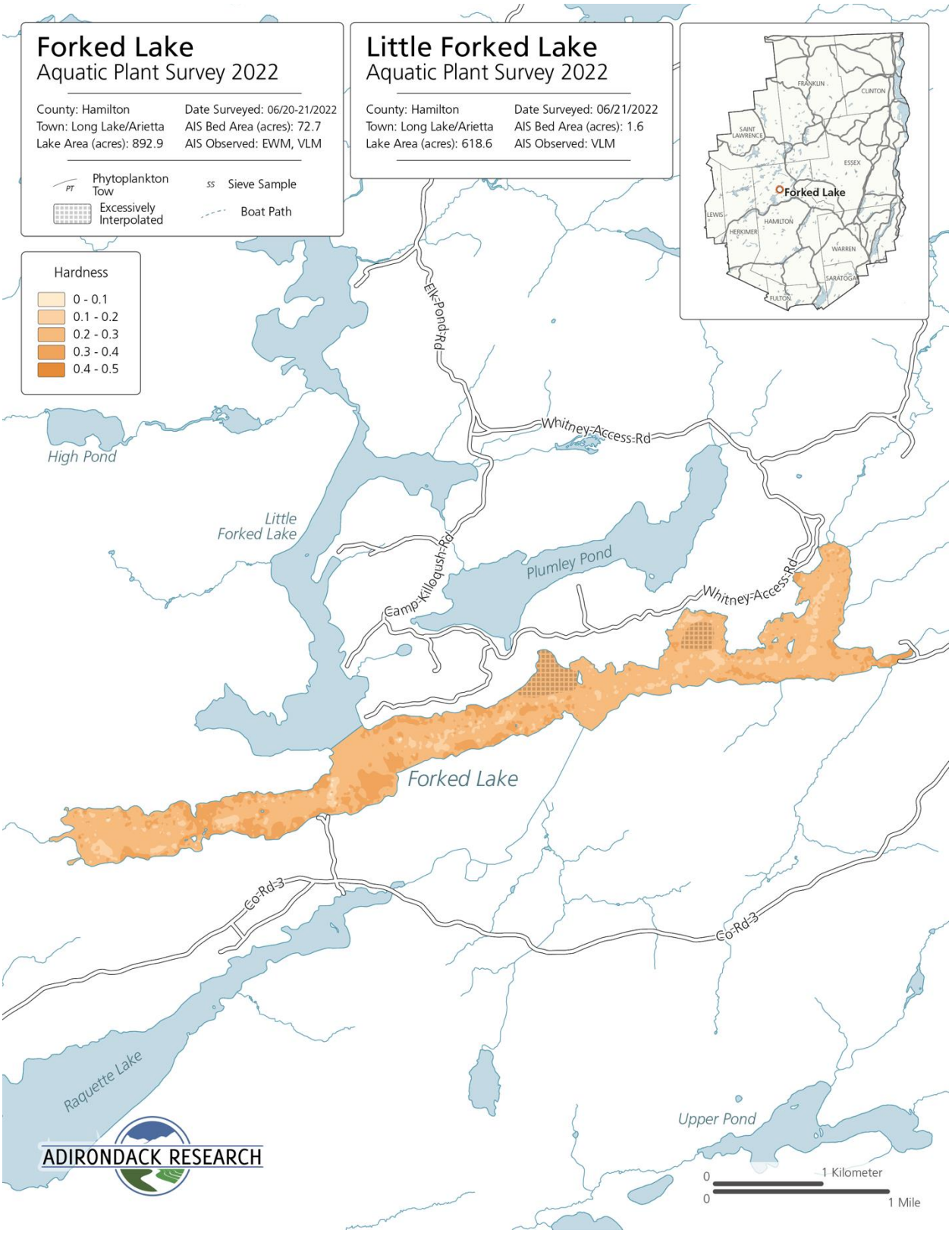
Asian Clam	Spiny Waterflea
Present (Y/N)	Present (Y/N)
No	No

Map Notes

Sonar was collected for the west shoreline of Little Forked Lake, however the file was corrupted and was not able to be used for BioVolume interpretation in BioBase. The boat path still shows where the team were able to survey within Little Forked Lake.


Forked Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake/Arietta
Lake Area (acres): 892.9
Date Surveyed: 06/20-21/2022
AIS Bed Area (acres): 72.7
AIS Observed: EWM, VLM
Phytoplankton Tow
Sieve Sample
Excessively Interpolated
Boat Path
Little Forked Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake/Arietta
Lake Area (acres): 618.6
Date Surveyed: 06/21/2022
AIS Bed Area (acres): 1.6
AIS Observed: VLM
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26 - 50
51 - 100
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Forked Lake
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Elk Pond Rd
Whitney Access Rd
High Pond
Little Forked Lake
Camp Killoqush Rd
Plumley Pond
Forked Lake
Co Rd 3
Raquette Lake
Upper Pond
ADIRONDACK RESEARCH
0
1 Kilometer
0
1 Mile


Forked Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake/Arietta
Lake Area (acres): 892.9
Date Surveyed: 06/20-21/2022
AIS Bed Area (acres): 72.7
AIS Observed: EWM, VLM
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Little Forked Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake/Arietta
Lake Area (acres): 618.6
Date Surveyed: 06/21/2022
AIS Bed Area (acres): 1.6
AIS Observed: VLM
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Forked Lake
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
Elk Pond Rd
Whitney Access Rd
High Pond
Little Forked Lake
Camp Killoquish Rd
Plumley Pond
Whitney Access Rd
Forked Lake
Co Rd 3
Co Rd 3
Raquette Lake
Upper Pond
ADIRONDACK RESEARCH
0
1 Kilometer
0
1 Mile


Forked Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake/Arietta
Lake Area (acres): 892.9
Date Surveyed: 06/20-21/2022
AIS Bed Area (acres): 72.7
AIS Observed: EWM, VLM
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Little Forked Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake/Arietta
Lake Area (acres): 618.6
Date Surveyed: 06/21/2022
AIS Bed Area (acres): 1.6
AIS Observed: VLM
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Forked Lake
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Elk Pond Rd
Whitney Access Rd
High Pond
Little Forked Lake
Plumley Pond
Camp Killoqush Rd
Whitney Access Rd
Forked Lake
Co Rd 3
Co Rd 3
Raquette Lake
Upper Pond
ADIRONDACK RESEARCH
0
1 Kilometer
0
1 Mile

Fulton Chain Lakes: First Lake and Old Forge Pond

Survey Date: June 23, 2022, July 21, 2022 & August 8, 2022
Last Surveyed: 2019
Survey Team: M. Bargabos, K. Dernier, B. Fisher, E. Spencer, M. Walton

Lake Description

First Lake is 706.01 acres and has 13.08 miles of shoreline. First Lake is located in the town of Webb, Herkimer County and lies in the Black River Watershed. The team launched two motorboats at the DEC hard launch off of NY-Route 28 on the east end of Fourth Lake and accessed First Lake through the connecting channel. A total of three days were spent on First Lake and Old Forge Pond.

Aquatic Invasive Plant Presence

Scattered presence of *Myriophyllum heterophyllum* (variable-leaf milfoil) were found throughout First Lake. Dense beds were found, as well, on the southern side of Old Forge Pond. The invasive beds combined to a total of 6.96 acres.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Pontederia cordata* (pickerelweed), *Nymphaea odorata* (American white waterlily), *Brasenia schreberi* (watershield), *Potamogeton amplifolius* (large-leafpondweed), *Potamogeton robbinsii* (robbins pondweed), *Potamogeton perfoliatus* (clasping-leavedpondweed), *Nuphar advena* (spatterdock).

Aquatic Invasive Animal Presence

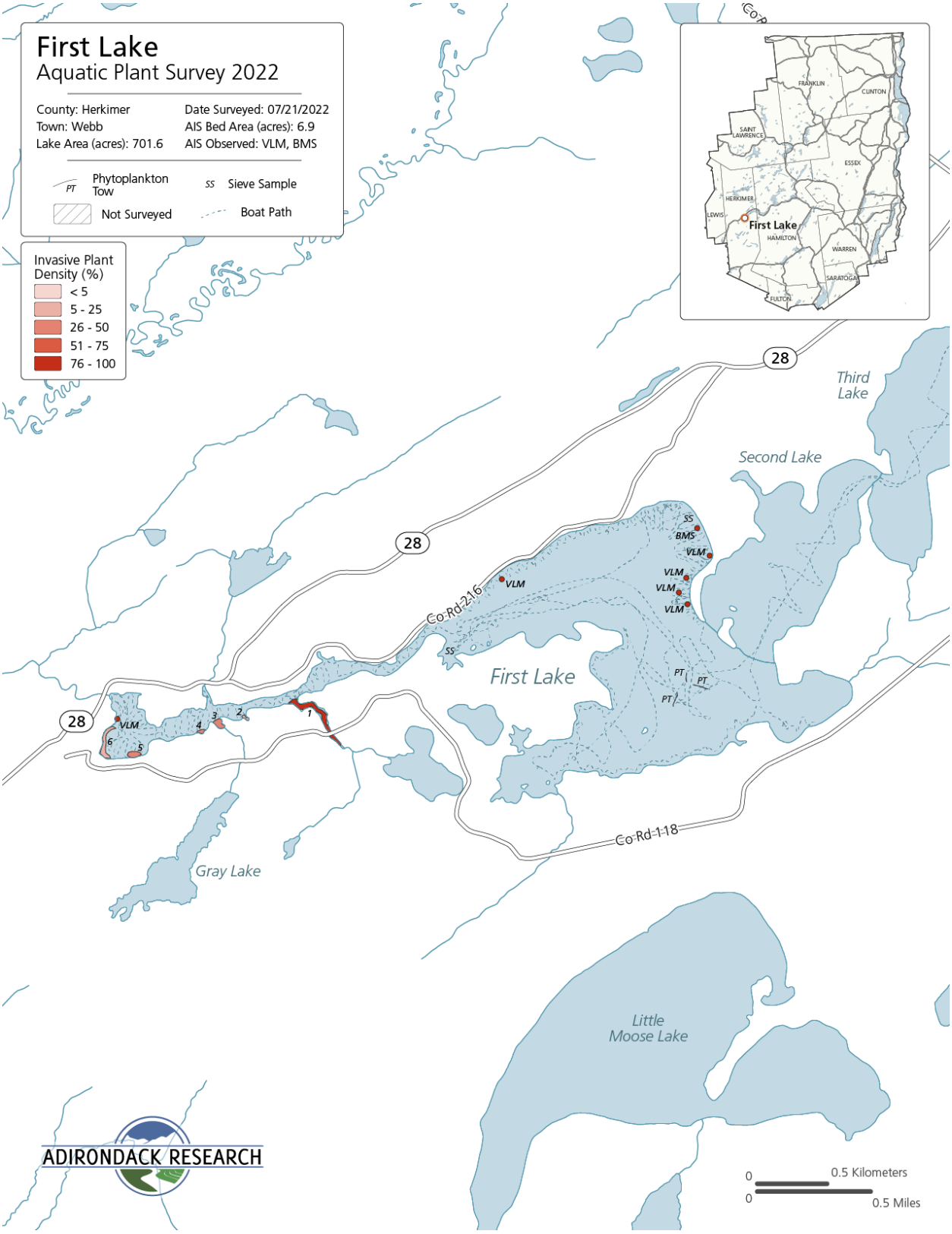
Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.

Map Notes

Sonar data for First Lake was processed using Reefmaster.

Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	3.35	145887.38	76% - 100%
2	0.21	9256.54	5% - 25%
3	0.79	34381.31	26% - 50%
4	0.26	11517.27	26% - 50%
5	0.75	32772.02	26% - 50%
6	1.59	69250.22	5% - 25%

Asian Clam	**Spiny Waterflea**
Present (Y/N)	Present (Y/N)
No	No


First Lake
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 701.6
Date Surveyed: 07/21/2022
AIS Bed Area (acres): 6.9
AIS Observed: VLM, BMS
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
First Lake
HAMILTON
WARREN
SARATOGA
FULTON
28
Third Lake
Second Lake
Co Rd 216
First Lake
Co Rd 118
Gray Lake
Little Moose Lake
SS
BMS
VLM
PT
1
2
3
4
5
6
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Fulton Chain Lake: Second Lake

Survey Date: June 23, 2022, July 21, 2022 & August 8, 2022
Last Surveyed: 2019
Survey Team: K. Dernier, B. Fisher, E. Spencer, M. Walton

Lake Description

Second Lake is 199.08 acres and 3.38 miles of shoreline. Second Lake is located in the town of Webb, Herkimer County, and lies in the Black River watershed. The team launched two motorboats at the DEC hard launch off of NY-Route 28 on the east end of Fourth Lake and accessed Second Lake through the connecting channel. A total of three days were spent on Second Lake.

Aquatic Invasive Plant Presence

Small beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) were detected on the northern end of the lake in semi-dense coverage. The invasive beds combined to a total of 2.03 acres.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Pontederia cordata* (pickerelweed), *Nymphaea odorata* (American white waterlily), *Brasenia schreberi* (watershield), *Potamogeton amplifolius* (large-leaf pondweed), *Potamogeton robbinsii* (Robbins' pondweed), *Potamogeton perfoliatus* (clasping-leaved pondweed), *Nuphar advena* (spatterdock).

Aquatic Invasive Animal Presence

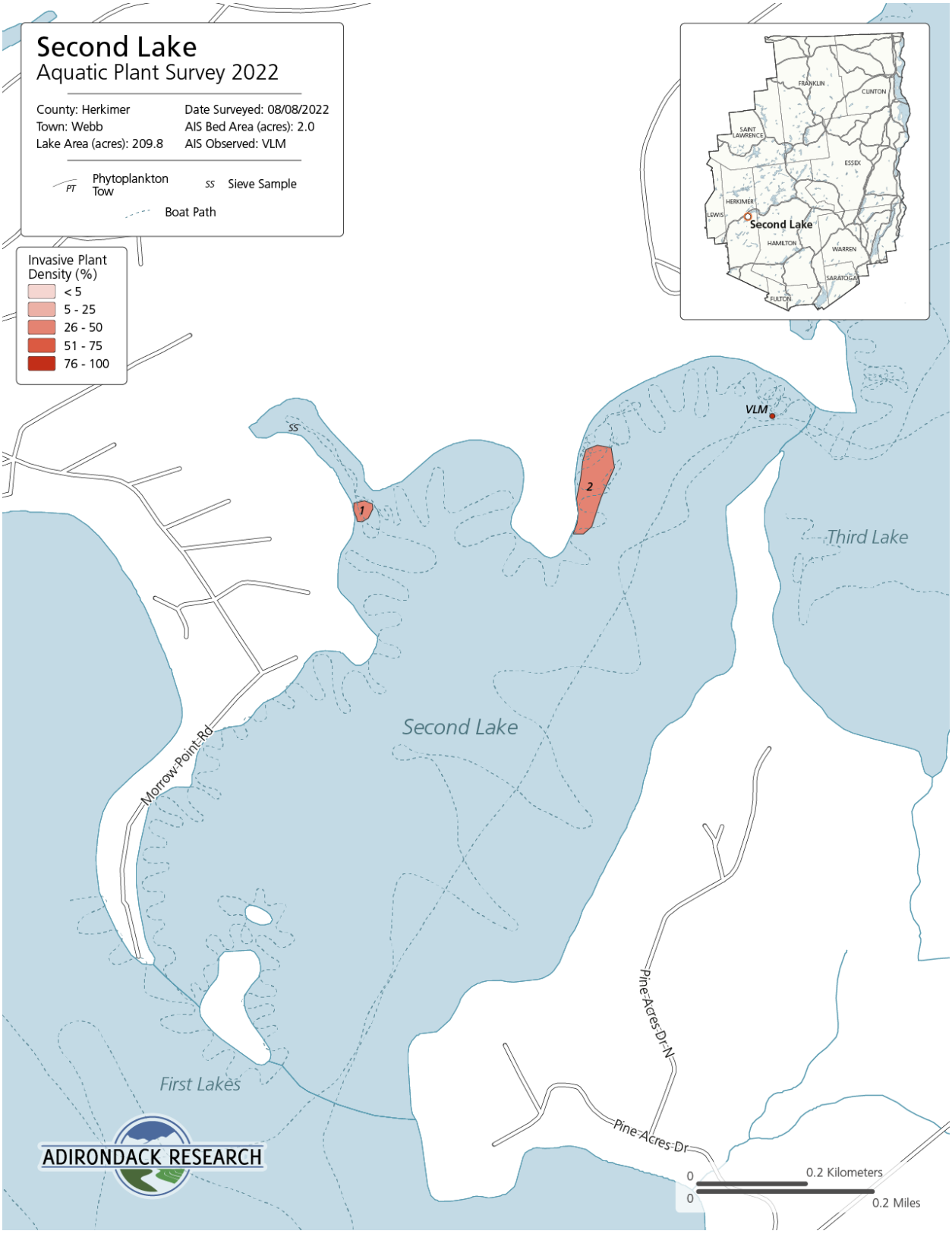
Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. No plankton tows were conducted.

Map Notes

Sonar data for Second Lake was processed using Reefmaster.

Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	0.25	10810.98	26% - 50%
2	1.78	77738.79	26% - 50%

Asian Clam	Spiny Waterflea
Present (Y/N)	Present (Y/N)
No	N/A


Second Lake
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 209.8
Date Surveyed: 08/08/2022
AIS Bed Area (acres): 2.0
AIS Observed: VLM
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
Second Lake
HAMILTON
WARREN
SARATOGA
FULTON
SS
VLM
1
2
Third Lake
Second Lake
Morrow Point Rd
Pine Acres Dr N
Pine Acres Dr
First Lakes
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles

Fulton Chain Lake: Third Lake

Survey Date: June 23, 2022 & July 21, 2022
Last Surveyed: 2019
Survey Team: K. Dernier, B. Fisher, E. Spencer, M. Walton

Lake Description

Third Lake is 230.55 acres and 4.62 miles of shoreline. Third Lake is located in the town of Webb, Herkimer County, and lies in the Black River watershed. The team launched two motorboats at the DEC hard launch off of NY-Route 28 on the east end of Fourth Lake and accessed Third Lake through the connecting channel. A total of three days were spent on Third Lake. The survey was completed on June 23rd, however the team returned on July 21st to confirm identification of the bed *of Myriophyllum heterophyllum* (Variable leaf watermilfoil) in the south-east bay.

Aquatic Invasive Plant Presence

Myriophyllum heterophyllum (variable leaf watermilfoil) was detected. A small bed was recorded on the south-west bay where Third and Second Lakes connect. Two individual findings were also detected, one in the small inlet on the western shore and the other on the north-eastern shore. The invasive beds combined to a total of 1.94 acres.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Pontederia cordata* (pickerelweed), *Nymphaea odorata* (American white waterlily), *Brasenia schreberi* (watershield), *Potamogeton amplifolius* (large-leaf pondweed), *Potamogeton robbinsii* (Robbins' pondweed), *Potamogeton perfoliatus* (clasping-leaved pondweed), *Nuphar advena* (spatterdock).

Aquatic Invasive Animal Presence

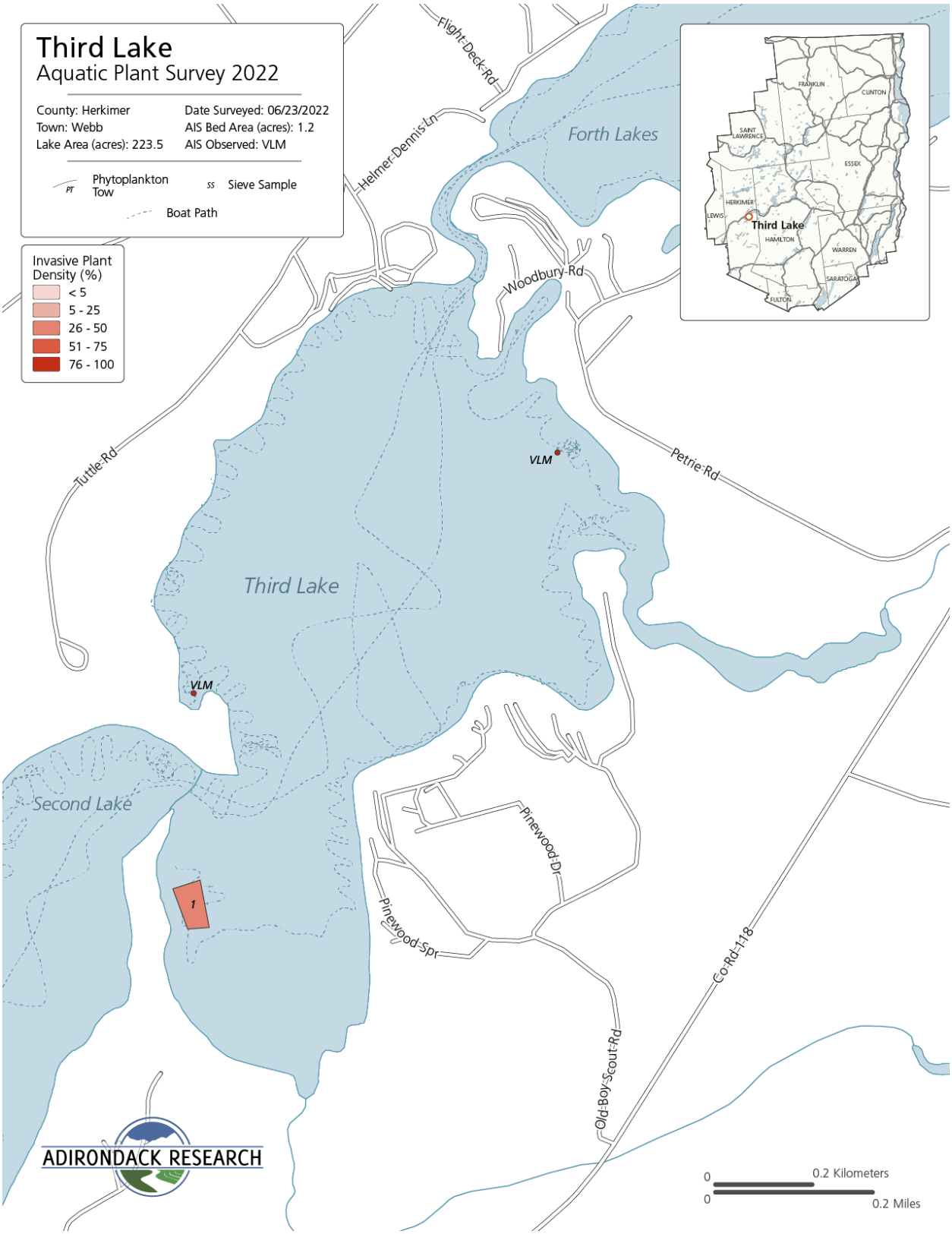
Sediment sieves to determine the presence of *Corbicula fluminea* (Asian clams) were not recorded. No plankton tows were recorded.

Map Notes

Sonar data for Third Lake was processed using Reefmaster.

Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	1.18	51378.79	26% - 50%

Asian Clam	Spiny Waterflea
Present (Y/N)	Present (Y/N)
No	No


Third Lake
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 223.5
Date Surveyed: 06/23/2022
AIS Bed Area (acres): 1.2
AIS Observed: VLM
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
Flight Deck Rd
Helmer Dennis Ln
Forth Lakes
Woodbury Rd
Tuttle Rd
Petrie Rd
VLM
Third Lake
VLM
Second Lake
1
Pinewood Dr
Pinewood Spr
Co Rd 118
Old Boy Scout Rd
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
Third Lake
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles

Fulton Chain Lakes: Fourth Lake

Survey Date: August 8th, 2022
Last Surveyed: 2019
Survey Team: B. Fisher, M. Sharpe, M. Walton, M. Bargabos, K. Dernier, E. Spencer

Lake Description

Fourth Lake is 2052.72 acres and 19.24 miles of shoreline. It is located in the towns of Inlet and Webb, Hamilton and Herkimer County, and lies in the Black River watershed. The team launched one motorboat at the DEC boat launch off NY-Route 28.

Aquatic Invasive Plant Presence

Small beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) were found on the southern shore of the lake towards the west end of the waterbody. The beds had very little density of plants. The invasive beds combined to a total of 1.62 acres.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Brasenia schreberi* (watershield), *Potamogeton amplifolius* (large-leaf pondweed), *Potamogeton robbinsii* (Robbins' pondweed), *Potamogeton perfoliatus* (clasping-leaved pondweed), *Nymphaea odorata* (American white waterlily), *Nuphar advena* (spatterdock).

Aquatic Invasive Animal Presence

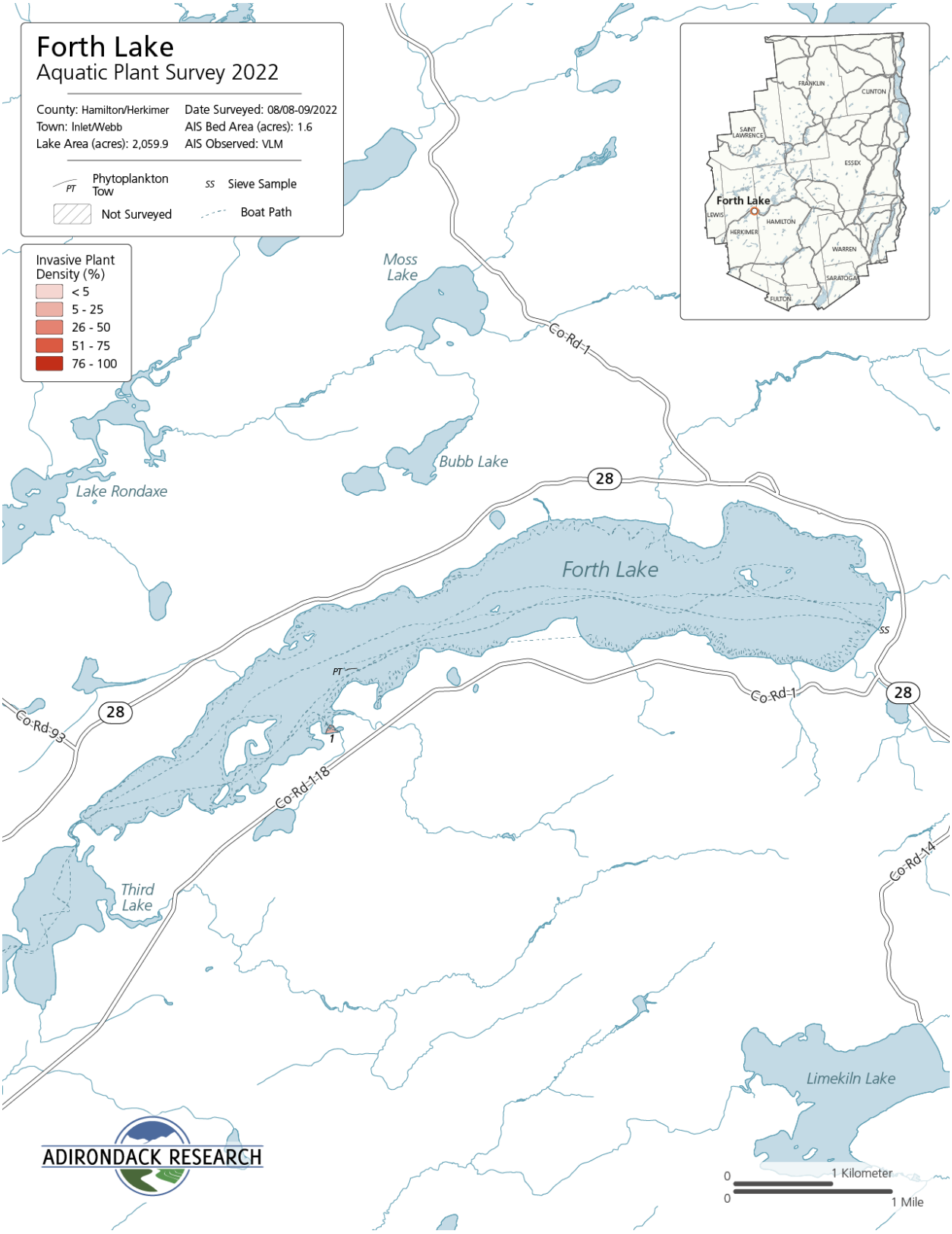
Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Plankton tows were conducted with no invasive zooplankton detected.

Map Notes

Sonar data for Fourth Lake was processed using Reefmaster.

Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	1.62	70504.76	5% - 25%

Asian Clam	Spiny Waterflea
Present (Y/N)	Present (Y/N)
No	No


Forth Lake
Aquatic Plant Survey 2022
County: Hamilton/Herkimer
Town: Inlet/Webb
Lake Area (acres): 2,059.9
Date Surveyed: 08/08-09/2022
AIS Bed Area (acres): 1.6
AIS Observed: VLM
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
Moss Lake
Bubb Lake
Lake Rondaxe
Forth Lake
Third Lake
Limekiln Lake
Co-Rd-1
Co-Rd-93
Co-Rd-118
Co-Rd-14
28
PT
SS
1
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
1 Kilometer
0
1 Mile

Fulton Chain Lakes: Seventh Lake

Survey Date: June 29, 2022
Last Surveyed: 2019
Survey Team: B. Fisher, M. Sharpe

Lake Description

Seventh Lake is 834.22 acres and 12.99 miles of shoreline. Seventh Lake is located in the town of Inlet, Hamilton County, and lies in the Black River watershed. The team launched one motorboat at the DEC boat launch off NY-Route 28.

Aquatic Invasive Plant Presence

Dense beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) and *Myriophyllum spicatum* (eurasian watermilfoil) were found mainly in the northeastern portion of the lake with a few scattered beds on the southwestern ends as well. The invasive beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) combined to a total of 24.09 acres and 27.91 acres for *Myriophyllum spicatum* (eurasian watermilfoil). Some of the invasive plant beds had both species present in the same bed.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Utricularia purpurea* (purple bladderwort), *Potamogeton gramineus* (various leaved pondweed), *Sparganium fluctuans* (floating bur-reed), *Typha latifolia* (broadleaf cattail), *Potamogeton robbinsii* (robbins' pondweed).

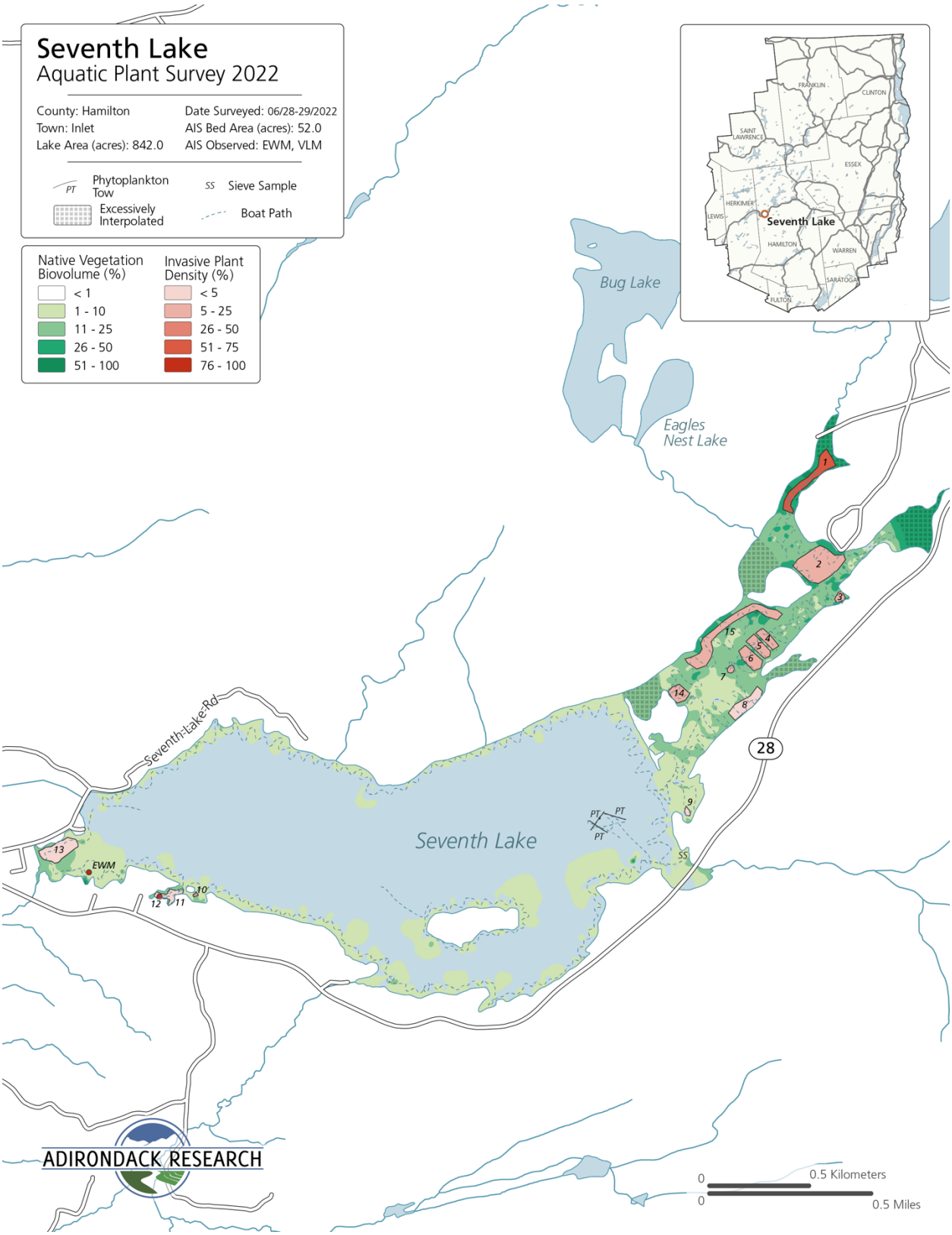
Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.

Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	3.93	171067.34	51% - 75%
2	7.20	313653.29	5% - 25%
3	0.46	20159.87	5% - 25%
4	1.22	53283.24	5% - 25%
6	1.96	85259.02	5% - 25%
7	0.25	10975.86	5% - 25%
8	2.65	115335.14	26% - 50%
9	0.23	9861.94	less than 5%
10	0.08	3361.41	less than 5%
11	1.22	53008.81	less than 5%
12	0.01	543.15	76% - 100%
13	3.38	147171.10	less than 5%
14	1.51	65578.97	5% - 25%

Eurasian Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	3.93	171067.34	less than 5%
2	7.20	313653.29	less than 5%
5	1.63	70840.17	5% - 25%
8	2.65	115335.14	less than 5%
10	0.08	3361.41	5% - 25%
11	1.22	53008.81	less than 5%
12	0.01	543.15	less than 5%
13	3.38	147171.10	less than 5%
14	1.51	65578.97	5% - 25%
15	6.32	275234.53	5% - 25%

Asian Clam	Spiny Waterflea
Present (Y/N)	Present (Y/N)
No	No


Seventh Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Inlet
Lake Area (acres): 842.0
Date Surveyed: 06/28-29/2022
AIS Bed Area (acres): 52.0
AIS Observed: EWM, VLM
PT Phytoplankton Tow
Excessively Interpolated
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26 - 50
51 - 100
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
Seventh Lake
HAMILTON
WARREN
SARATOGA
FULTON
Bug Lake
Eagles Nest Lake
Seventh-Lake-Rd
Seventh Lake
28
EWM
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Fulton Chain Lakes: Eighth Lake

Survey Date: June 23, 2022
Last Surveyed: 2021
Survey Team: M. Sharpe, M. Walton

Lake Description

Eight Lake is 305.93 acres with 4.12 miles of shoreline. Eight Lake is located in the town of Inlet, Hamilton County, and lies in the Black River watershed. The team launched a canoe from the northern end of Eight Lake Campground.

Aquatic Invasive Plant Presence

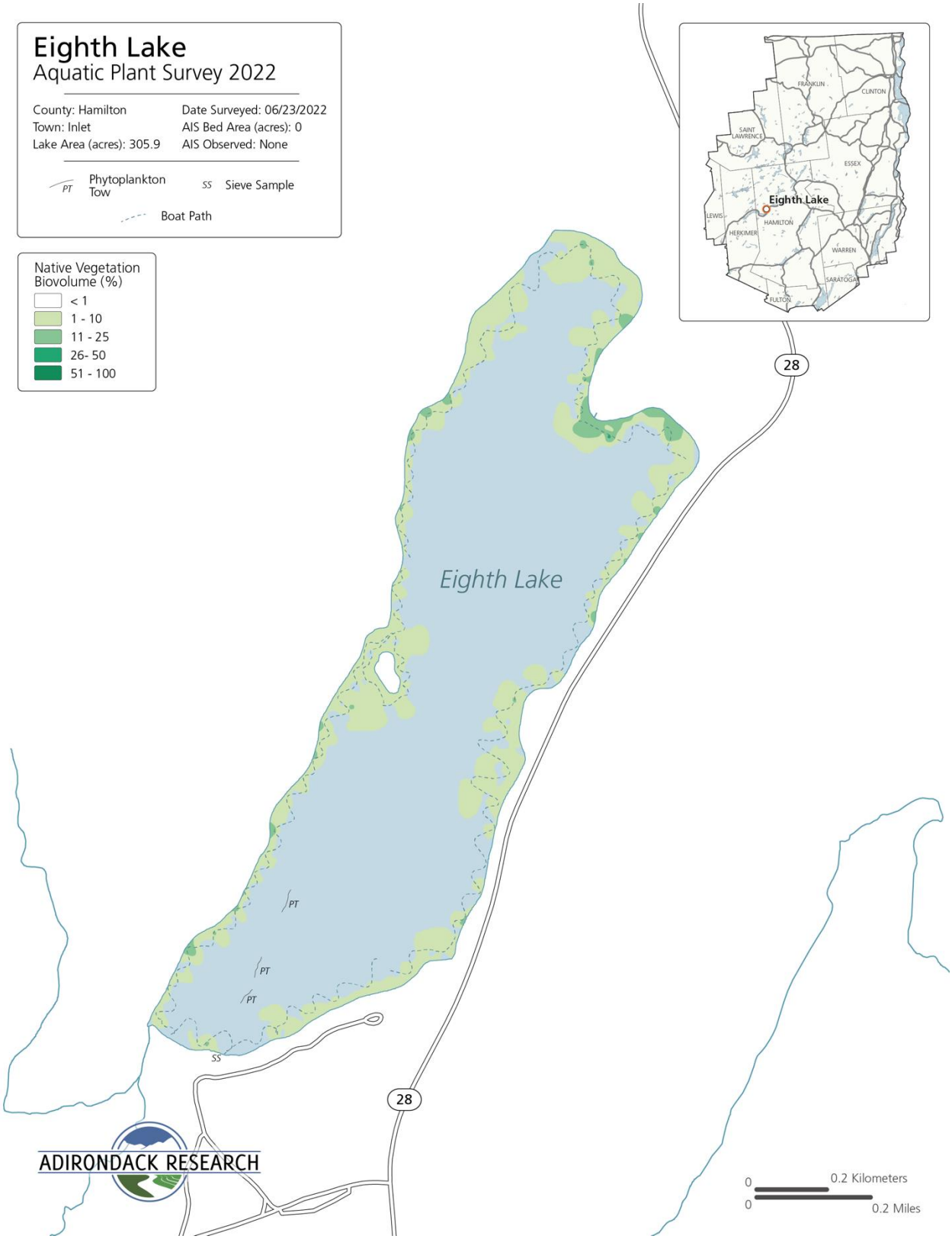
No invasive plants were detected.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Potamogeton amplifolius* (broad-leaved pondweed).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


Eighth Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Inlet
Lake Area (acres): 305.9
Date Surveyed: 06/23/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Eighth Lake
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
28
Eighth Lake
PT
PT
PT
SS
28
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles

Grass Pond

Survey Date: July 27, 2022
Last Surveyed: N/A
Survey Team: K. Dernier, B. Fisher

Lake Description

Grass Pond is 111.10 acres with 2.30 miles of shoreline. It is located 28 miles from the town of Clifton and 4.3 miles from the Sabbatis Scout Reservation, St. Lawrence County, and lies in the Raquette River watershed. With permission from the New York State DEC and the Sabbatis Scout Reservation, the team accessed a private road and launched a canoe from a soft launch on Parker Island.

Aquatic Invasive Plant Presence

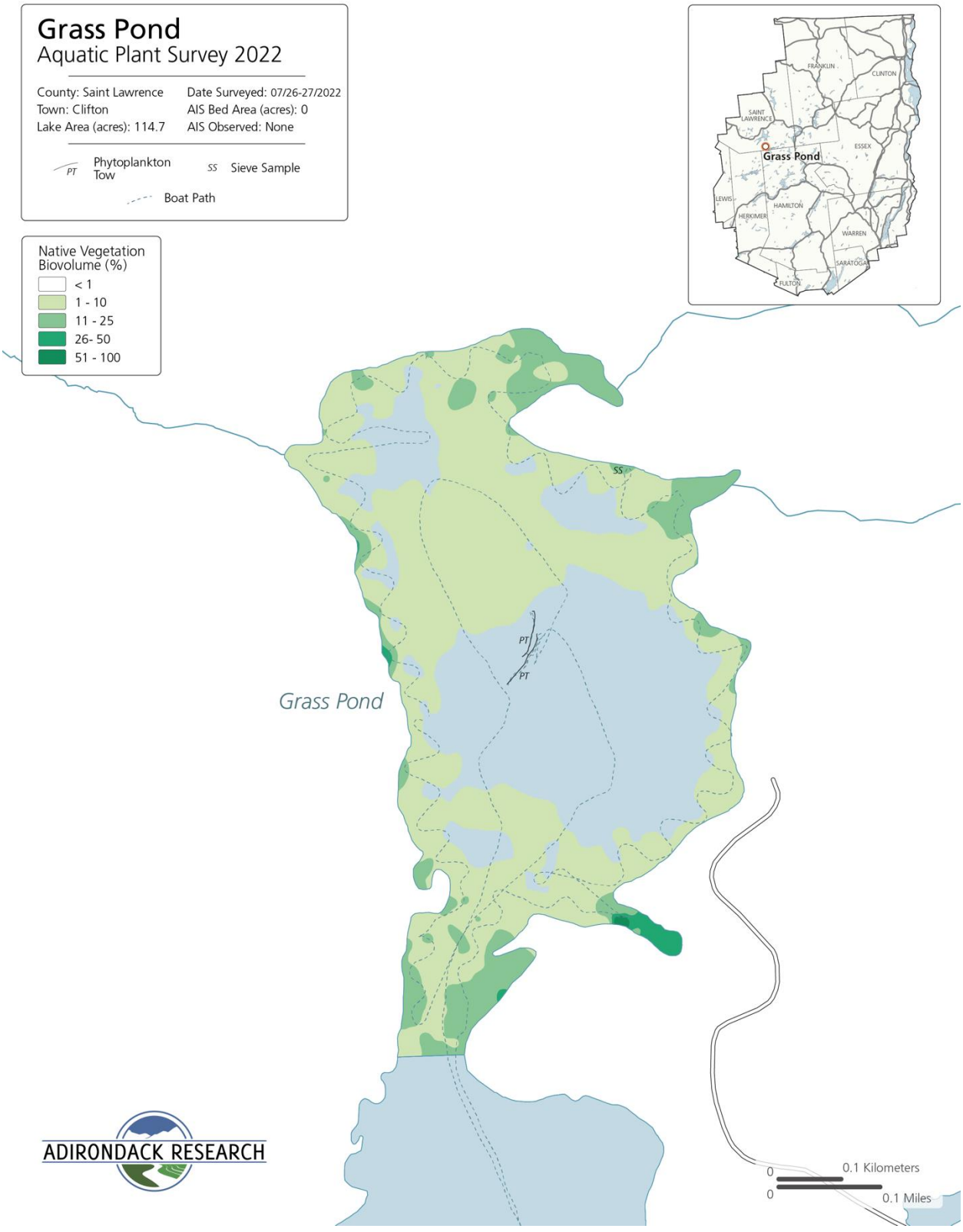
No invasive plants were detected.

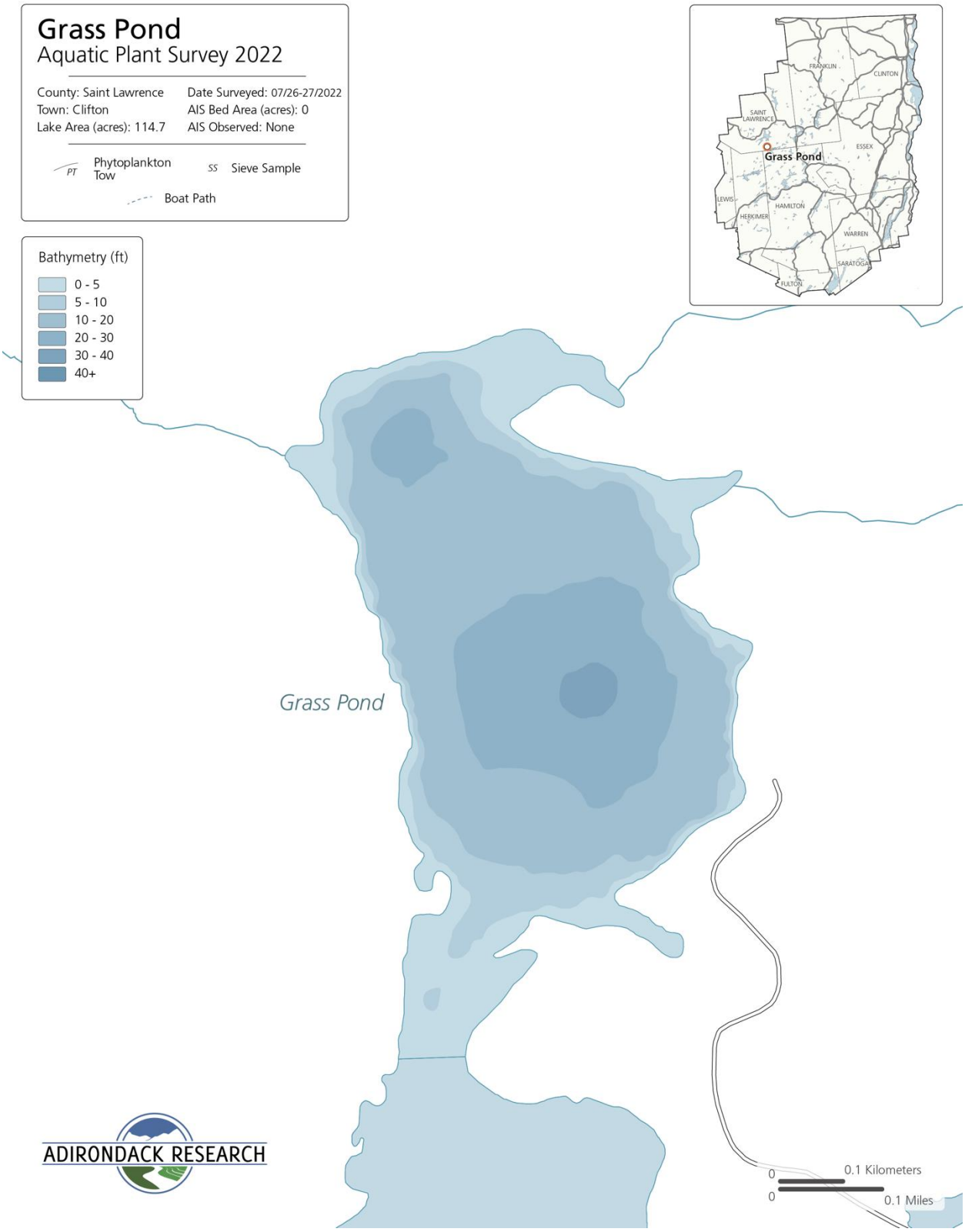
Native Plant Biota

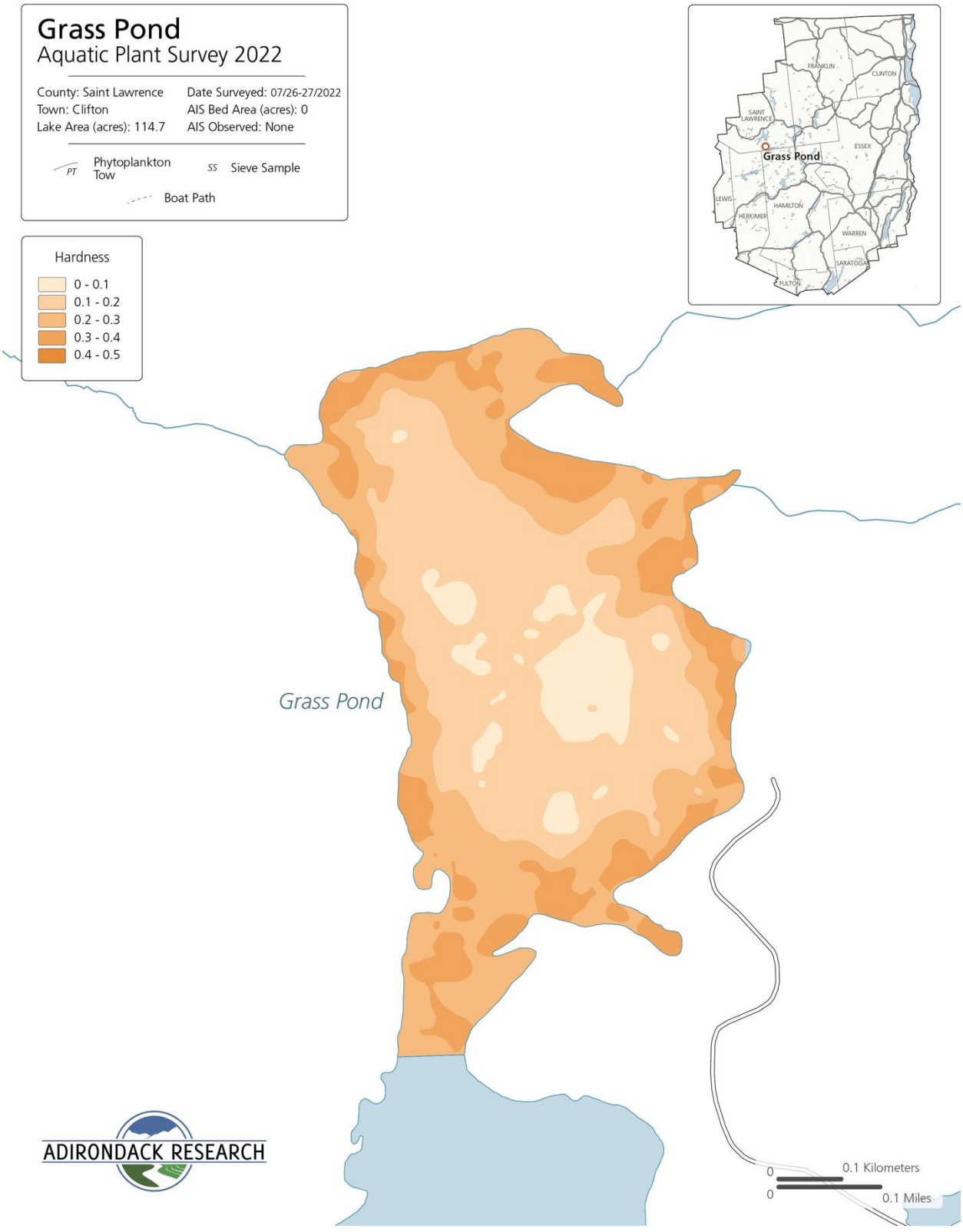
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Myriophyllum farwellii* (Farwell's watermilfoil), *Potamogeton epihydrus* (ribbon leaved pondweed), *Utricularia purpurea* (eastern purple bladderwort), *Nuphar advena* (spatterdock), *Nymphaea odorata* (American white waterlily), *Sparganium fluctuans* (floating bur reed), *Utricularia macrorhiza* (common bladderwort).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


Grass Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clifton
Lake Area (acres): 114.7
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Grass Pond
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
SS
PT
PT
Grass Pond
ADIRONDACK RESEARCH
0
0
0.1 Kilometers
0.1 Miles


Grass Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clifton
Lake Area (acres): 114.7
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Grass Pond
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
Grass Pond
ADIRONDACK RESEARCH
0
0
0.1 Kilometers
0.1 Miles


Grass Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clifton
Lake Area (acres): 114.7
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Grass Pond
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Grass Pond
ADIRONDACK RESEARCH
0
0.1 Kilometers
0
0.1 Miles

Hitchins Pond

Survey Date: 7/26/2022
Last Surveyed: 2013
Survey Team: M. Walton, M. Bargabos

Lake Description

Hitchins Pond is 201.4 acres with 4.7 miles of shoreline. It is located in the Towns of Colton and Piercefield, St. Lawrence County, and lies in the St. Lawrence River watershed. The team launched a canoe off of the Adirondack Park Preserve Road.

Aquatic Invasive Plant Presence

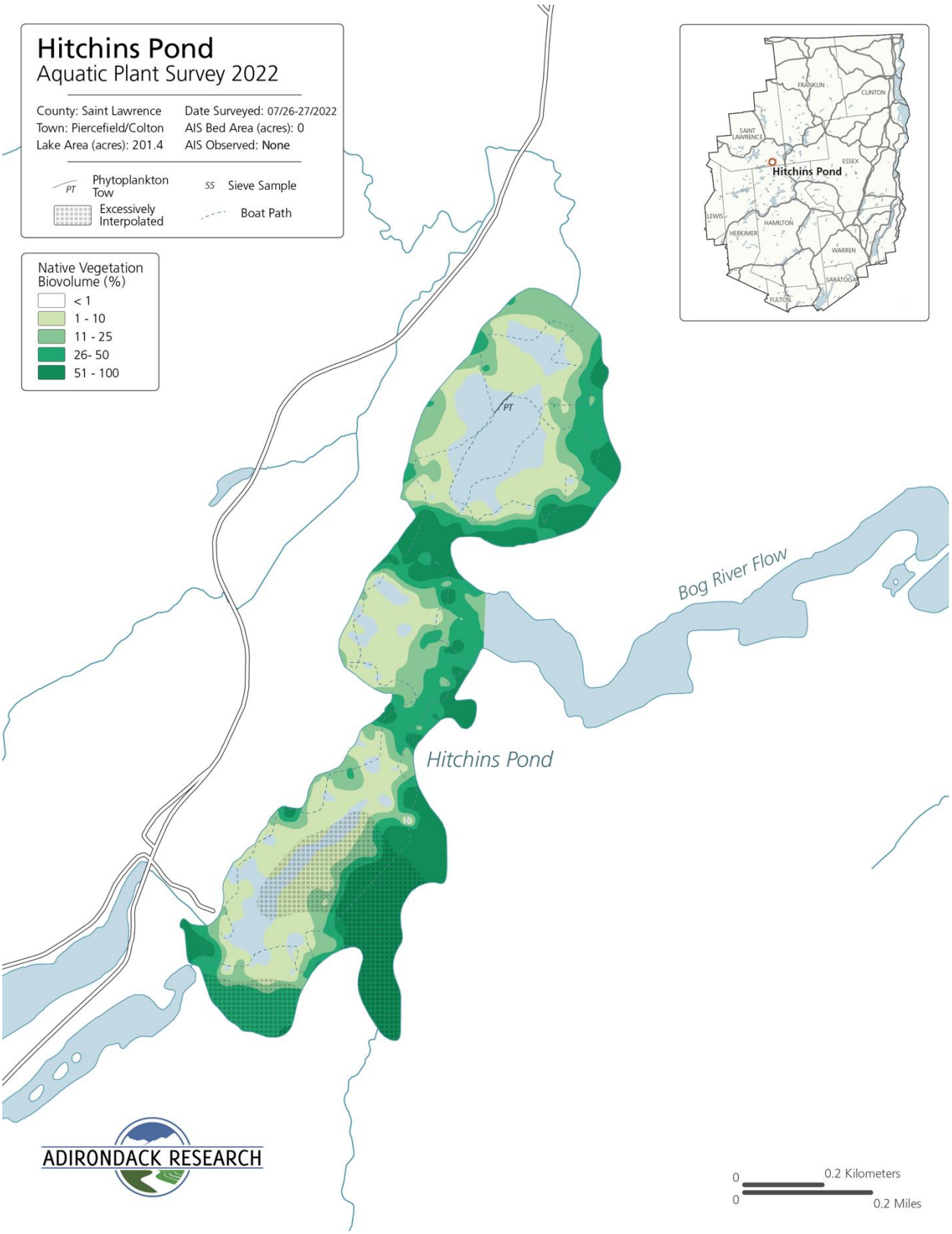
No invasive plants were detected

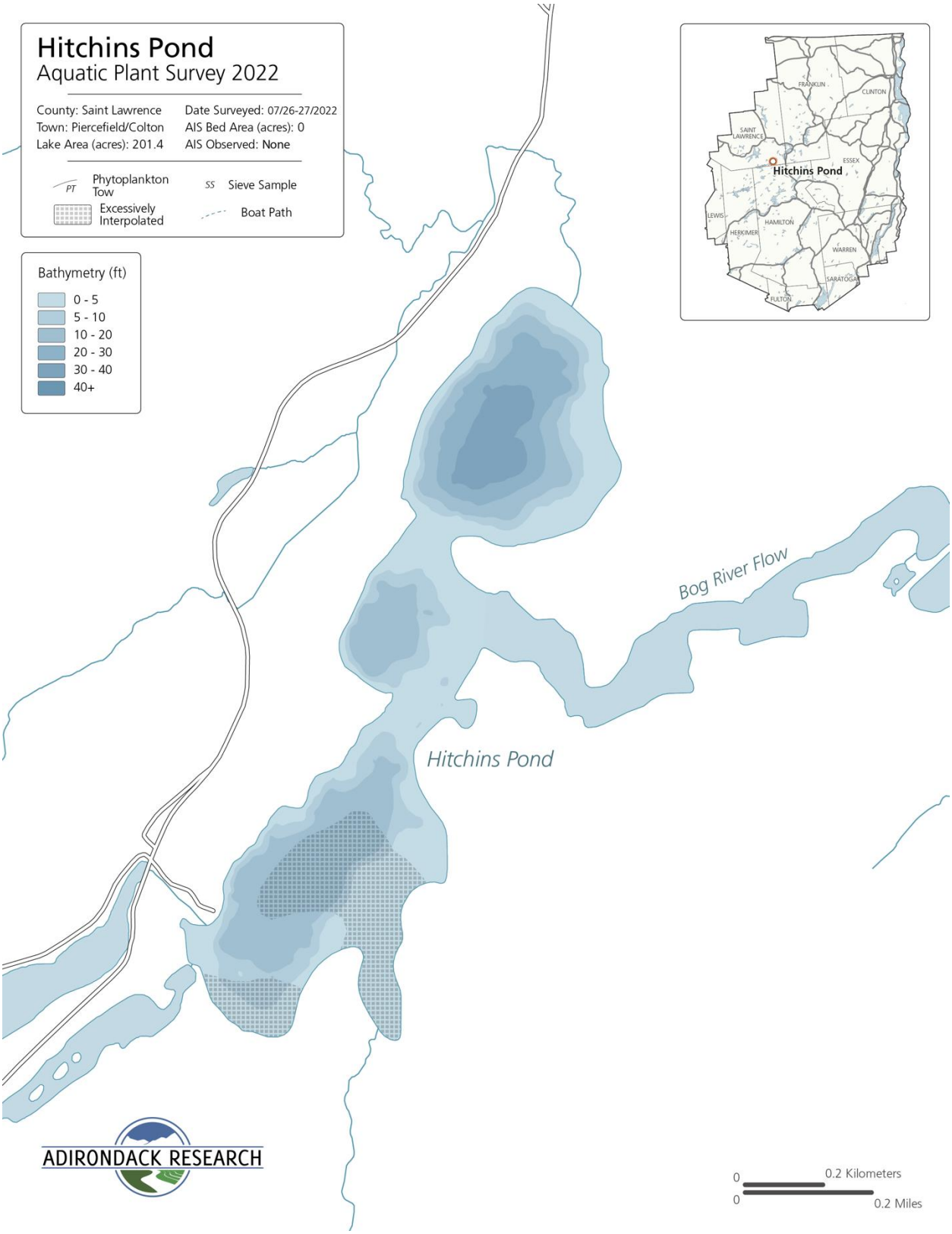
Native Plant Biota

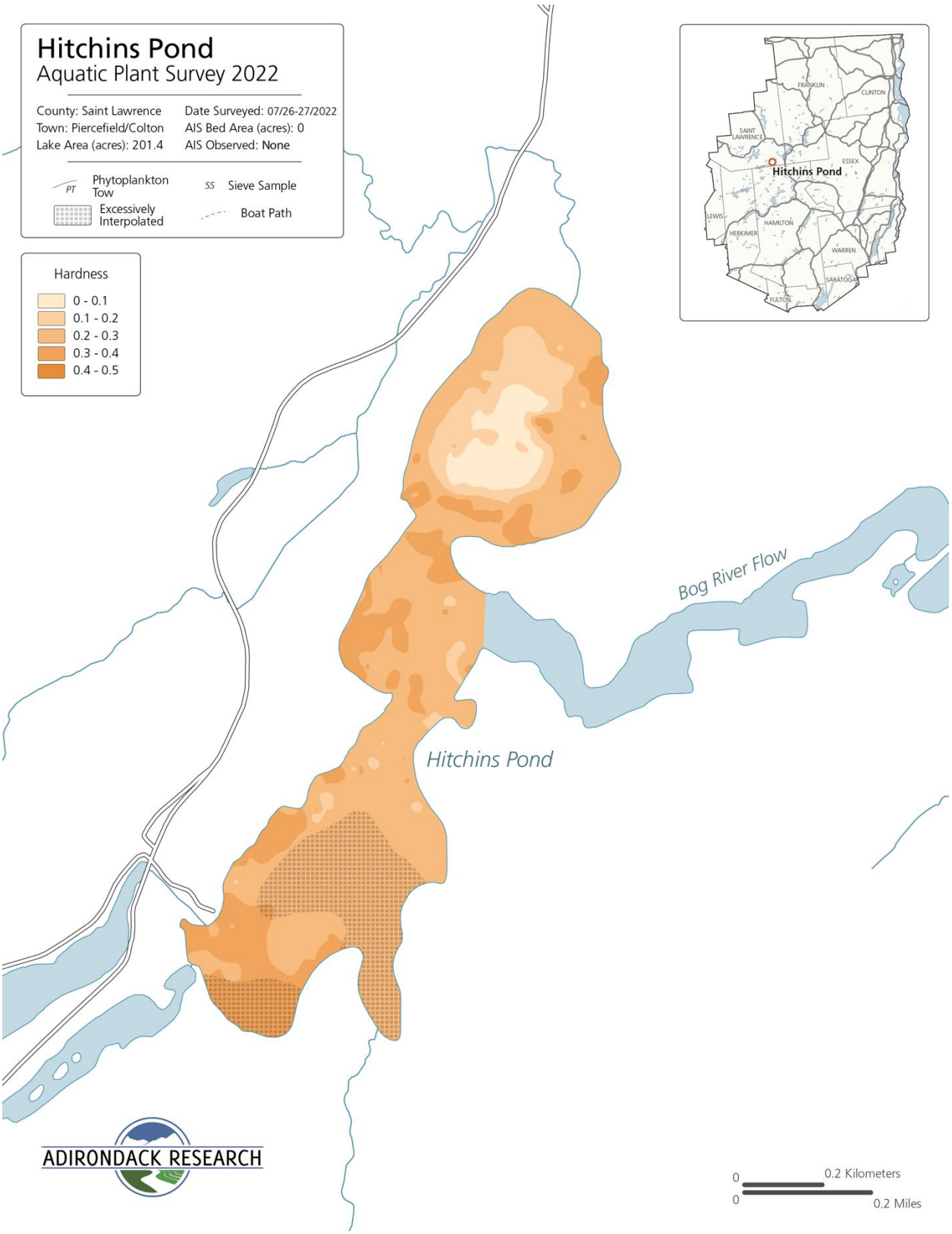
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found across the connecting waterbodies of Bog's River Flow, Hitchins Pond, and Hitchins to Lows Lake: *Myriophyllum alterniflorum* (alternate water-milfoil), *Mentha canadensis* (American cornmint), *Nymphaea odorata* (American white waterlily), *Potamogeton amplifolius* (broad-leaved pondweed), *Magnoliopsida* (dicots), *Myriophyllum farwellii* (Farwell's watermilfoil), *Sparganium fluctuans* (floating bur-reed), *Potamogeton natans* (floating-leaved pondweed), *Utricularia geminiscapa* (hidden-fruit bladderwort), *Utricularia intermedia* (intermediate bladderwort), *Liliopsida* (monocots), *Pontederia cordata* (pickerelweed), *Ludwigia* (primrose-willows), *Utricularia purpurea* (purple bladderwort), *Potamogeton epihydrus* (ribbon-leaved pondweed), *Najas flexilis* (slender water-nymph), *Nuphar advena* (spatterdock), *Potamogeton spirillus* (spiral pondweed), *Bidens beckii* (water marigold), *Persicaria amphibia* (water smartweed), *Callitriche* (water starworts).

Aquatic Invasive Animal Presence

A single plankton tow was conducted with no invasive zooplankton detected. Sediment sieves to determine the presence of *Corbicula fluminea* (Asian clams) were not recorded.


Hitchins Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Piercefield/Colton
Lake Area (acres): 201.4
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Hitchins Pond
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
PT
Bog River Flow
Hitchins Pond
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles


Hitchins Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Piercefield/Colton
Lake Area (acres): 201.4
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Hitchins Pond
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Bog River Flow
Hitchins Pond
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles


Hitchins Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Piercefield/Colton
Lake Area (acres): 201.4
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Hitchins Pond
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Bog River Flow
Hitchins Pond
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles

Hitchins Pond to Lows Lake

Survey Date: July 26, 2022
Last Surveyed: N/A
Survey Team: K. Dernier, B. Fisher

Lake Description

Hitchins Pond to Lows Lake is 216.64 acres with 8.80 miles of shoreline. It is located 3 miles east of the Sabbatis Scout Reservation, St. Lawrence County, and lies in the St. Lawrence River watershed. The team launched a canoe from a roadside launch adjacent to the Bog River Upper Dam on County Road 10.

Aquatic Invasive Plant Presence

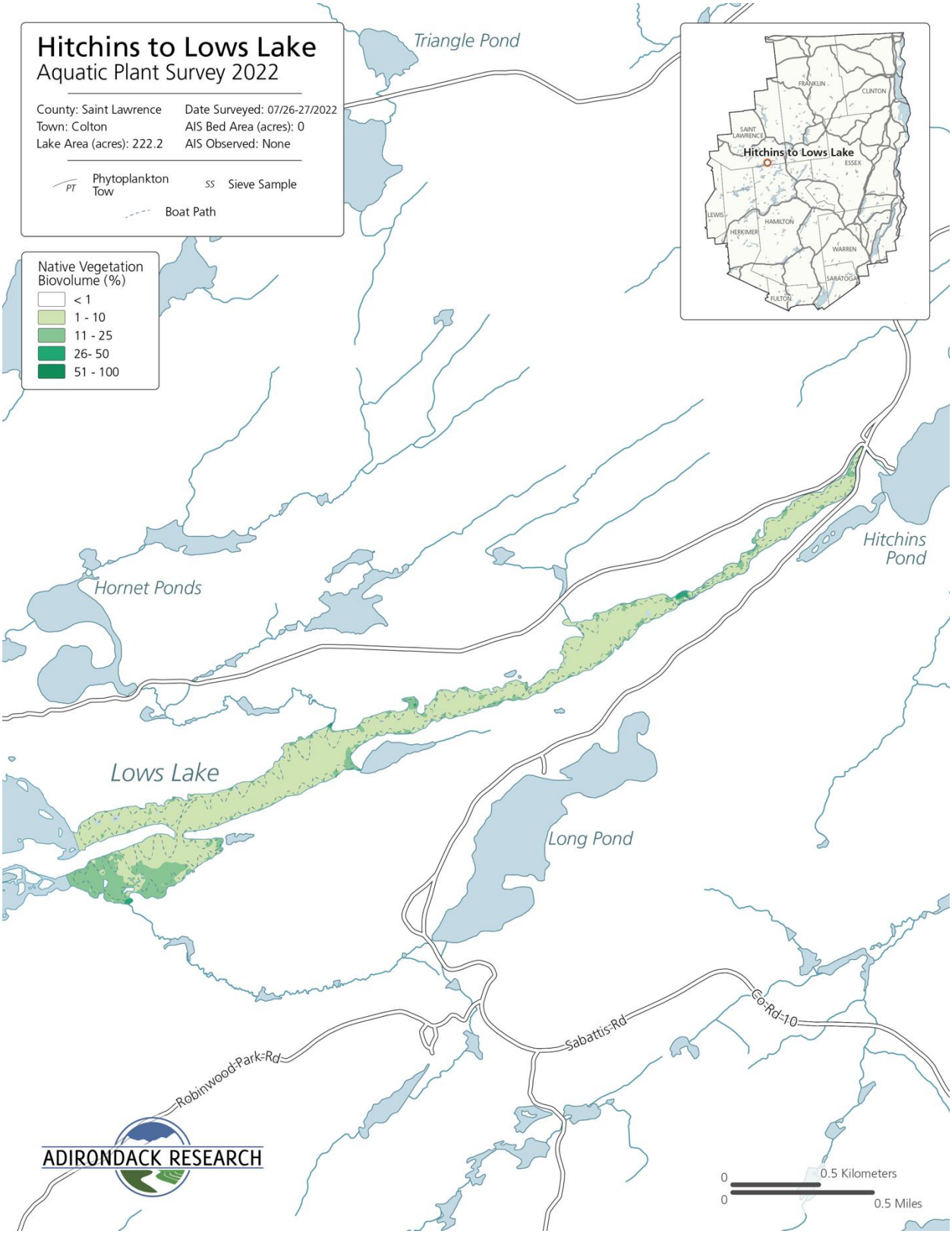
No invasive plants were detected.

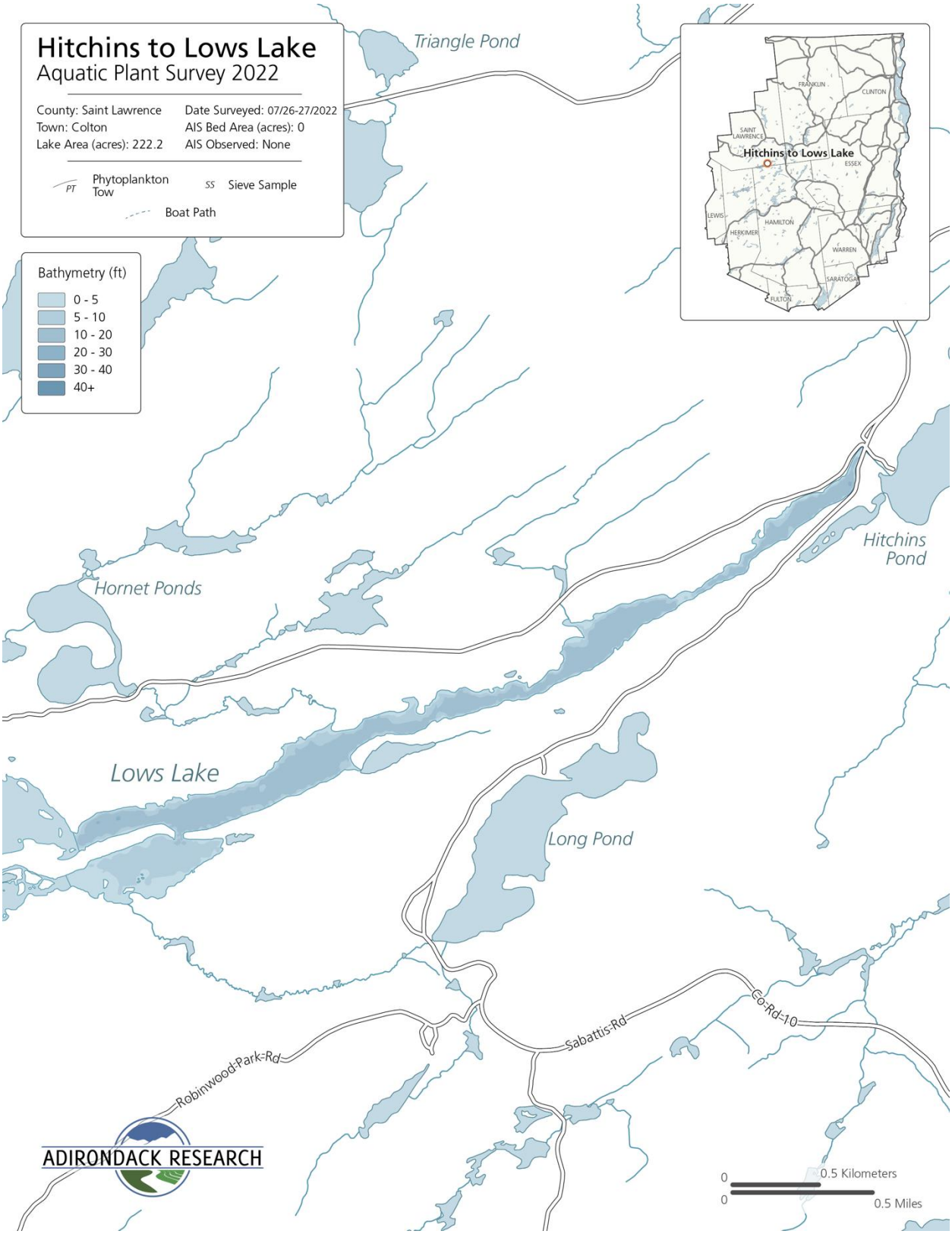
Native Plant Biota

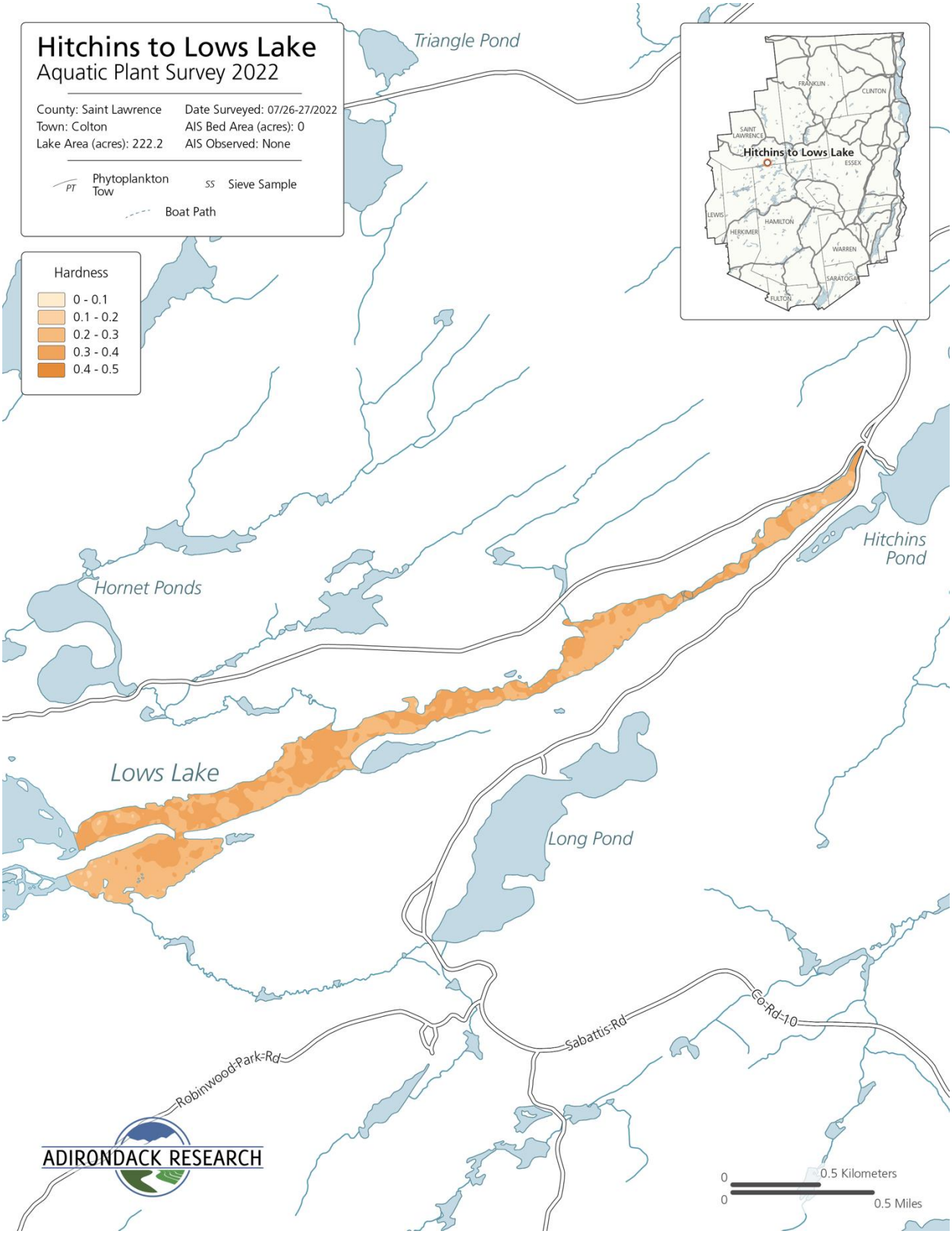
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found across the connecting waterbodies of Bog's River Flow, Hitchins Pond, and Hitchins to Lows Lake: *Myriophyllum alterniflorum* (alternate water-milfoil), *Mentha canadensis* (American cornmint), *Nymphaea odorata* (American white waterlily), *Potamogeton amplifolius* (broad-leaved pondweed), *Magnoliopsida* (dicots), *Myriophyllum farwellii* (Farwell's watermilfoil), *Sparganium fluctuans* (floating bur-reed), *Potamogeton natans* (floating-leaved pondweed), *Utricularia geminiscapa* (hidden-fruit bladderwort), *Utricularia intermedia* (intermediate bladderwort), *Liliopsida* (monocots), *Pontederia cordata* (pickerelweed), *Ludwigia* (primrose-willows), *Utricularia purpurea* (purple bladderwort), *Potamogeton epihydrus* (ribbon-leaved pondweed), *Najas flexilis* (slender water-nymph), *Nuphar advena* (spatterdock), *Potamogeton spirillus* (spiral pondweed), *Bidens beckii* (water marigold), *Persicaria amphibia* (water smartweed), *Callitriche* (water starworts).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found.


Hitchins to Lows Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Colton
Lake Area (acres): 222.2
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Triangle Pond
Hornet Ponds
Hitchins Pond
Lows Lake
Long Pond
Robinwood-Park-Rd
Sabattis-Rd
Co-Rd-10
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Hitchins to Lows Lake
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles


Hitchins to Lows Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Colton
Lake Area (acres): 222.2
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
Triangle Pond
Hornet Ponds
Lows Lake
Long Pond
Hitchins Pond
Robinwood-Park-Rd
Sabattis-Rd
Co-Rd-10
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Hitchins to Lows Lake
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles


Hitchins to Lows Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Colton
Lake Area (acres): 222.2
Date Surveyed: 07/26-27/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
Hitchins to Lows Lake
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Triangle Pond
Hornet Ponds
Hitchins Pond
Lows Lake
Long Pond
Robinwood-Park-Rd
Sabattis-Rd
Co-Rd-10
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles

Horseshoe Lake

Survey Date: July 25, 2022
Last Surveyed: 2019
Survey Team: M. Bargabos, M. Walton

Lake Description

Horseshoe Lake is 398.58 acres with 4.46 miles of shoreline. It is located in the town of Piercefield, St. Lawrence County, and lies in the Raquette River watershed. The team launched a canoe from a soft launch at the southeastern end of the lake.

Aquatic Invasive Plant Presence

Two scattered beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) were located on Horseshoe Lake. The invasive beds combined to a total of 1.38 acres.

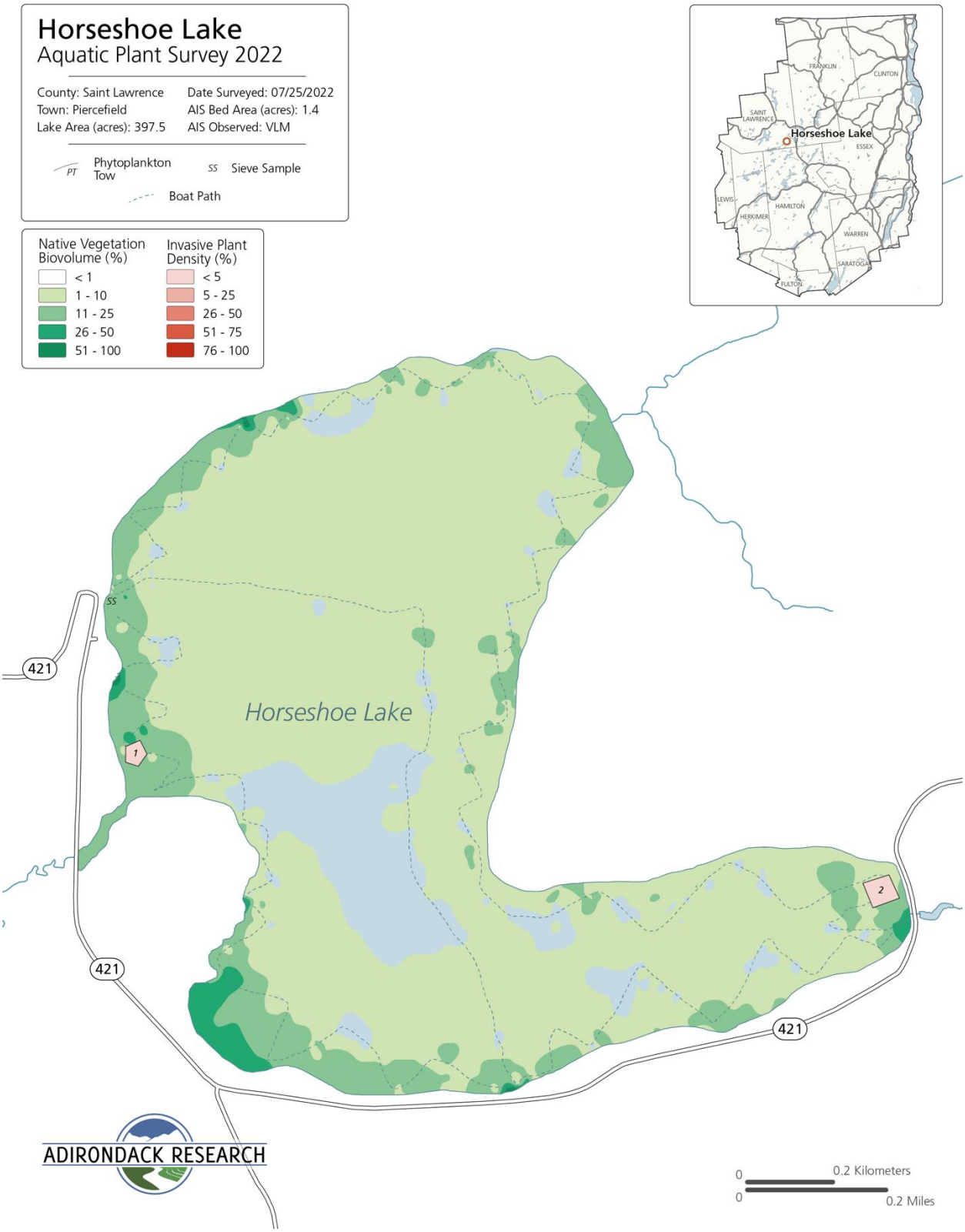
Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Brasenia schreberi* (watershield), *Utricularia inflata* (swollen bladderwort), *Nuphar advena* (spatterdock), *Pontederia cordata* (pickerel weed), *Eriocaulon aquaticum* (common pipewort), *Potamogeton amplifolius* (broad-leaved Pondweed).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. No plankton tows were recorded.

Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	0.48	20822.77	less than 5%
2	0.91	39426.79	less than 5%
Asian Clam		**Spiny Waterflea**	
Present (Y/N)		Present (Y/N)	
No		N/A	


Horseshoe Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Piercefield
Lake Area (acres): 397.5
Date Surveyed: 07/25/2022
AIS Bed Area (acres): 1.4
AIS Observed: VLM
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26 - 50
51 - 100
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
Horseshoe Lake
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Horseshoe Lake
SS
421
1
2
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles

Joe Indian Pond

Survey Date: 8/23/2022
Last Surveyed: 2016
Survey Team: M. Sharpe, K. Dernier

Lake Description

Joe Indian Pond is 343.58 acres with 5.56 miles of shoreline. It is located in the Town of Parishville in St. Lawrence County, in the Raquette River watershed. With permissions the team launched a motorboat from a private residence.

Aquatic Invasive Plant Presence

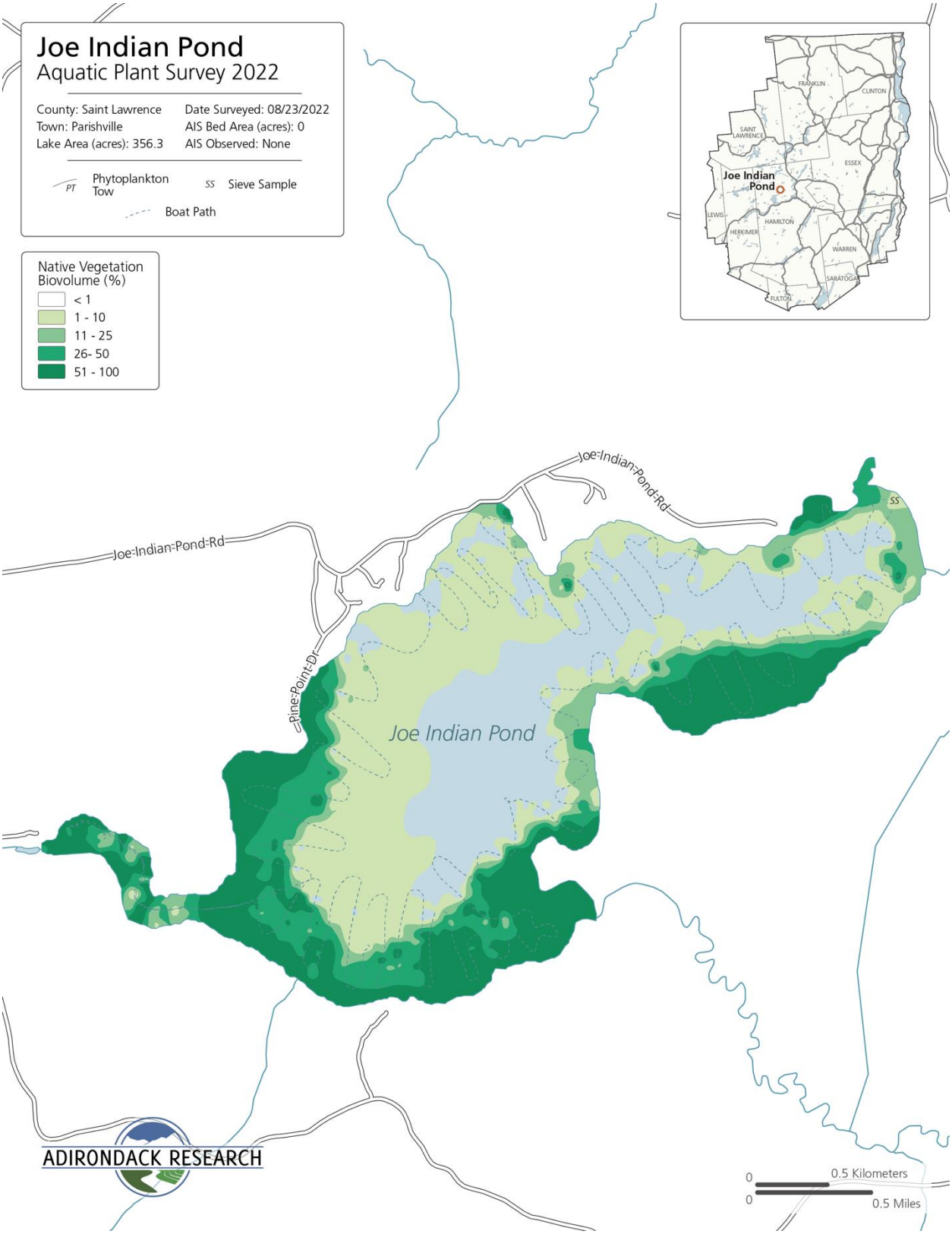
No invasive plant species were detected.

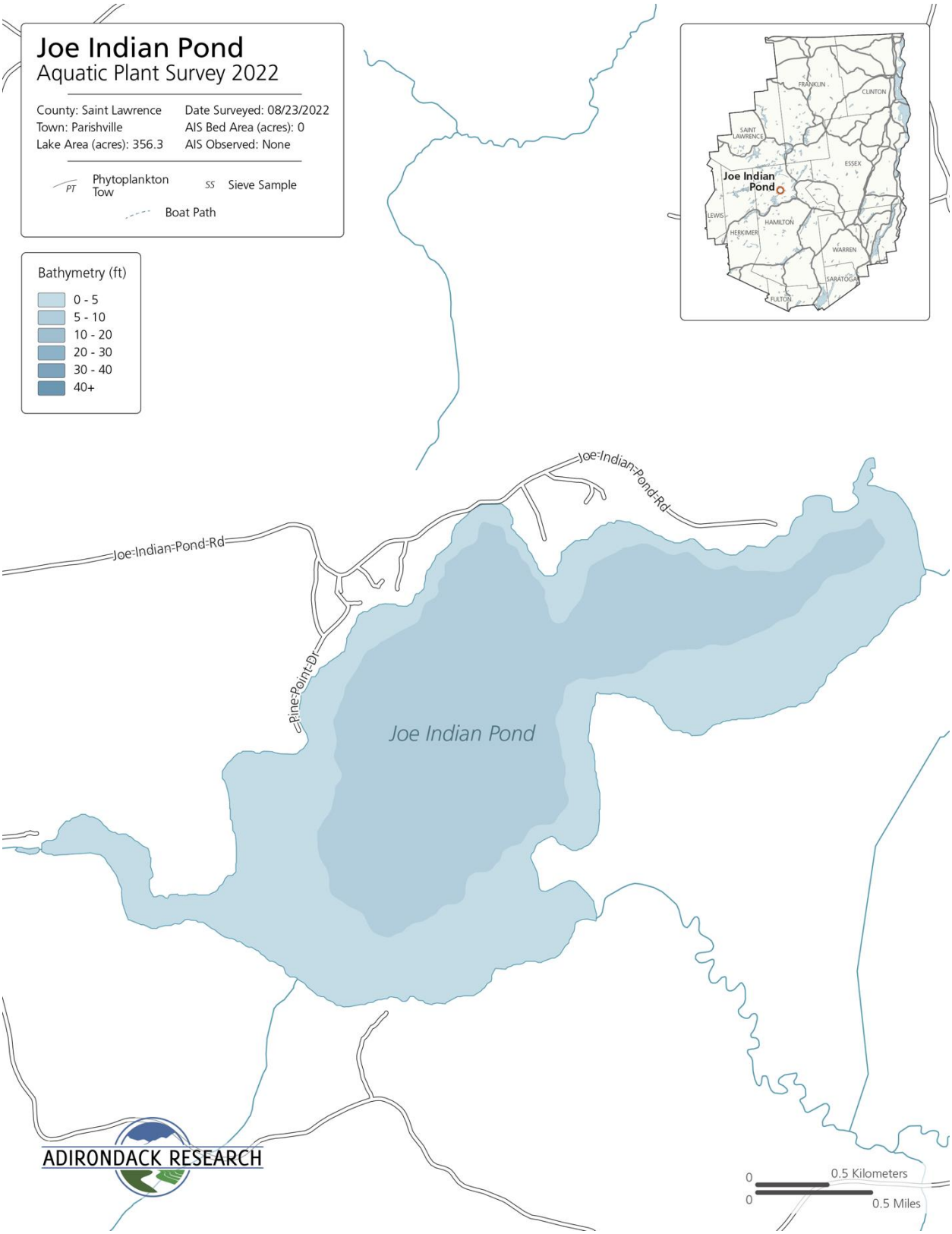
Native Plant Biota

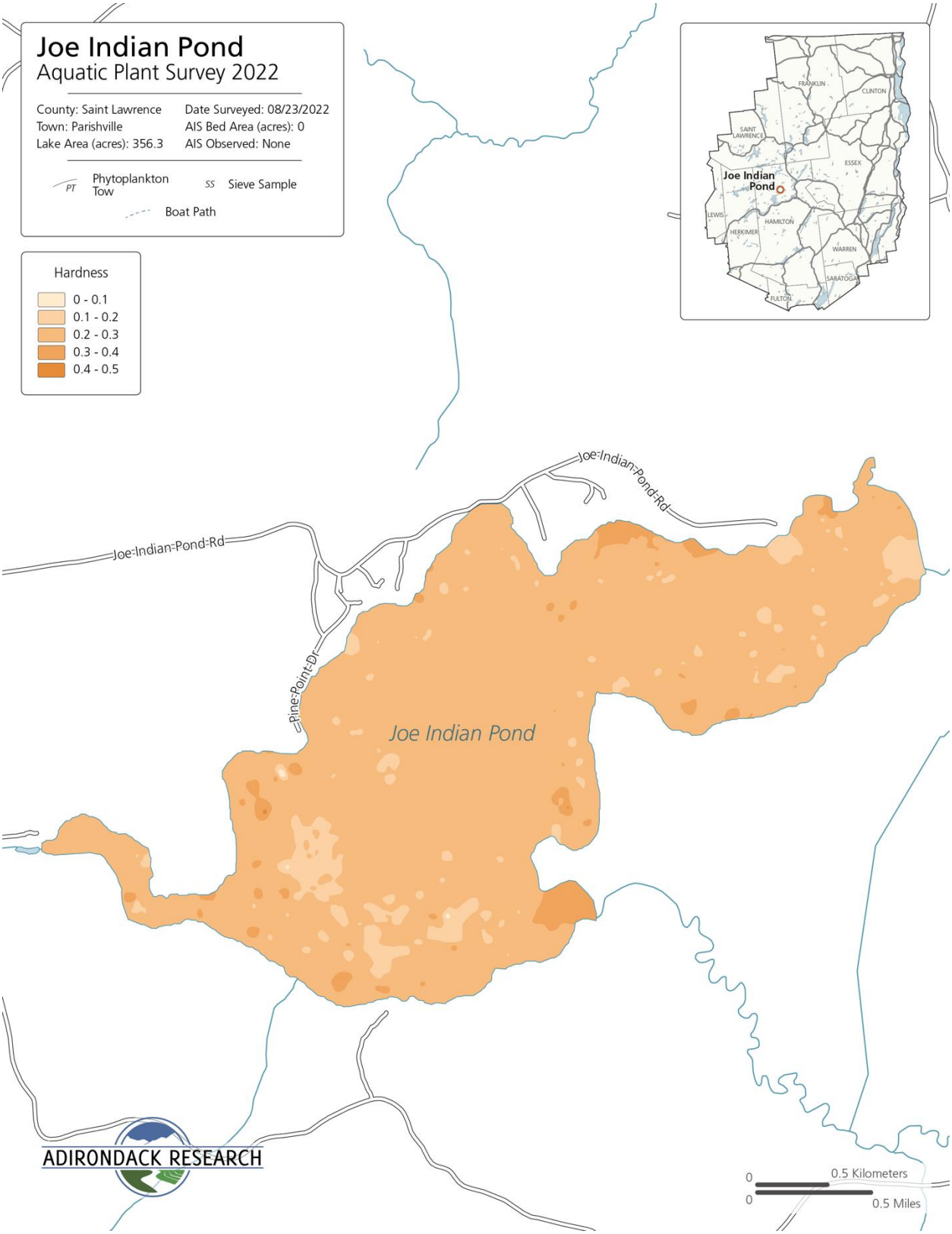
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Potamogeton amplifolius* (broad-leaved pondweed), *Utricularia macrorhiza* (common bladderwort), *Sparganium fluctuans* (floating bur-reed), *Potamogeton natans* (floating-leaved pondweed), *Potamogeton gramineus* (grass-leaved pondweed), *Utricularia geminiscapa* (hidden-fruit bladderwort), *Utricularia intermedia* (intermediate bladderwort), *Potamogeton foliosus* (leafy pondweed), *Sparganium angustifolium* (narrow-leaved bur-reed), *Pontederia cordata* (pickerelweed), *Potamogeton epihydrus* (ribbon-leaved pondweed), *Potamogeton pusillus* (small pondweed), *Nuphar advena* (spatterdock), *Lysimachia terrestris* (swamp candles), *Dulichium arundinaceum* (three-way sedge), *Lobelia dortmanna* (water lobelia), *Brasenia schreberi* (watershield).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. No plankton tows were conducted.


Joe Indian Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Parishville
Lake Area (acres): 356.3
Date Surveyed: 08/23/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Joe Indian Pond
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Joe-Indian-Pond-Rd
Joe-Indian-Pond-Rd
Pine-Point-Dr
Joe Indian Pond
SS
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles


Joe Indian Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Parishville
Lake Area (acres): 356.3
Date Surveyed: 08/23/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
Joe Indian Pond
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Joe-Indian-Pond-Rd
Joe-Indian-Pond-Rd
Pine-Point-Dr
Joe Indian Pond
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles


Joe Indian Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Parishville
Lake Area (acres): 356.3
Date Surveyed: 08/23/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Joe Indian Pond
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Joe-Indian-Pond-Rd
Joe-Indian-Pond-Rd
Pine-Point-Dr
Joe Indian Pond
ADIRONDACK RESEARCH
0
0.5 Kilometers
0
0.5 Miles

Lake Eaton

Survey Date: June 29, 2022 & July 20, 2022
Last Surveyed: 2019
Survey Team: M. Bargabos, B. Fisher, M. Sharpe

Lake Description

Lake Eaton is 567.96 acres and 5.55 miles of shoreline. Lake Eaton is located in the town of Long Lake, Hamilton County, and lies in the Raquette River watershed. The team launched a canoe from the DEC Lake Eaton public campground boat launch on the northeast end of the lake.

Aquatic Invasive Plant Presence

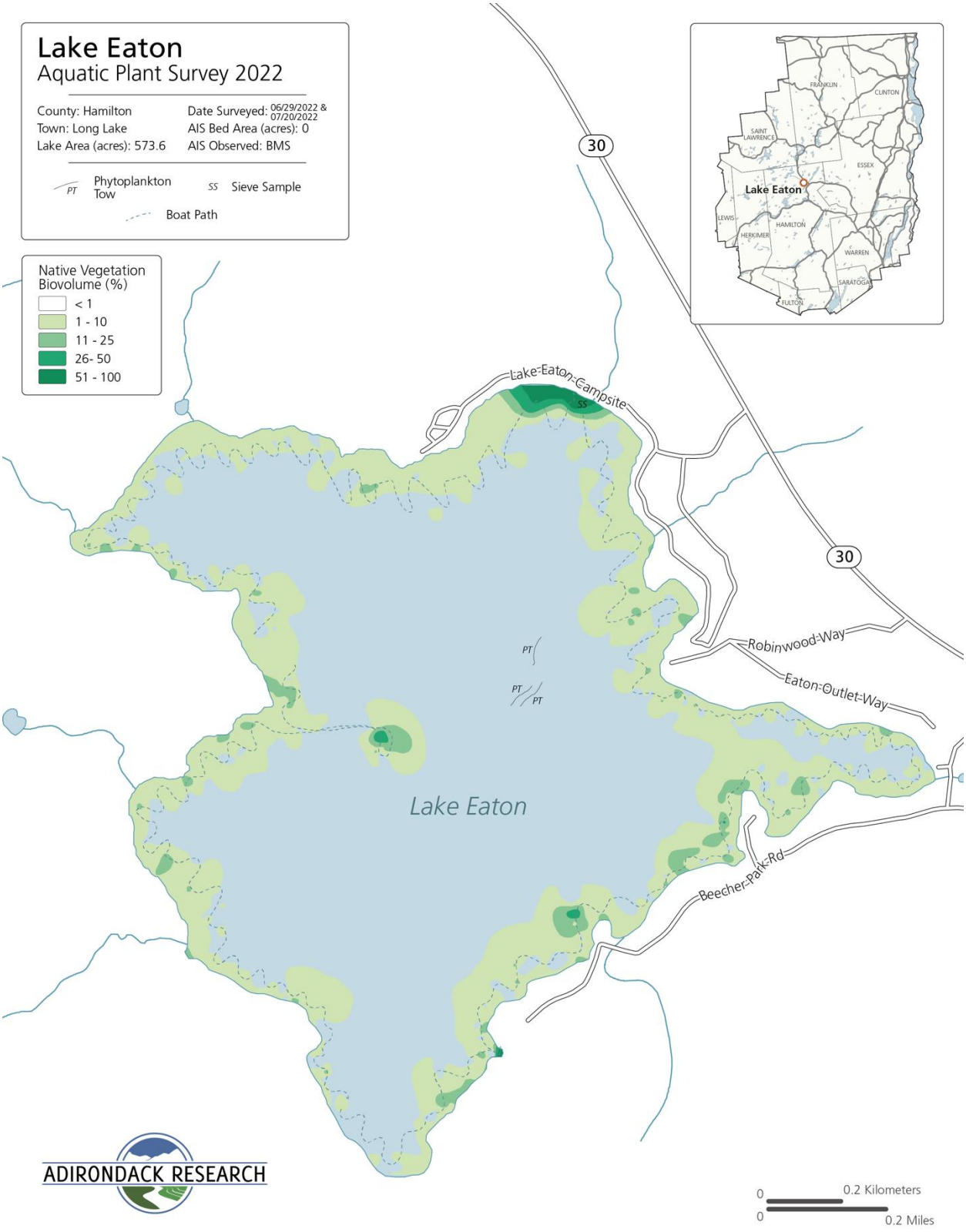
No invasive plants were detected.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Potamogeton gramineus* (various leaved pondweed).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


Lake Eaton
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake
Lake Area (acres): 573.6
Date Surveyed: 06/29/2022 & 07/20/2022
AIS Bed Area (acres): 0
AIS Observed: BMS
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Lake Eaton
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
30
Lake-Eaton-Campsite
SS
Robinwood-Way
Eaton-Outlet-Way
PT
PT
PT
Lake Eaton
Beecher-Park-Rd
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles

Lake Rondaxe

Survey Date: August 11, 2022
Last Surveyed: 2016
Survey Team: M. Walton, E. Schwartzberg

Lake Description

Lake Rondaxe is 243.80 acres with 12.20 miles of shoreline. It is located in the town of Webb, Herkimer County, and lies in the Black River watershed. With permissions the team launched a motorboat from a private resident's launch.

Aquatic Invasive Plant Presence

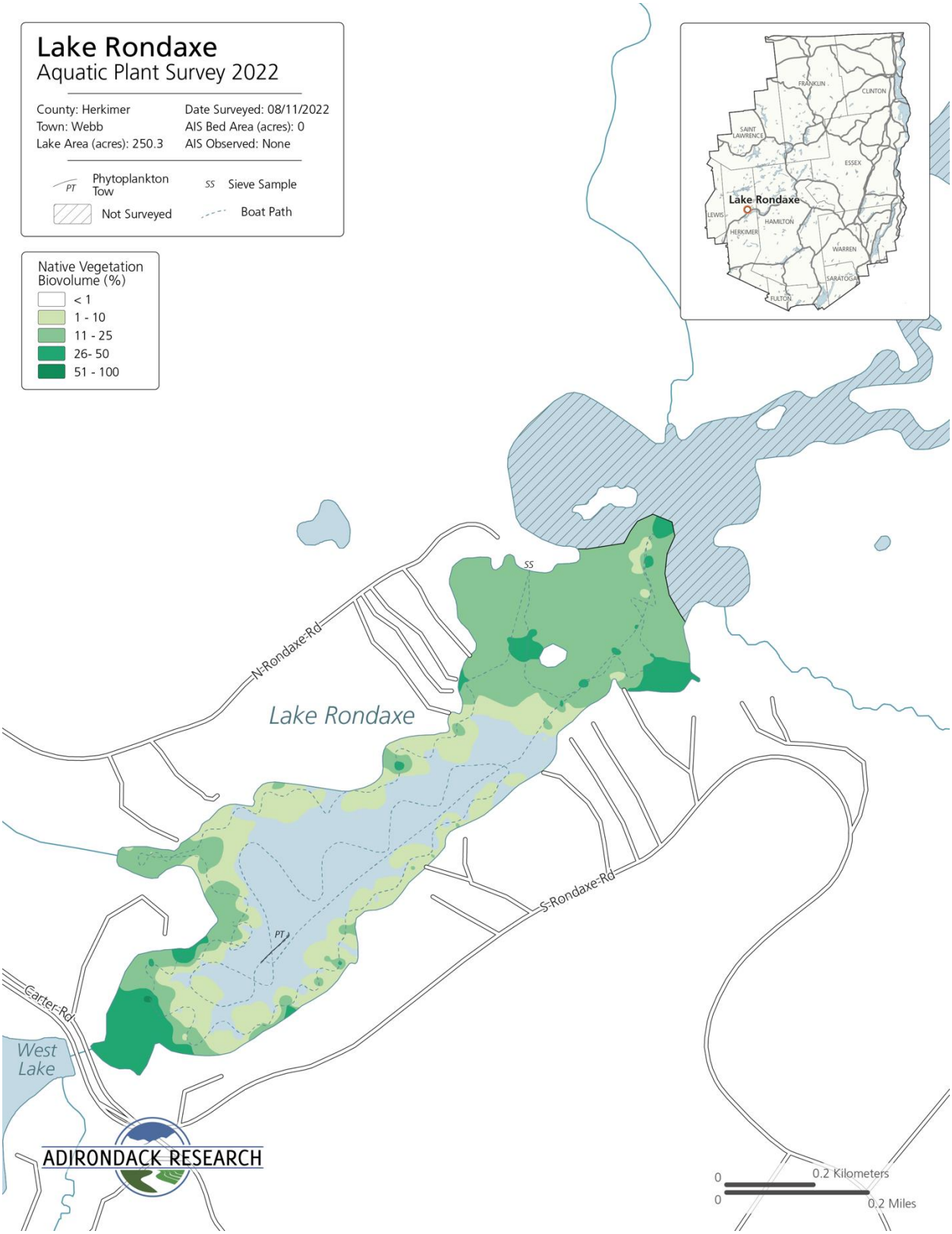
No invasive plants were detected.

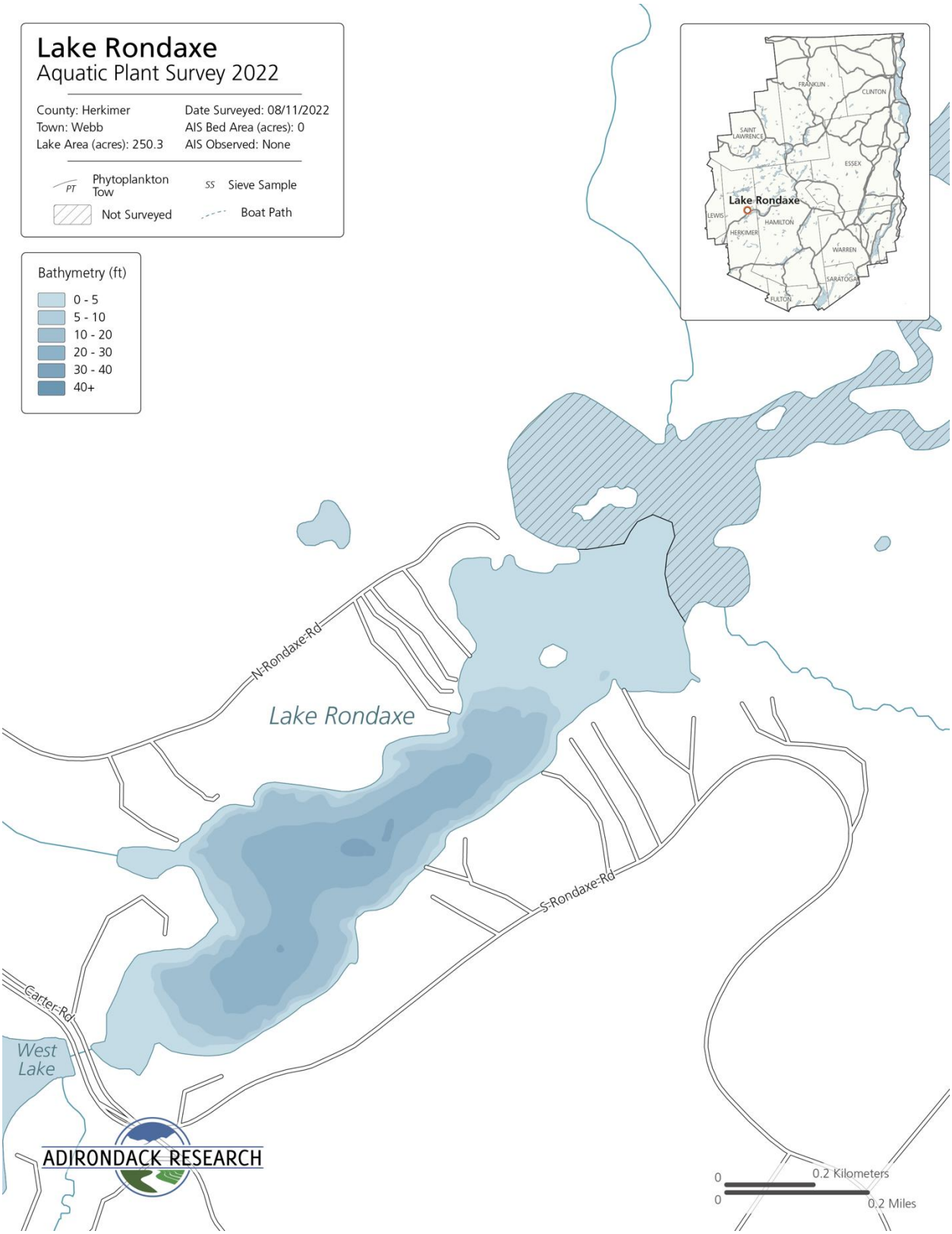
Native Plant Biota

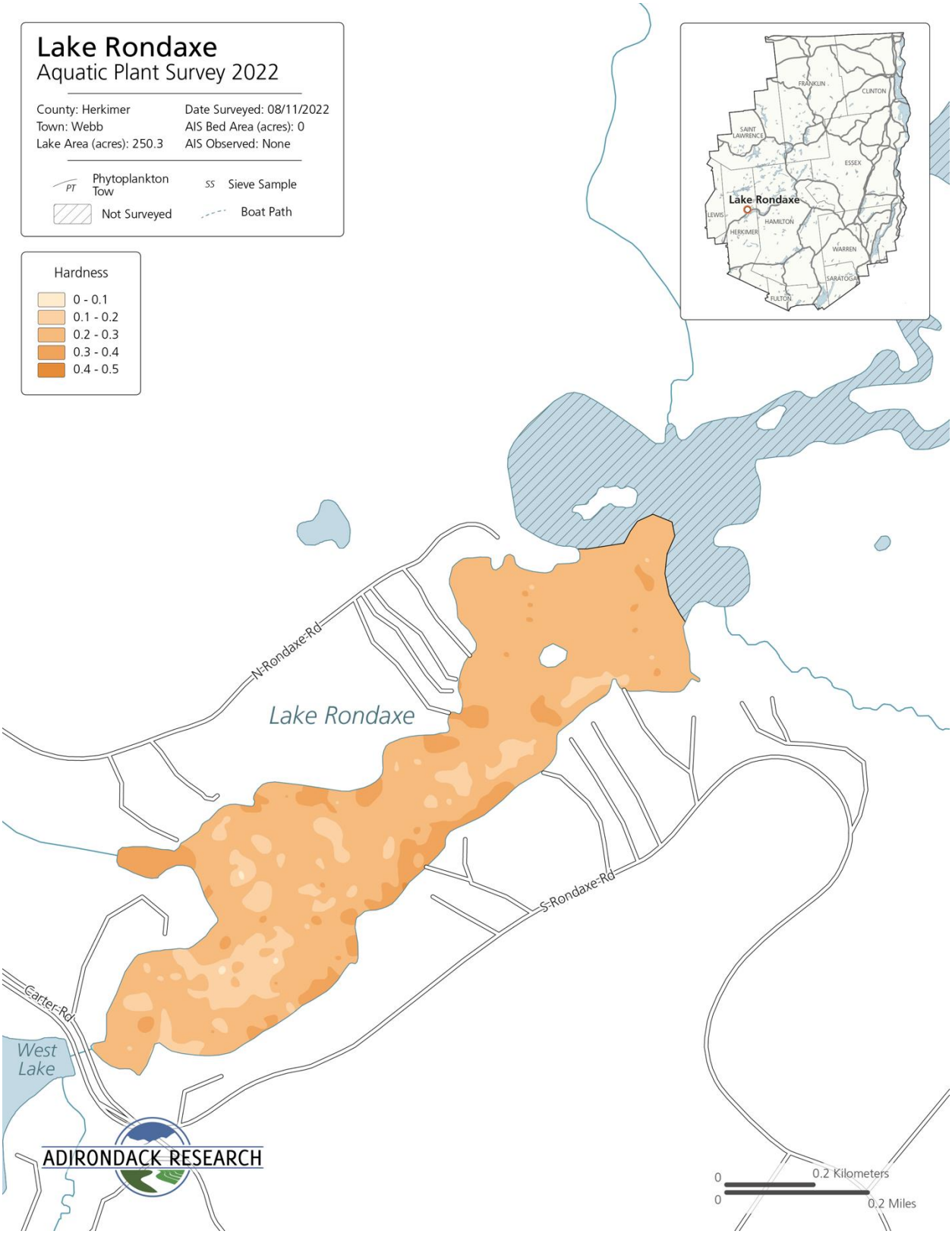
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nymphaea odorata* (American white waterlily), *Nymphoides cordata* (little floating heart), *Pontederia cordata* (pickerelweed), *Nuphar advena* (spatterdock).

Aquatic Invasive Animal Presence

Sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. A single plankton tow was conducted with no invasive zooplankton detected.


Lake Rondaxe
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 250.3
Date Surveyed: 08/11/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Lake Rondaxe
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
SS
N-Rondaxe-Rd
Lake Rondaxe
S-Rondaxe-Rd
PT
Carter-Rd
West Lake
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles


Lake Rondaxe
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 250.3
Date Surveyed: 08/11/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Lake Rondaxe
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
N-Rondaxe-Rd
Lake Rondaxe
S-Rondaxe-Rd
Carter-Rd
West Lake
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles


Lake Rondaxe
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 250.3
Date Surveyed: 08/11/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Lake Rondaxe
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
N-Rondaxe-Rd
Lake Rondaxe
S-Rondaxe-Rd
Carter-Rd
West Lake
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles

Limekiln Lake

Survey Date: June 28, 2022
Last Surveyed: 2019
Survey Team: B. Fisher, M. Sharpe

Lake Description

Limekiln Lake is 470.81 acres and 6.57 miles of shoreline. Limekiln Lake is located in the towns of Inlet and Ohio, in Hamilton and Herkimer County, and lies in the Black River watershed. The team launched one motorboat at the Limekiln Lake Campground public launch on the north end of the lake.

Aquatic Invasive Plant Presence

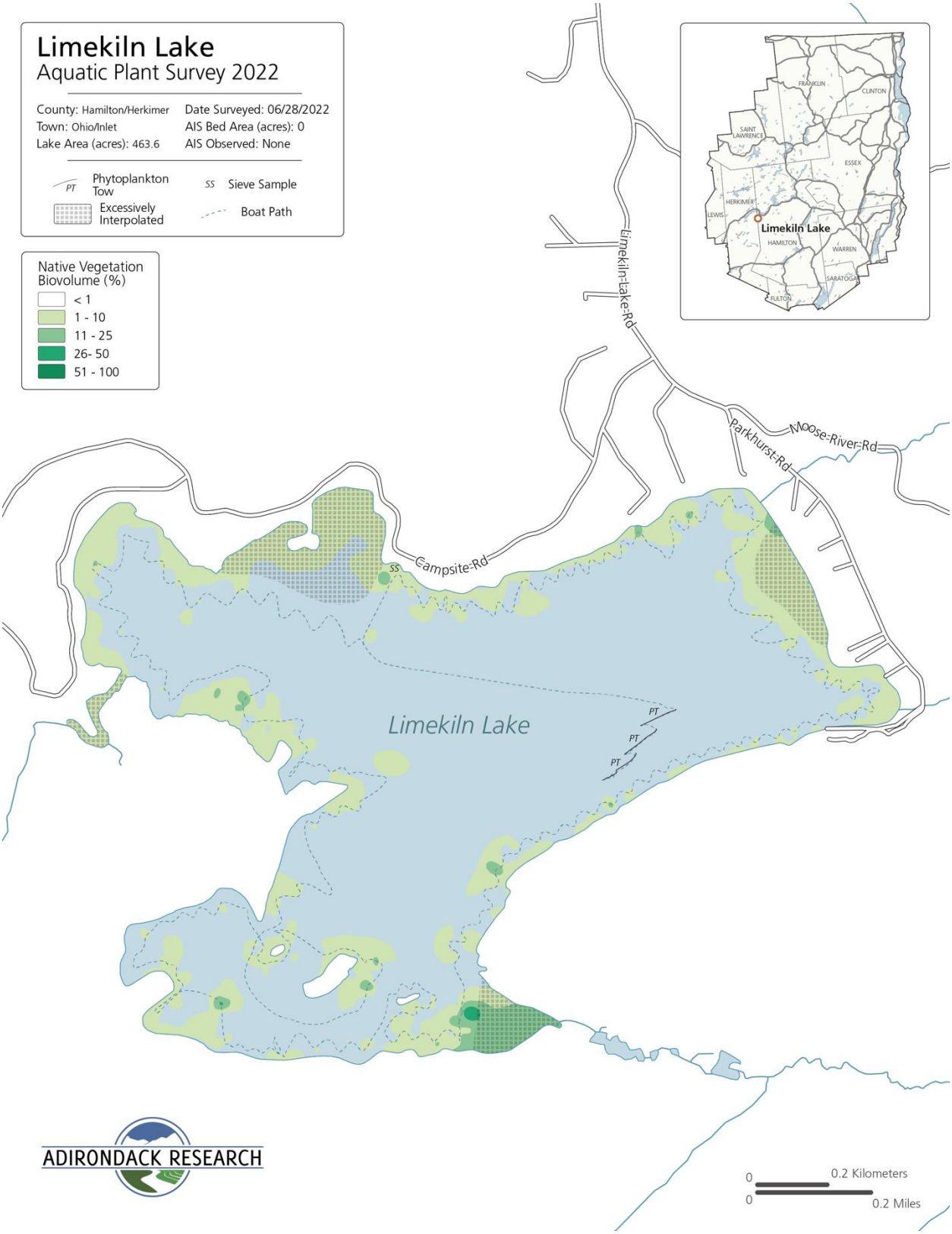
No invasive plants were detected.

Native Plant Biota

The following native plants were found: *Brasenia schreberi* (watersheild), *Utricularia purpurea* (purple bladderwort), *Nymphaea odorata* (American white waterlily).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


Limekiln Lake
Aquatic Plant Survey 2022
County: Hamilton/Herkimer
Town: Ohio/Inlet
Lake Area (acres): 463.6
Date Surveyed: 06/28/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
Excessively Interpolated
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
Limekiln Lake
HAMILTON
WARREN
SARATOGA
FULTON
Limekiln-Lake-Rd
Parkhurst-Rd
Moose-River-Rd
Campsite-Rd
SS
Limekiln Lake
PT
PT
PT
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles

Little Tupper Lake

Survey Date: July 20, 2022
Last Surveyed: 2017
Survey Team: K. Dernier, E. Spencer

Lake Description

Little Tupper Lake is located 10 miles North-West of the town of Long Lake, Hamilton County, and lies in the Raquette River watershed. The team launched a canoe from a soft launch at the New York State DEC Little Tupper Lake headquarters off of County Road 10. A partial survey was conducted for this waterbody in the northern bay. A total of 632.05 acres and 7.6 miles of shoreline were surveyed.

Aquatic Invasive Plant Presence

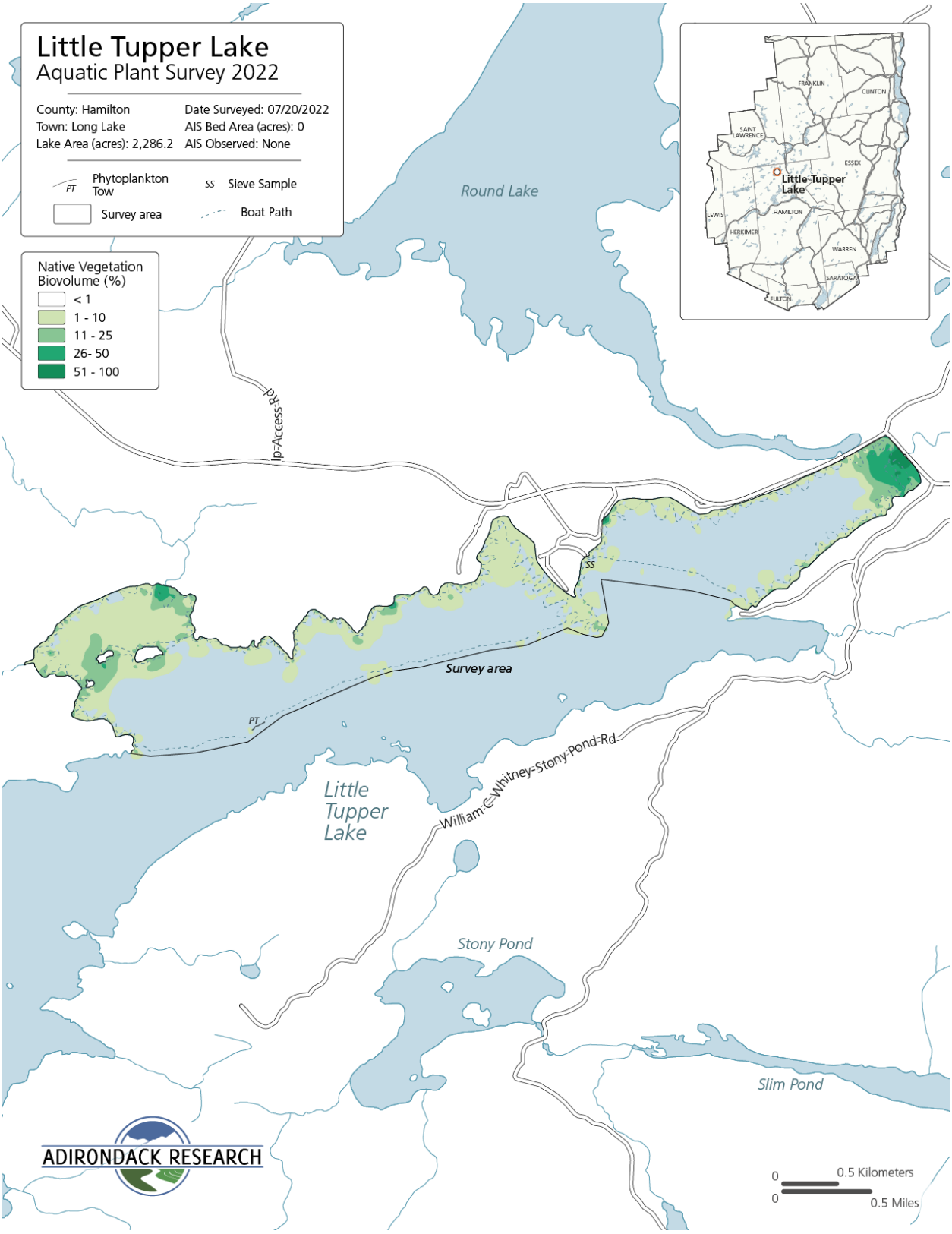
No invasive plants were detected.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Juncus militaris* (bayonet rush), *Utricularia* (bladderworts), *Pontederia cordata* (pickerelweed), *Brasenia schreberi* (watershield).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Plankton tows were conducted with no invasive zooplankton detected.


Little Tupper Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake
Lake Area (acres): 2,286.2
Date Surveyed: 07/20/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Survey area
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Round Lake
Jp-Access-Rd
SS
Survey area
PT
Little Tupper Lake
William-C-Whitney-Stony-Pond-Rd
Stony Pond
Slim Pond
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Little Tupper Lake
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles

Moshier Reservoir

Survey Date: June 29, 2022
Last Surveyed: 2012
Survey Team: E. Spencer, M. Walton

Lake Description

Moshier Reservoir is 310.12 acres and 8.74 miles of shoreline. Moshier Reservoir is located in the town of Webb, Herkimer County, and lies in the Black River watershed. The team launched a canoe with a trolling motor from the DEC hard launch site below the Stillwater Dam.

Aquatic Invasive Plant Presence

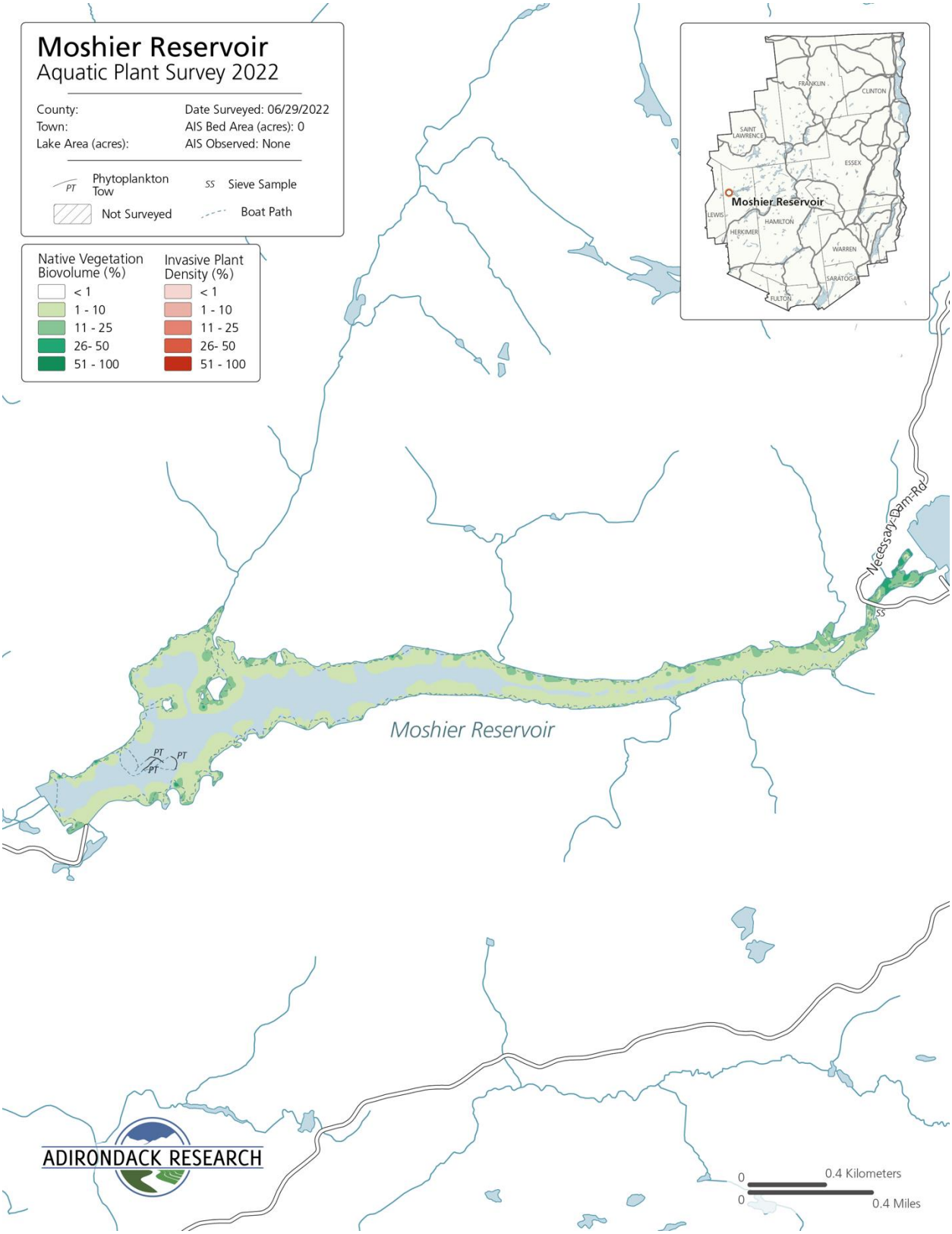
No invasive plants detected.

Native Plant Biota

The following native plants were found: *Juncus effusus* (soft rush), *Utricularia macrorhiza* (common bladderwort).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


Moshier Reservoir
Aquatic Plant Survey 2022
County:
Town:
Lake Area (acres):
Date Surveyed: 06/29/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Invasive Plant Density (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Moshier Reservoir
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Necessary Dam Rd
SS
Moshier Reservoir
PT
PT
PT
ADIRONDACK RESEARCH
0
0.4 Kilometers
0
0.4 Miles

Mud Pond

Survey Date: 8/29/2022
Last Surveyed: N/A
Survey Team: M. Sharpe, M. Walton

Lake Description

Mud Pond is 64.4 acres with 3.1 miles of shoreline. It is located in the Town of Long Lake, Hamilton County in the St. Lawrence River watershed. The team was able to launch a canoe from a public hand launch after a 0.3 mile carry from the Northern side of the public parking lot.

Aquatic Invasive Plant Presence

No invasive plants were detected.

Native Plant Biota

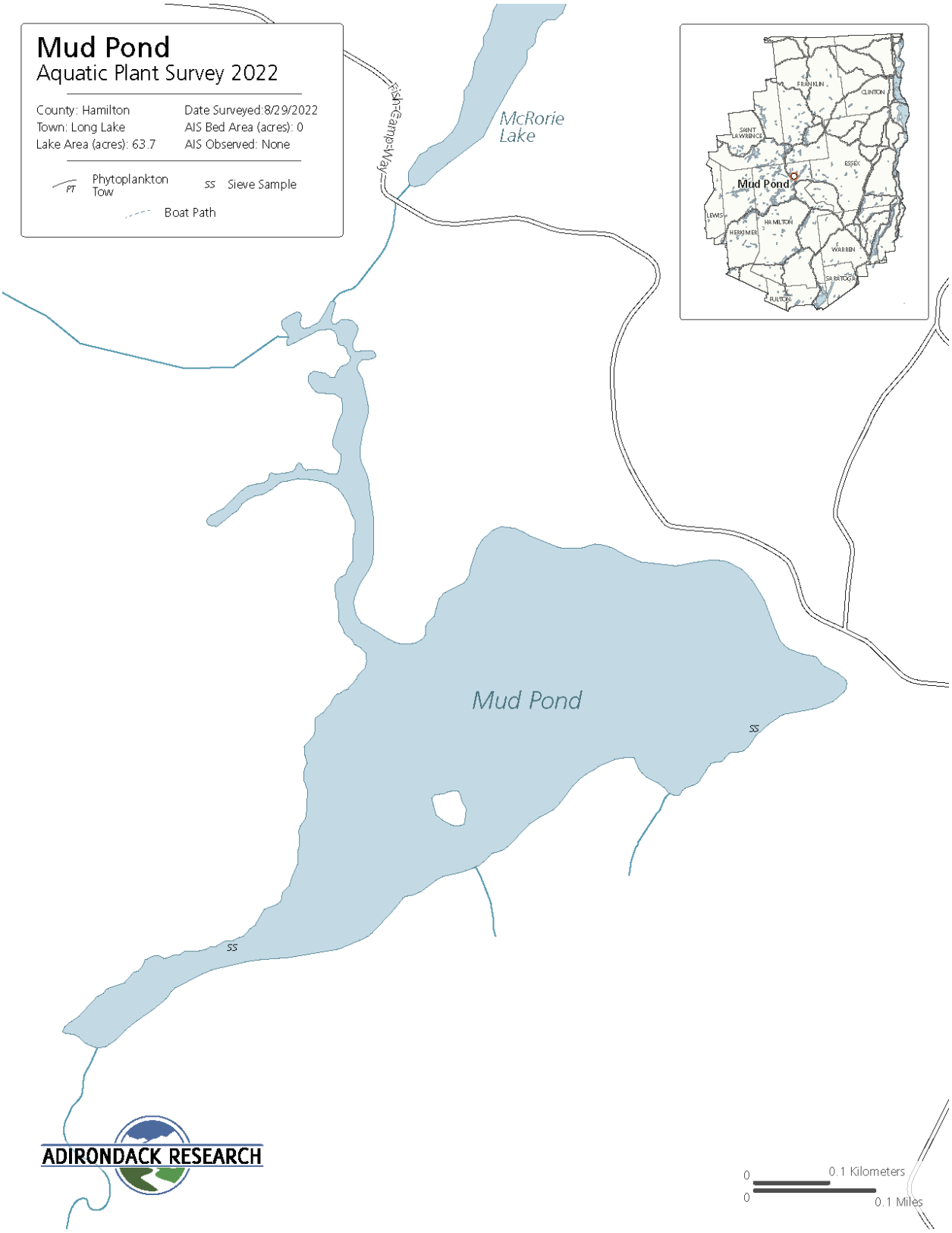
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nymphaea odorata* (American white waterlily), *Utricularia macrorhiza* (common bladderwort), *Pontederia cordata* (pickerelweed), *Potamogeton robbinsii* (robbins' pondweed), *Nuphar advena* (spatterdock), *Brasenia schreberi* (eleocharis acicularis).

Aquatic Invasive Animal Presence

Plankton tows were not conducted due to the lake being too shallow. Sediment sieves to determine the presence of *Corbicula fluminea* (Asian clams). None were found.

Map Notes

No sonar data was recorded for Mud Pond due to a malfunction with our transducer.


Mud Pond
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake
Lake Area (acres): 63.7
Date Surveyed:8/29/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
McRorie Lake
Fish Camp Way
Mud Pond
SS
SS
Mud Pond
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0
0.1 Kilometers
0.1 Miles

North Lake

Survey Date: July 5, 2022
Last Surveyed: 2019
Survey Team: M. Bargabos, B. Fisher, M. Sharpe, M. Walton

Lake Description

North Lake is 431.61 acres and has 11.40 miles of shoreline. North Lake is located in the town of Ohio, Herkimer County and lies in the Black River watershed. The team launched two motorboats at the hard launch on the south end of the lake.

Aquatic Invasive Plant Presence

No invasive plants were detected.

Native Plant Biota

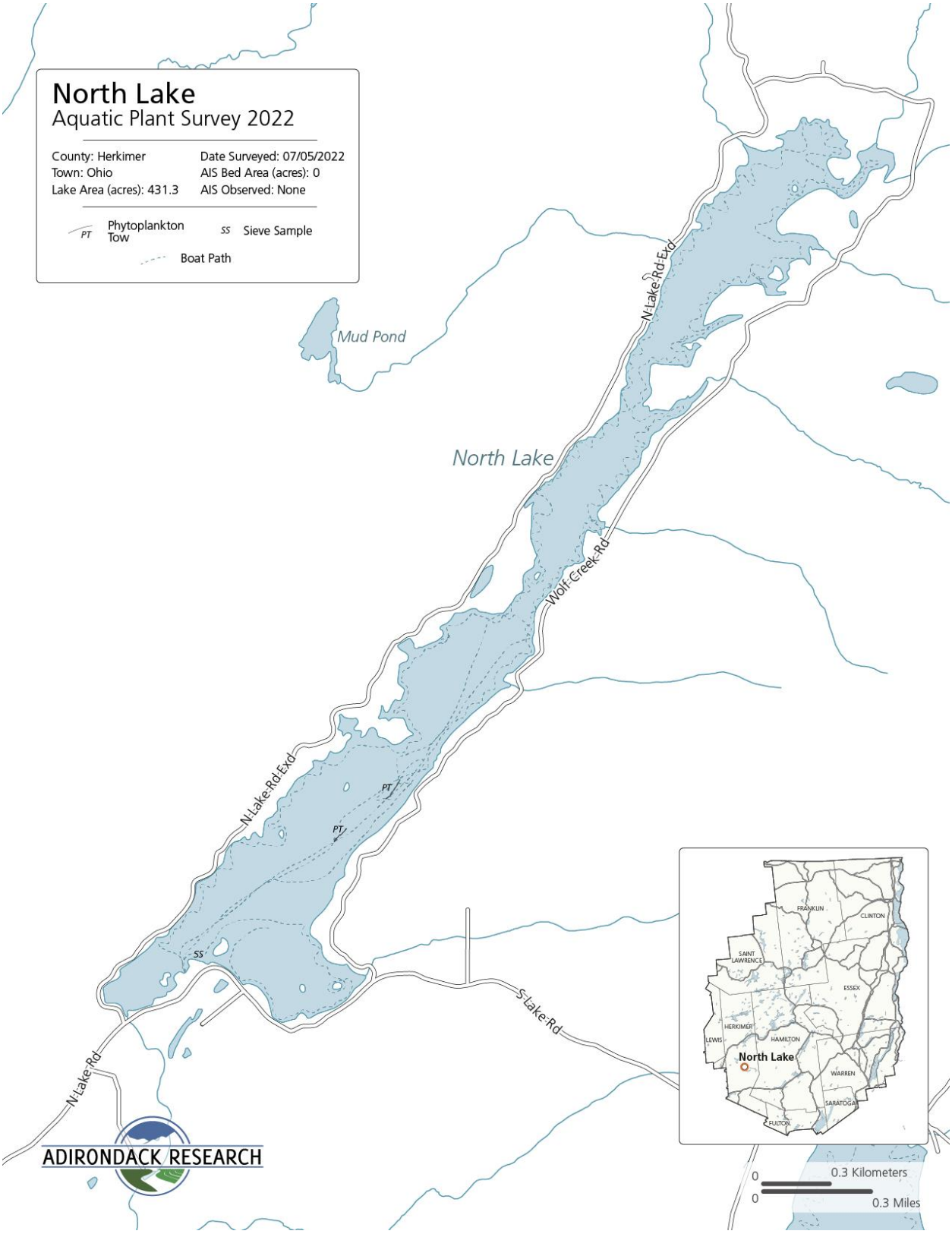
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nuphar advena* (spatterdock).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Two plankton tows were conducted with no invasive zooplankton detected.

Map Notes

Sonar data for North Lake was processed using Reefmaster.


North Lake
Aquatic Plant Survey 2022
County: Herkimer
Town: Ohio
Lake Area (acres): 431.3
Date Surveyed: 07/05/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Mud Pond
North Lake
N-Lake-Rd-Exd
Wolf-Creek-Rd
N-Lake-Rd-Exd
N-Lake-Rd
S-Lake-Rd
PT
PT
SS
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
North Lake
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.3 Kilometers
0
0.3 Miles

Otter Lake

Survey Date: July 25, 2022
Last Surveyed: 2015
Survey Team: M. Sharpe, E. Spencer

Lake Description

Otter Lake is 147.04 acres with 4.56 miles of shoreline. It is located in the town of Forestport, Oneida County, and lies in the Black River watershed. With permissions the team launched a motorboat from a private launch off of New York Route 28.

Aquatic Invasive Plant Presence

No invasive plants were detected.

Native Plant Biota

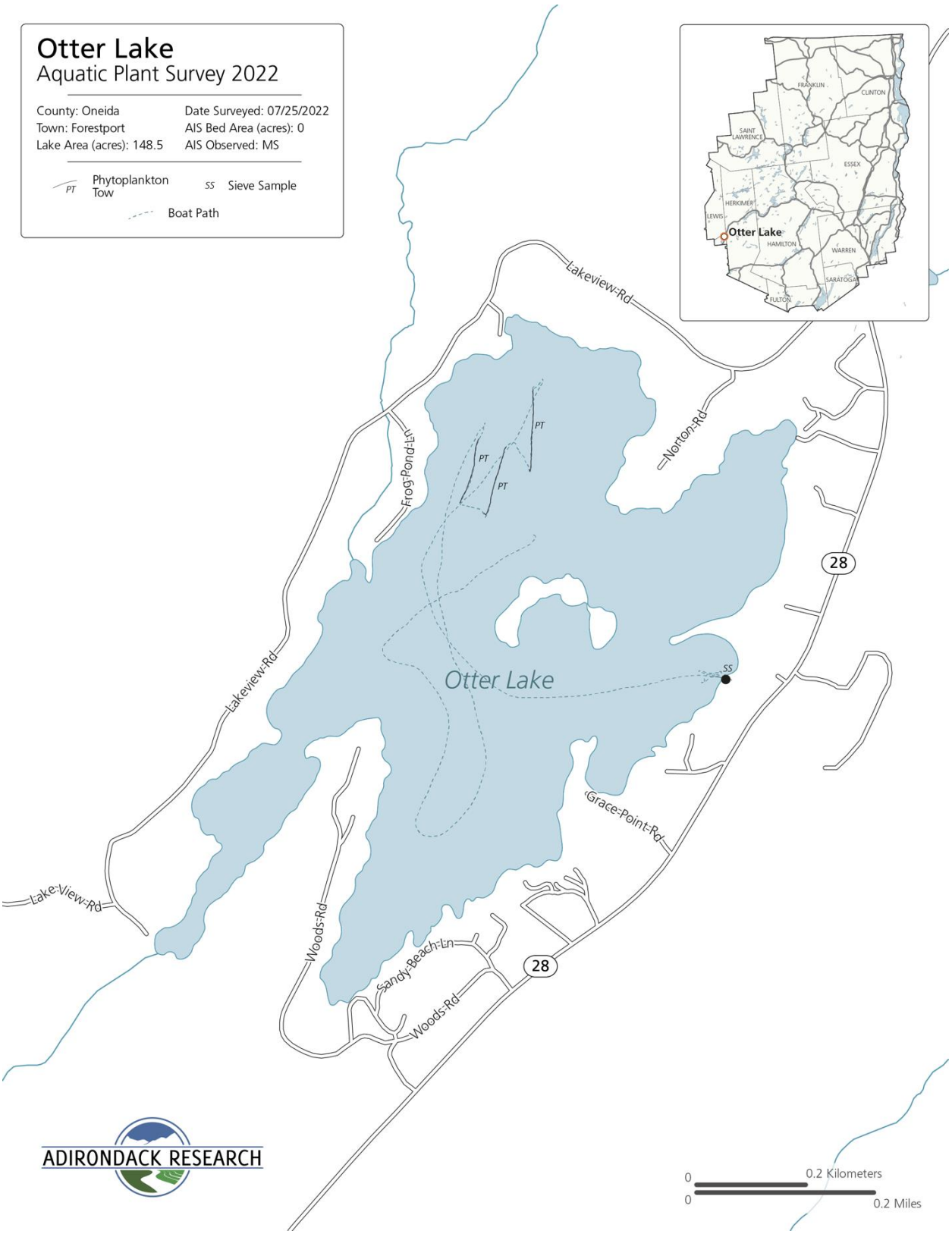
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Pontederia cordata* (pickerelweed), *Rhionaeschna mutata* (spatterdock darner).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.

Map Notes

Two of the three sonar files collected on Otter Lake were found to be corrupt and could not be restored. The boat track shown on the map below shows where the team surveyed the middle of the lake however data for the littoral zone was lost. This loss of sonar data has no affect on our monitoring for invasive and native species.


Otter Lake
Aquatic Plant Survey 2022
County: Oneida
Town: Forestport
Lake Area (acres): 148.5
Date Surveyed: 07/25/2022
AIS Bed Area (acres): 0
AIS Observed: MS
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
Otter Lake
HAMILTON
WARREN
SARATOGA
FULTON
Lakeview-Rd
Frog-Pond-Ln
Norton-Rd
PT
PT
PT
28
Otter Lake
SS
Lakeview-Rd
Grace-Point-Rd
Lake-View-Rd
Woods-Rd
Sandy-Beach-Ln
Woods-Rd
28
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles

Quiver Pond

Survey Date: July 7, 2022
Last Surveyed: 2019
Survey Team: M. Bargabos, M. Walton

Lake Description

Quiver Pond is 18.86 acres and 0.78 miles of shoreline. Quiver Pond is located in the town of Webb, Herkimer County and lies in the Black River watershed. The team launched one canoe at the hard launch off South Shore Rd.

Aquatic Invasive Plant Presence

No invasive plants were detected.

Native Plant Biota

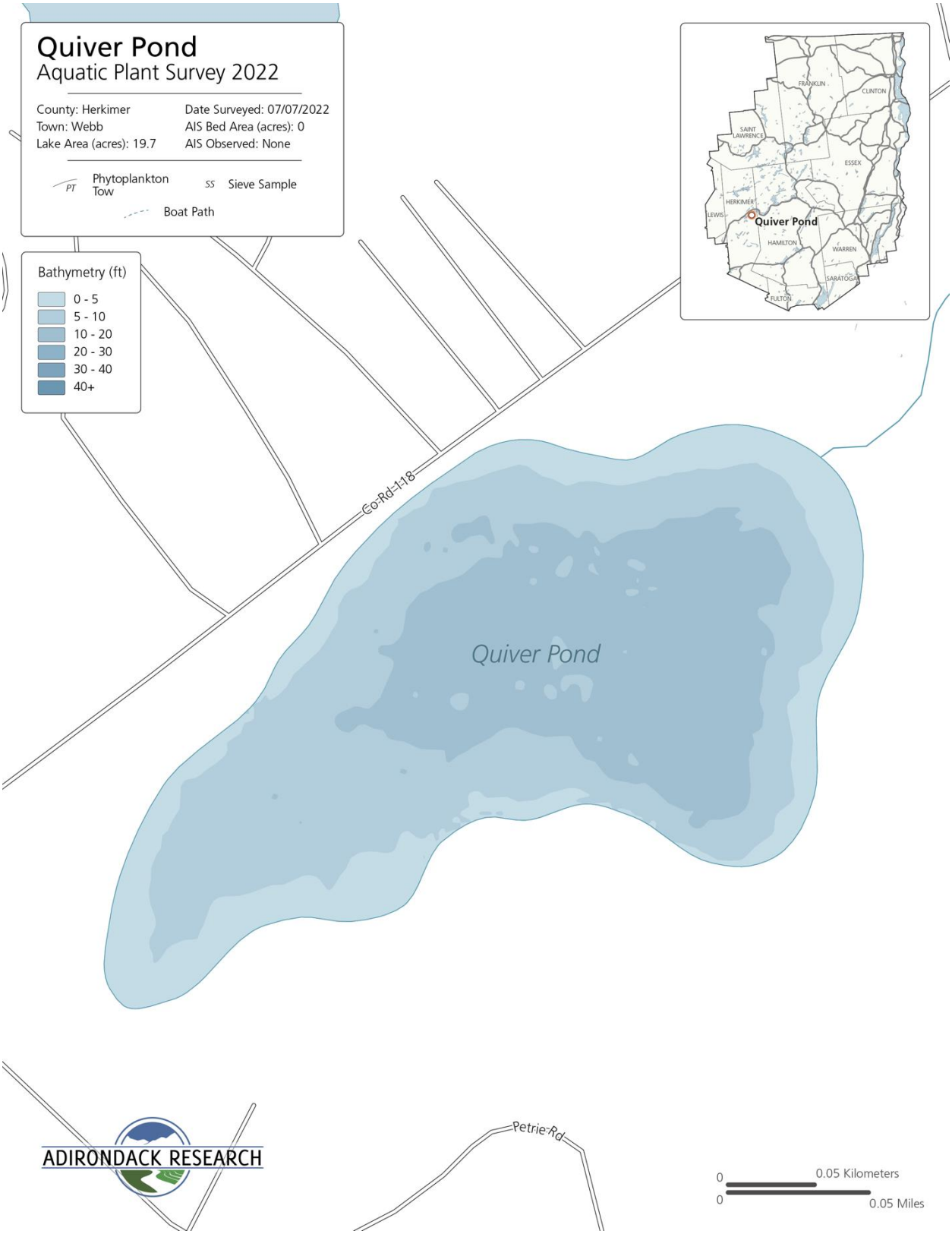
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Pontederia cordata* (pickerelweed), *Utricularia sp.* (bladderworts), *Nuphar advena* (spatterdock), *Brasenia schreberi* (watershield).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found.

Map Notes

No sonar data was recorded for Quiver Pond due to a malfunction with our transducer. Depth information from our 2019 survey was used for the map below. No boat track is available due to not being able to collect any SONAR in 2022.


Quiver Pond
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 19.7
Date Surveyed: 07/07/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
Quiver Pond
HAMILTON
WARREN
SARATOGA
FULTON
Co-Rd-118
Quiver Pond
Petrie-Rd
ADIRONDACK RESEARCH
0
0.05 Kilometers
0
0.05 Miles

Rainbow Falls Reservoir

Survey Date: August 3, 2022
Last Surveyed: 2019
Survey Team: M. Bargabos, K. Dernier, B. Fisher, M. Sharpe

Lake Description

Rainbow Falls Reservoir is 678.02 acres with 11.19 miles of shoreline. It is located 5 miles east of the town of South Colton, St. Lawrence County, and lies in the Raquette River watershed. The team launched two motorboats from a hard launch off of Raquette River Road.

Aquatic Invasive Plant Presence

Myriophyllum heterophyllum (Variable leaf watermilfoil) was detected. The invasive beds combined to a total of 5.51 acres.

Native Plant Biota

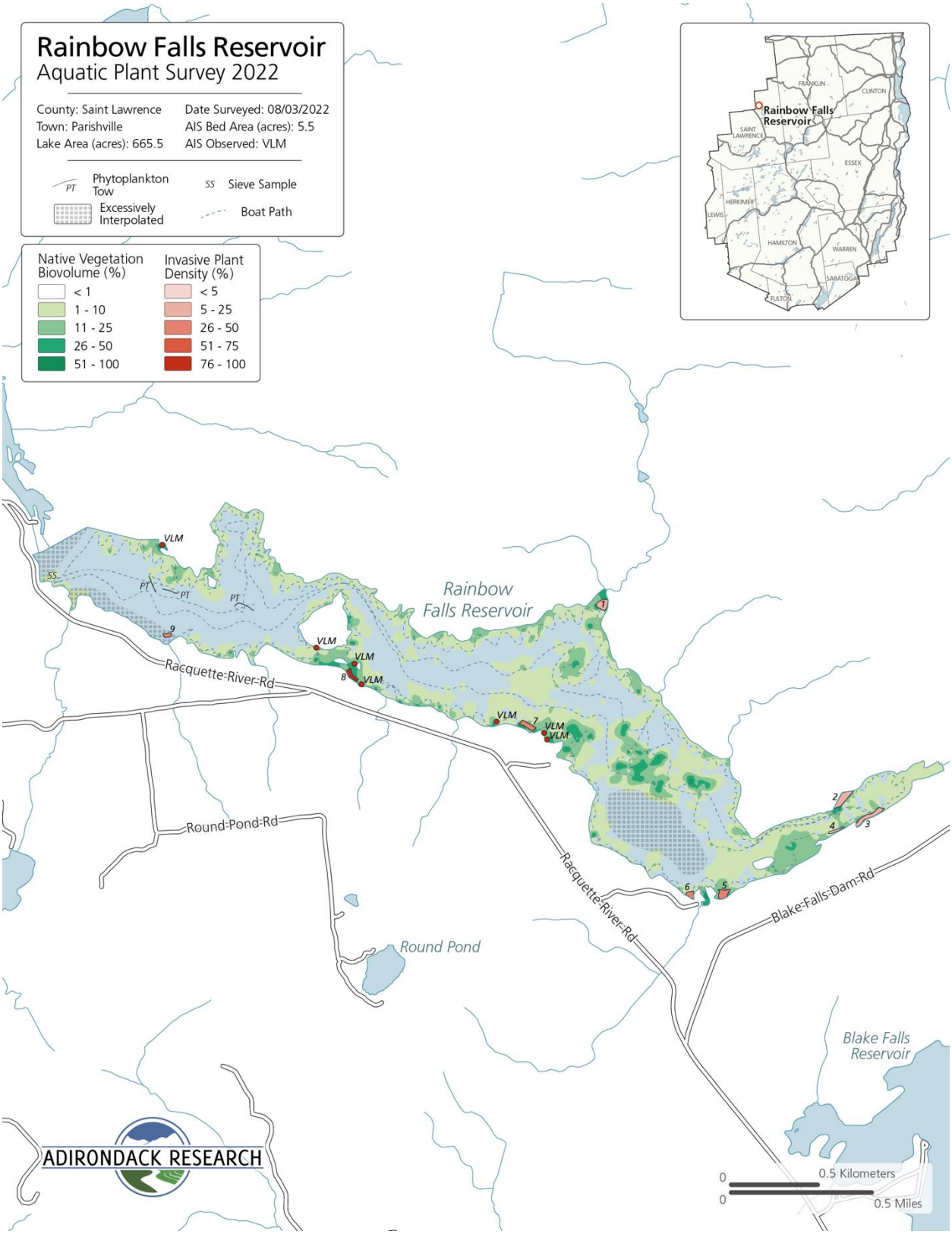
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Utricularia sps*. (bladderworts), *Potamogeton amplifolius* (broad-leaved Pondweed), *Eriocaulon aquaticum* (common Pipewort), *Najas sps.* (naiads), *Potamogeton perfoliatus* (perfoliate pondweed), *Potamogeton epihydrus* (ribbon-leaved pondweed), *Potamogeton berchtoldii* (small pondweed), *Elatine minima* (small waterwort), *Lobelia dortmanna* (water lobelia), *Brasenia schreberi* (watershield).

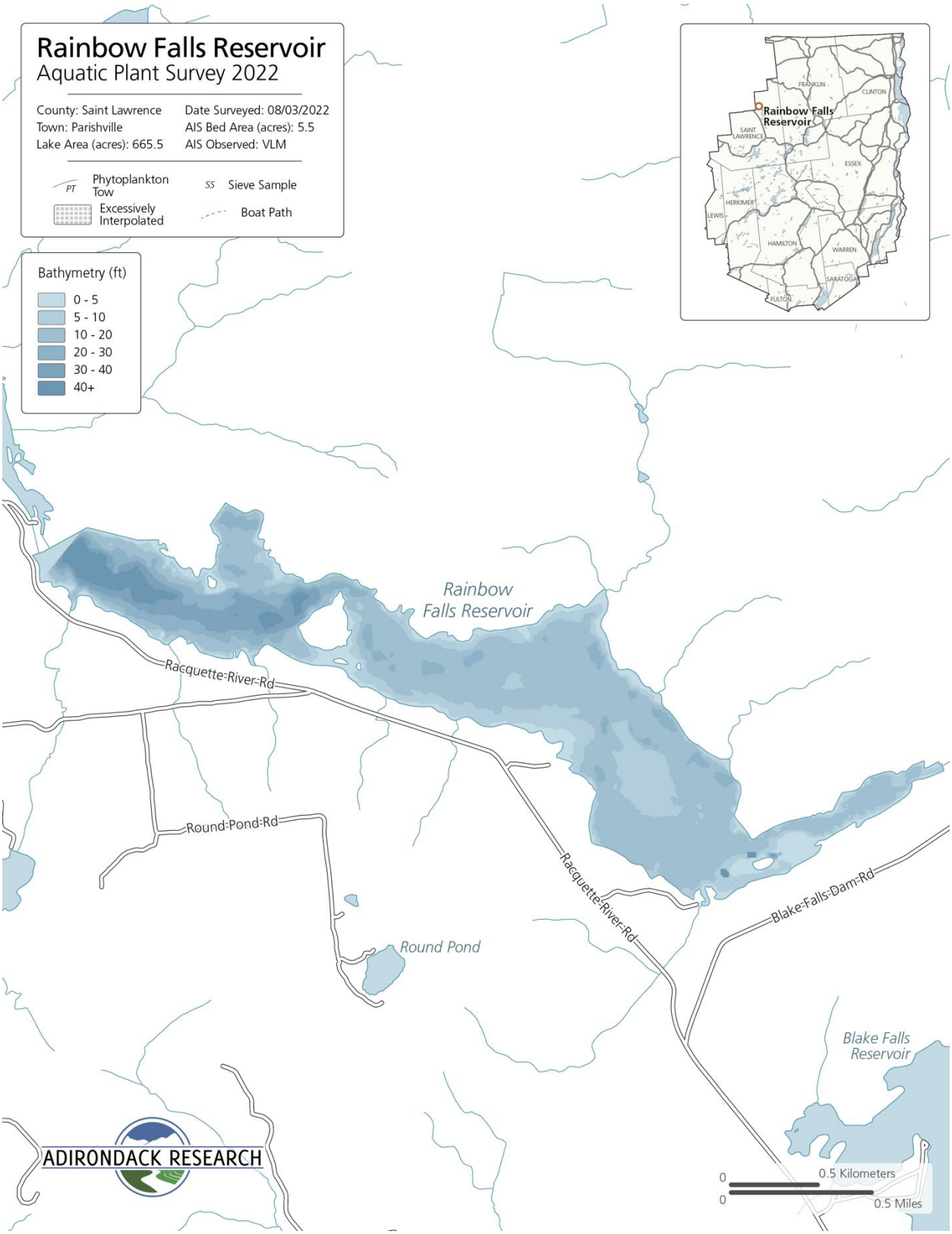
Aquatic Invasive Animal Presence

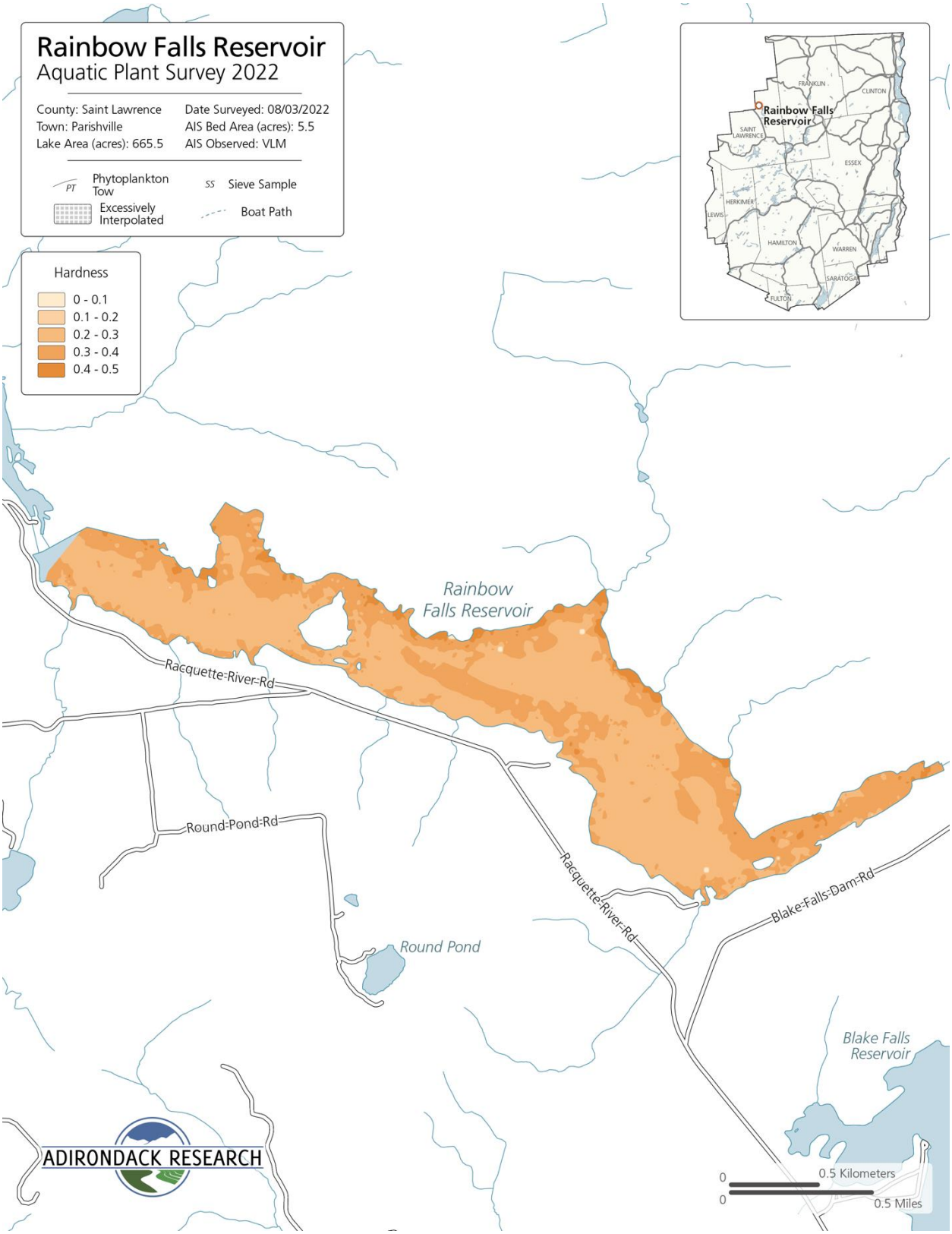
Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.

Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	0.75	32830.13	5% - 25%
2	1.05	45562.20	5% - 25%
3	1.09	47504.98	5% - 25%
4	0.24	10253.72	less than 5%
5	0.69	30180.49	26% - 50%
6	0.39	17080.47	26% - 50%
7	0.59	25526.48	26% - 50%
8	0.49	21359.82	76% - 100%
9	0.22	9800.26	26% - 50%

Asian Clam	**Spiny Waterflea**
Present (Y/N)	Present (Y/N)
No	No


Rainbow Falls Reservoir
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Parishville
Lake Area (acres): 665.5
Date Surveyed: 08/03/2022
AIS Bed Area (acres): 5.5
AIS Observed: VLM
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26 - 50
51 - 100
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
Rainbow Falls Reservoir
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Rainbow Falls Reservoir
Racquette-River-Rd
Round-Pond-Rd
Round Pond
Blake-Falls-Dam-Rd
Blake Falls Reservoir
VLM
SS
PT
1
2
3
4
5
6
7
8
9
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles


Rainbow Falls Reservoir
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Parishville
Lake Area (acres): 665.5
Date Surveyed: 08/03/2022
AIS Bed Area (acres): 5.5
AIS Observed: VLM
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
Rainbow Falls Reservoir
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Rainbow Falls Reservoir
Racquette-River-Rd
Round-Pond-Rd
Racquette-River-Rd
Blake-Falls-Dam-Rd
Round Pond
Blake Falls Reservoir
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles


Rainbow Falls Reservoir
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Parishville
Lake Area (acres): 665.5
Date Surveyed: 08/03/2022
AIS Bed Area (acres): 5.5
AIS Observed: VLM
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
Rainbow Falls Reservoir
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Rainbow Falls Reservoir
Racquette-River-Rd
Round-Pond-Rd
Racquette-River-Rd
Blake-Falls-Dam-Rd
Round Pond
Blake Falls Reservoir
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles

Raquette Lake Reservoir

Survey Date: June 21, 2022
Last Surveyed: N/A
Survey Team: M. Sharpe, M. Walton

Lake Description

Raquette Lake Reservoir is 5.43 acres with 0.66 miles of shoreline. Raquette Lake Reservoir is located in the town of Long Lake, Hamilton County, and lies in the Raquette River watershed. The team launched a canoe at the north end of the reservoir.

Aquatic Invasive Plant Presence

No invasive plants were detected

Native Plant Biota

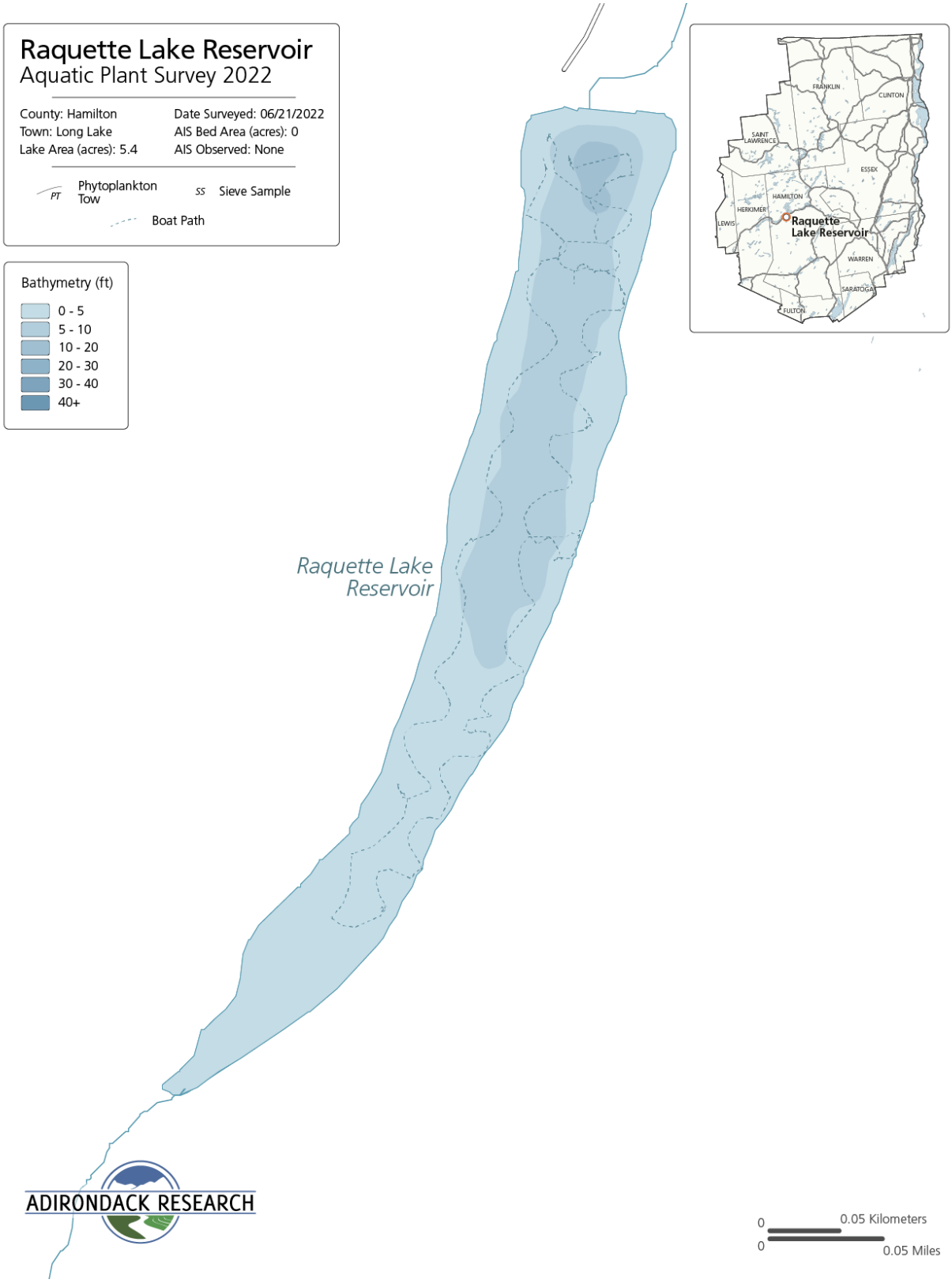
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Utricularia macrorhiza* (common bladderwort), *Nuphar advena* (spatterdock), *Nuphar variegate* (variegated yellow pond-lily), *Brasenia schreberi* (watershield).

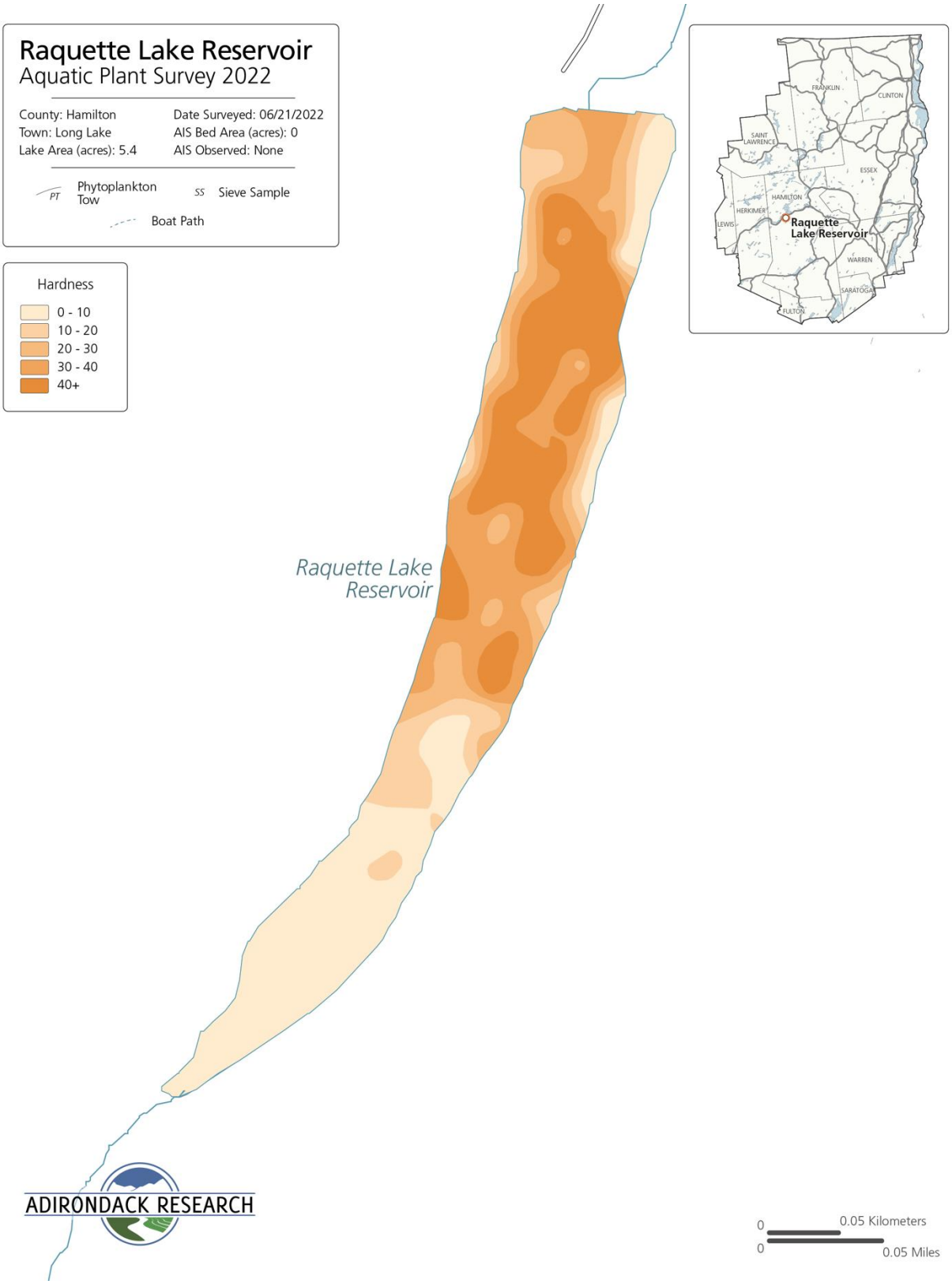
Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found.

Map Notes

Sonar data for Raquette Lake Reservoir was processed using Reefmaster. Biovolume was not able to be processed with this software, however the following maps display depth and bottom hardness, along with the 2022 team's boat path.


Raquette Lake Reservoir
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake
Lake Area (acres): 5.4
Date Surveyed: 06/21/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
Raquette Lake Reservoir
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HAMILTON
HERKIMER
LEWIS
Raquette Lake Reservoir
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.05 Kilometers
0
0.05 Miles


Raquette Lake Reservoir
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake
Lake Area (acres): 5.4
Date Surveyed: 06/21/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Hardness
0 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HAMILTON
HERKIMER
LEWIS
Raquette Lake Reservoir
WARREN
SARATOGA
FULTON
Raquette Lake Reservoir
ADIRONDACK RESEARCH
0
0
0.05 Kilometers
0.05 Miles

Raquette Lake

Survey Date: August 9, 2022 & August 10, 2022
Last Surveyed: 2021
Survey Team: M. Bargabos, M. Walton

Lake Description

Raquette Lake is 5279.38 acres with 46.71 miles of shoreline. It is located in the town of Long Lake, Hamilton County, and lies in the Raquette River watershed. The team launched a motorboat from the public launch on the Western shore of South Bay.

Aquatic Invasive Plant Presence

Scattered beds of *Myriophyllum heterophyllum* (variable-leaf milfoil) were detected throughout the southern and western ends of the lake. The invasive beds combined to a total of 5.94 acres. A total of 683.62 acres and 13 miles of shoreline were surveyed.

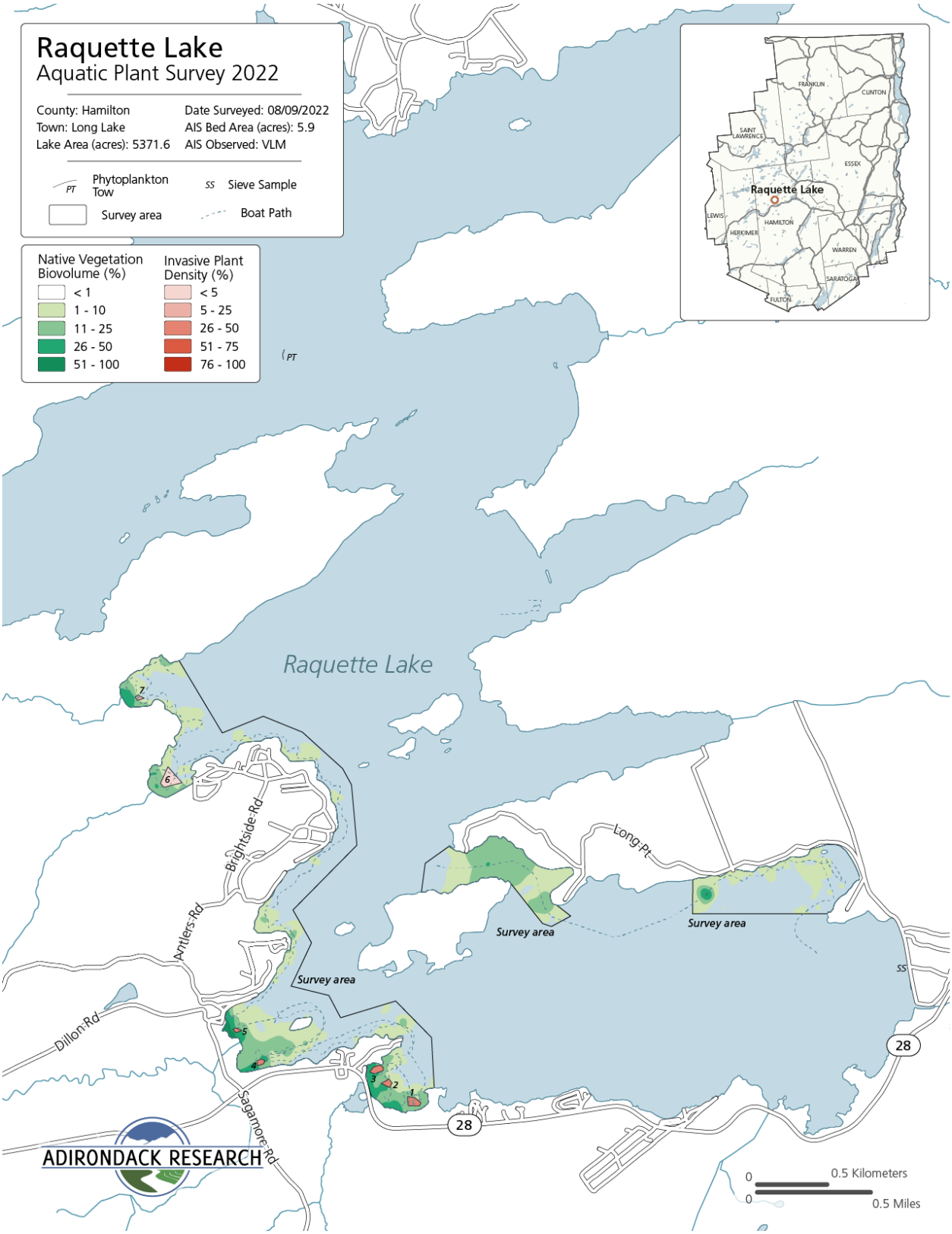
Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nymphaea odorata* (American white waterlily), *Potamogeton amplifolius* (broad-leaved pondweed), *Nymphoides cordata* (little floatingheart), *Potamogeton perfoliatus* (perfoliate pondweed), *Utricularia purpurea* (purple bladderwort), *Utricularia inflata* (swollen bladderwort), *Brasenia schreberi* (watershield).

Aquatic Invasive Animal Presence

Sediment sieves to determine the presence of *Corbicula fluminea* (Asian clams) were not recorded. Plankton tows were conducted with no invasive zooplankton detected.

Variable Leaf Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	1.08	46878.59	26% - 50%
2	0.54	23508.77	26% - 50%
3	0.84	36721.53	26% - 50%
4	0.40	17624.66	26% - 50%
5	0.24	10599.24	26% - 50%
6	2.55	111060.58	less than 5%
7	0.29	12571.16	5% - 25%
Asian Clam		**Spiny Waterflea**	
Present (Y/N)		Present (Y/N)	
N/A		No	


Raquette Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake
Lake Area (acres): 5371.6
Date Surveyed: 08/09/2022
AIS Bed Area (acres): 5.9
AIS Observed: VLM
PT Phytoplankton Tow
SS Sieve Sample
Survey area
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26 - 50
51 - 100
Invasive Plant Density (%)
< 5
5 - 25
26 - 50
51 - 75
76 - 100
Raquette Lake
Brightside Rd
Antlers Rd
Dillon Rd
Sagamore Rd
Long Pt
Survey area
Survey area
Survey area
28
28
ADIRONDACK RESEARCH
0 0.5 Kilometers
0 0.5 Miles

Reeds Pond

Survey Date: July 6, 2022
Last Surveyed: N/A
Survey Team: B. Fisher, M. Sharpe

Lake Description

Reeds Pond is 8.57 acres and 0.85 miles of shoreline. Reeds Pond is located in the town of Ohio, Herkimer County and lies in the Black River watershed. The team launched one canoe from the hand launch off of North Lake Rd.

Aquatic Invasive Plant Presence

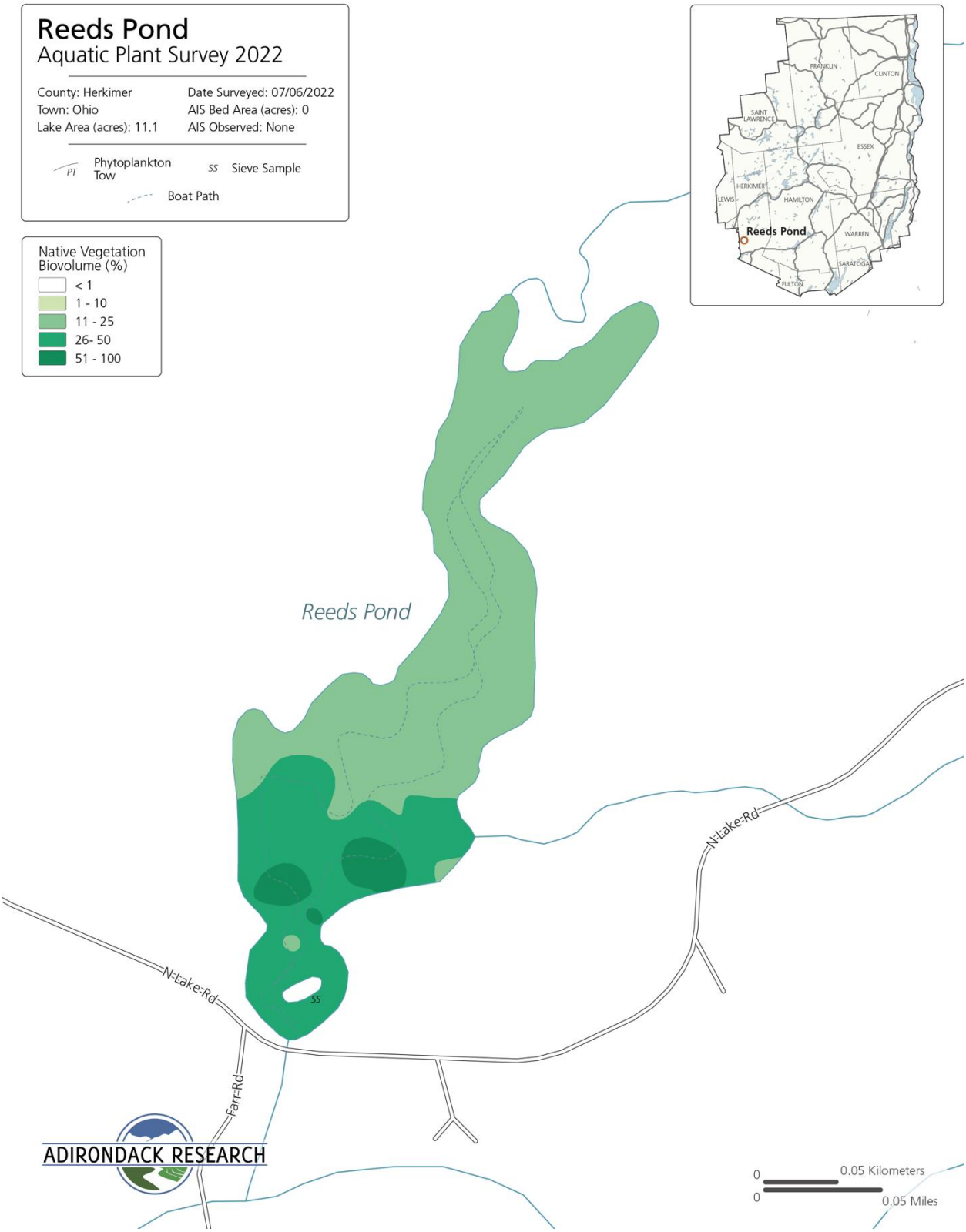
No invasive plants were detected.

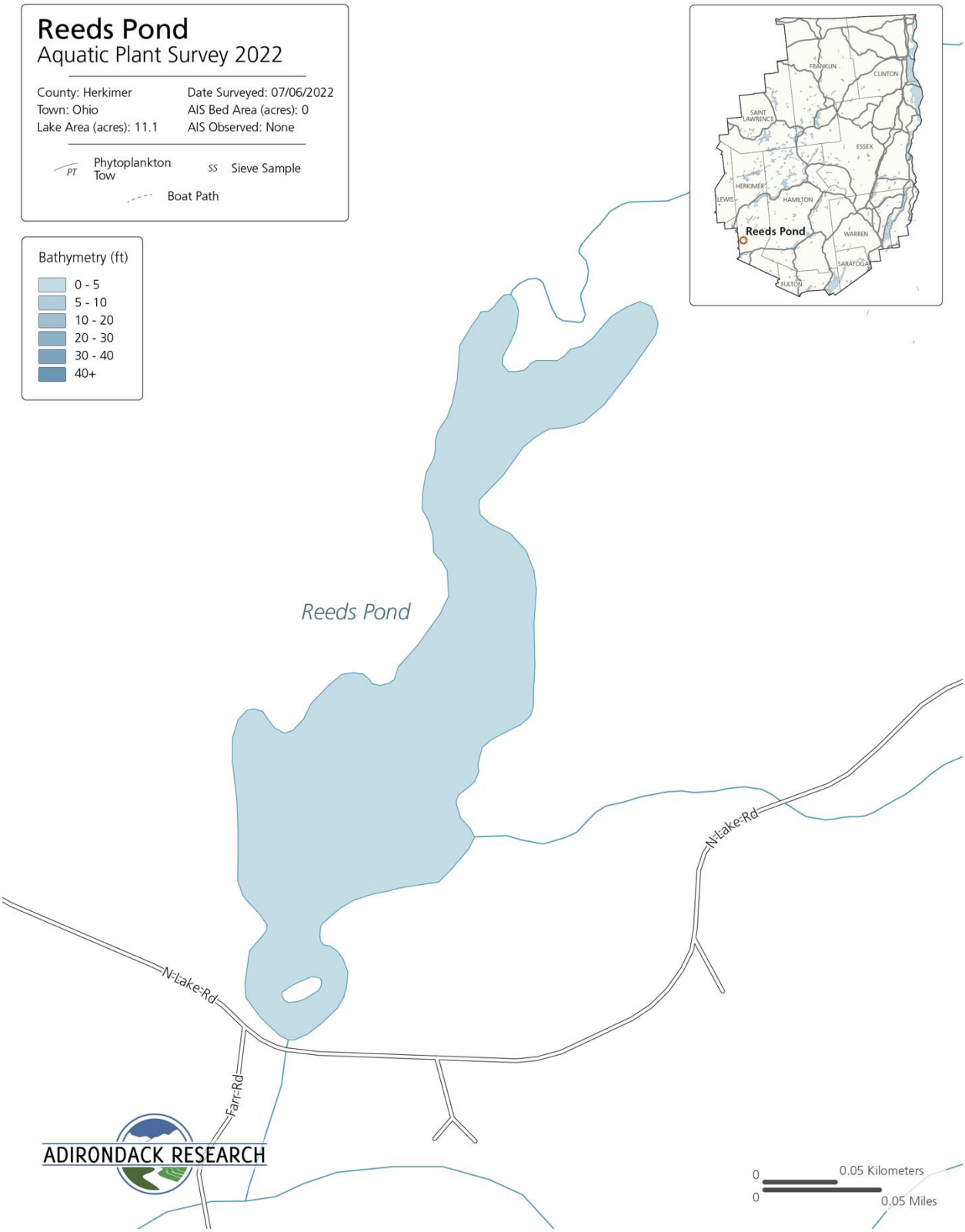
Native Plant Biota

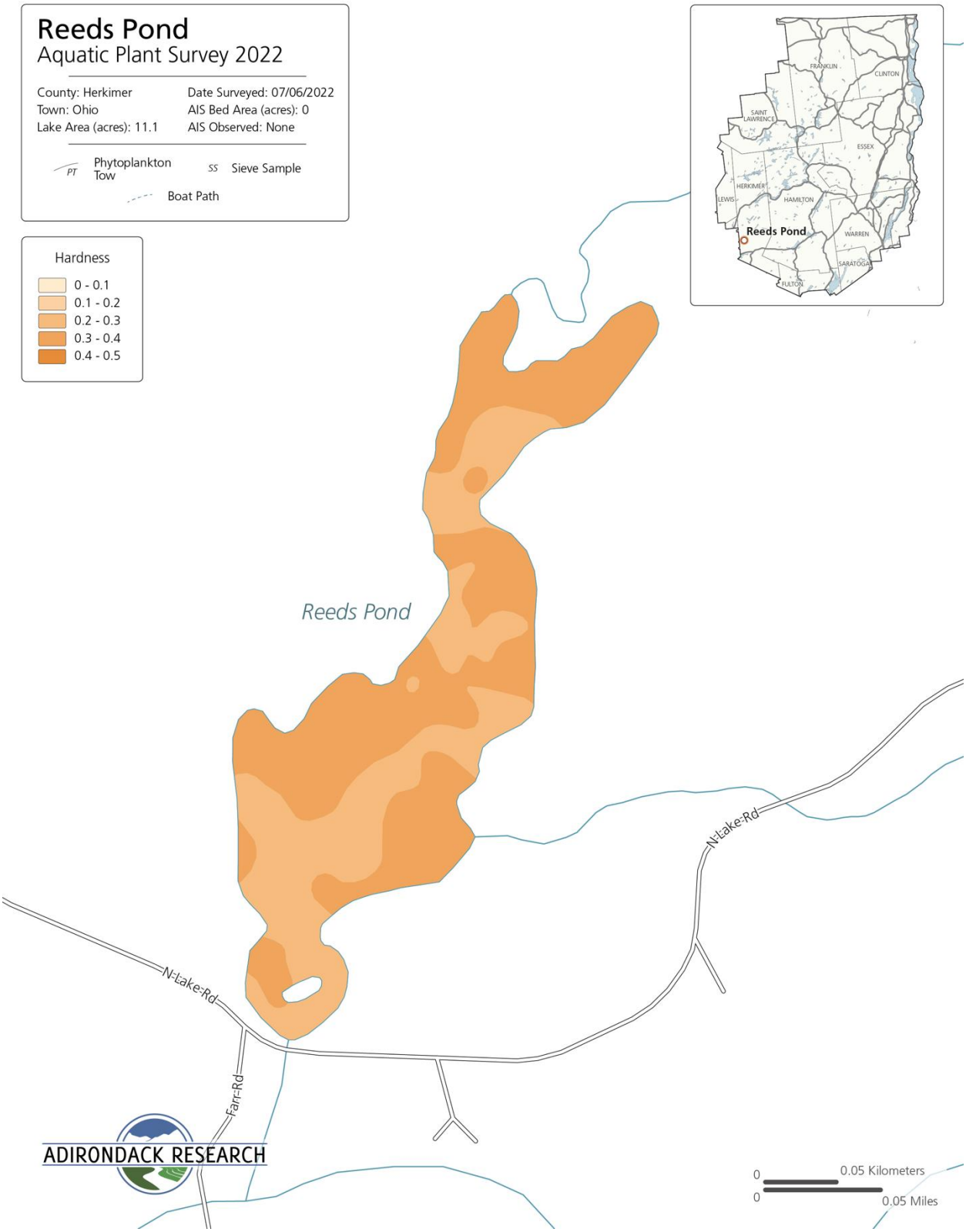
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Pontederia cordata* (pickerel weed), *Myriophyllum humile* (low water milfoil), *Sparganium fluctuans* (floating bur-reed), *Potamogeton pusillus* (lesser pondweed), *Nuphar advena* (spatterdock), *Carex comosa* (bristly sedge), *Brasenia schreberi* (watershield).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found.


Reeds Pond
Aquatic Plant Survey 2022
County: Herkimer
Town: Ohio
Lake Area (acres): 11.1
Date Surveyed: 07/06/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
Reeds Pond
WARREN
SARATOGA
FULTON
Reeds Pond
N-Lake-Rd
N-Lake-Rd
Farr-Rd
SS
ADIRONDACK RESEARCH
0
0
0.05 Kilometers
0.05 Miles


Reeds Pond
Aquatic Plant Survey 2022
County: Herkimer
Town: Ohio
Lake Area (acres): 11.1
Date Surveyed: 07/06/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
Reeds Pond
WARREN
SARATOGA
FULTON
Reeds Pond
N Lake Rd
N Lake Rd
Farr Rd
ADIRONDACK RESEARCH
0
0
0.05 Kilometers
0.05 Miles


Reeds Pond
Aquatic Plant Survey 2022
County: Herkimer
Town: Ohio
Lake Area (acres): 11.1
Date Surveyed: 07/06/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
Reeds Pond
WARREN
SARATOGA
FULTON
Reeds Pond
N Lake Rd
N Lake Rd
Farr Rd
ADIRONDACK RESEARCH
0
0
0.05 Kilometers
0.05 Miles

Sagamore Lake

Survey Date: June 21, 2022
Last Surveyed: 2021
Survey Team: M. Sharpe, M. Walton

Lake Description

Sagamore Lake is 175.34 acres with 2.65 miles of shoreline. Sagamore Lake is located in the town of Long Lake, Hamilton County, and lies in the Raquette River watershed. The team launched a canoe next to Great Camp Sagamore at the DEC launch.

Aquatic Invasive Plant Presence

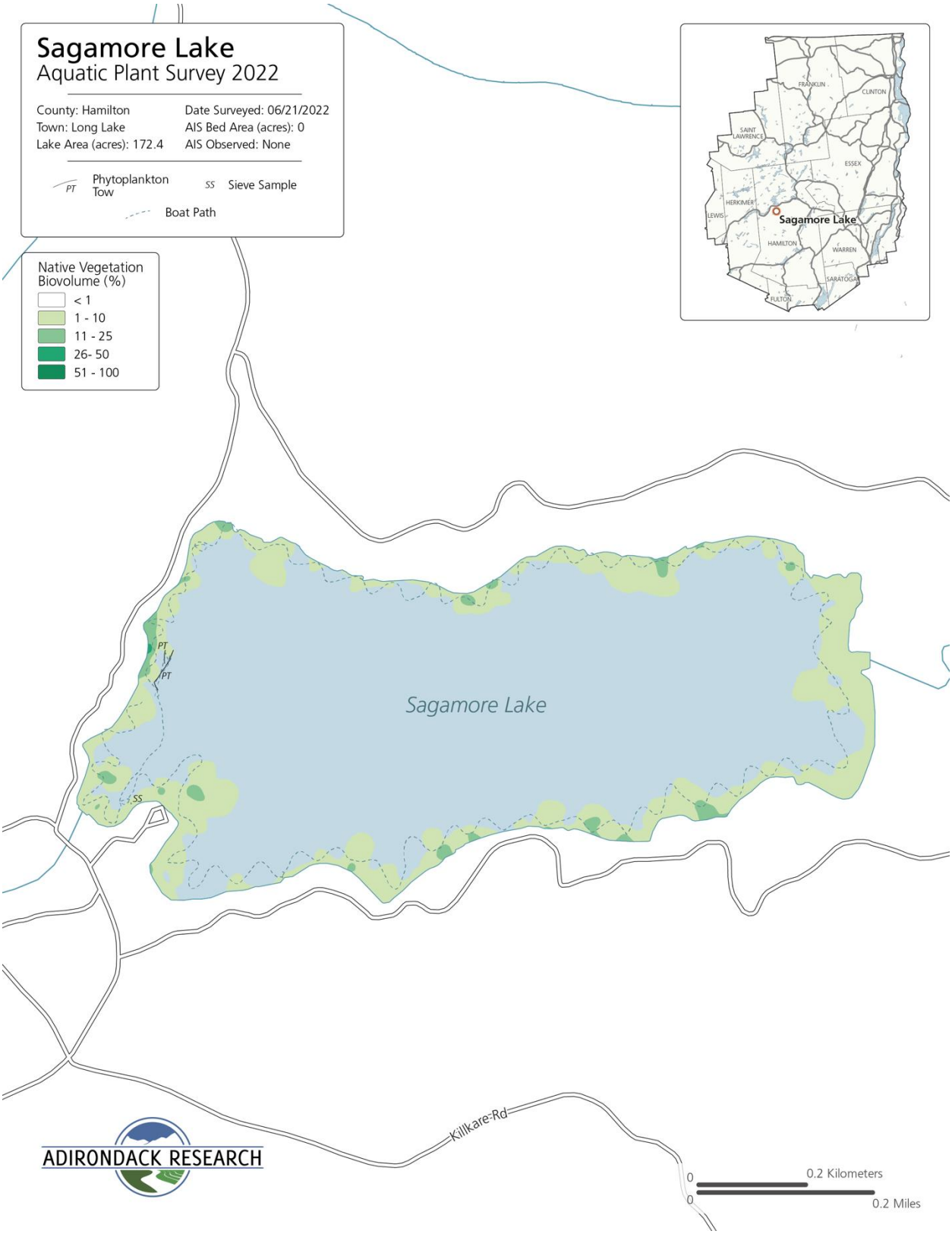
No invasive plants were detected.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nuphar advena* (spatterdock), *Potamogeton pusillus* (lesser pondweed), *Carex comosa* (bristly sedge), *Schoenoplectus lacustris* (common club-rush).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


Sagamore Lake
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake
Lake Area (acres): 172.4
Date Surveyed: 06/21/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
Sagamore Lake
HAMILTON
WARREN
SARATOGA
FULTON
PT
PT
SS
Sagamore Lake
Killkare Rd
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles

Silver Lake

Survey Date: August 2, 2022
Last Surveyed: 2016
Survey Team: M. Bargabos, B. Fisher

Lake Description

Silver Lake is 113.24 acres with 2.65 miles of shoreline. It is located in the town of Cranberry Lake, St. Lawrence County, and lies in the Grass River watershed. The team launched a canoe from a roadside launch on Mill Street.

Aquatic Invasive Plant Presence

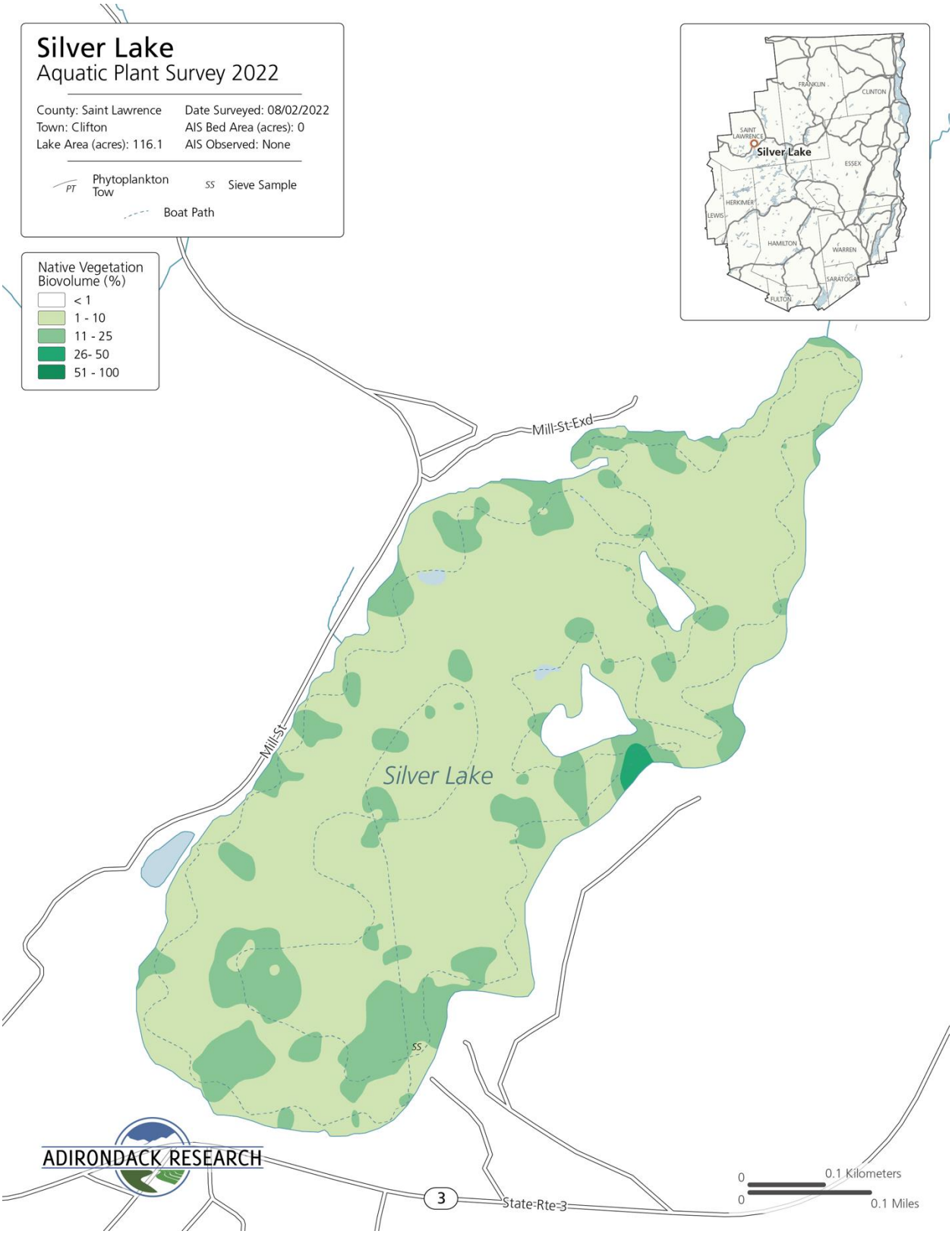
No invasive plant species were detected.

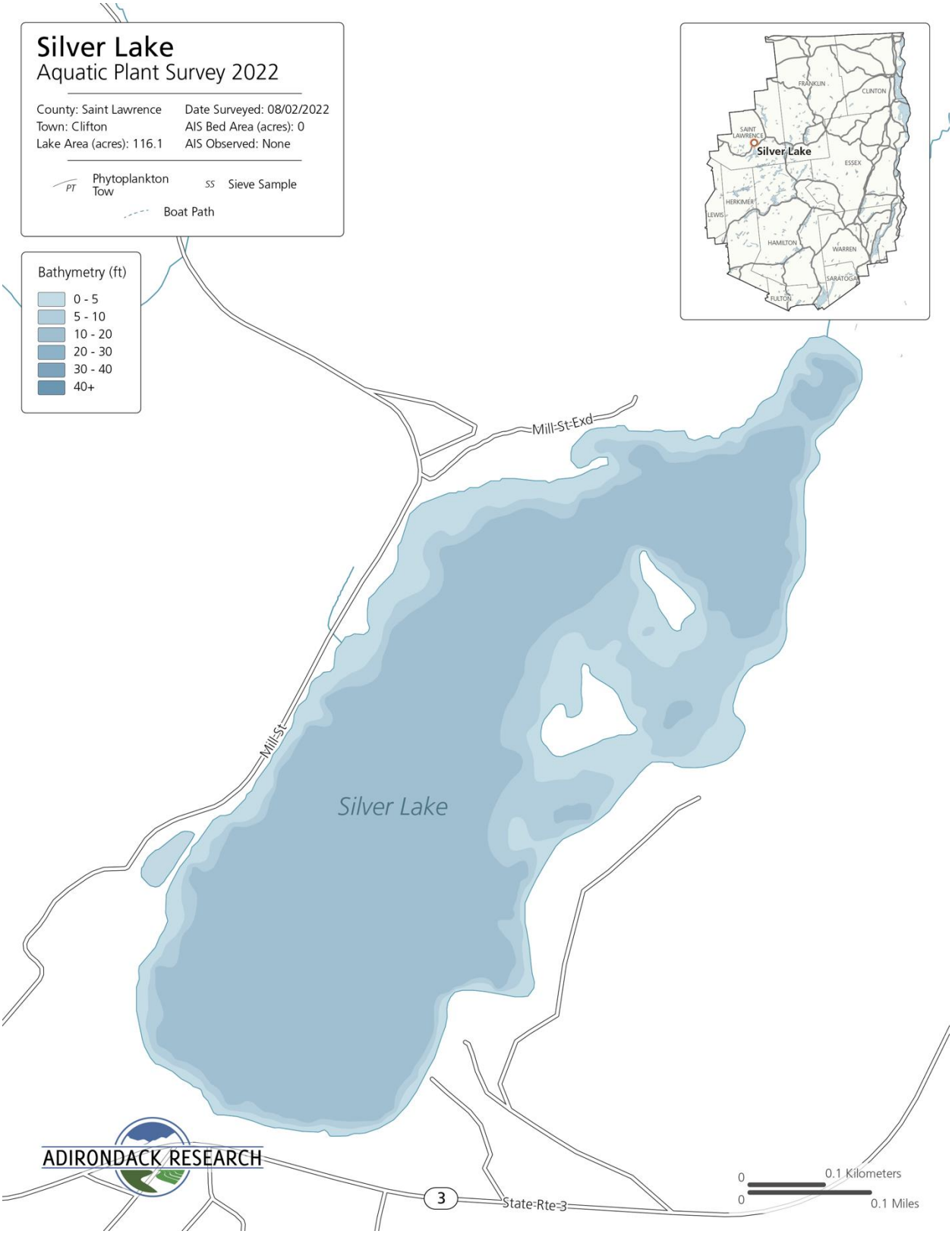
Native Plant Biota

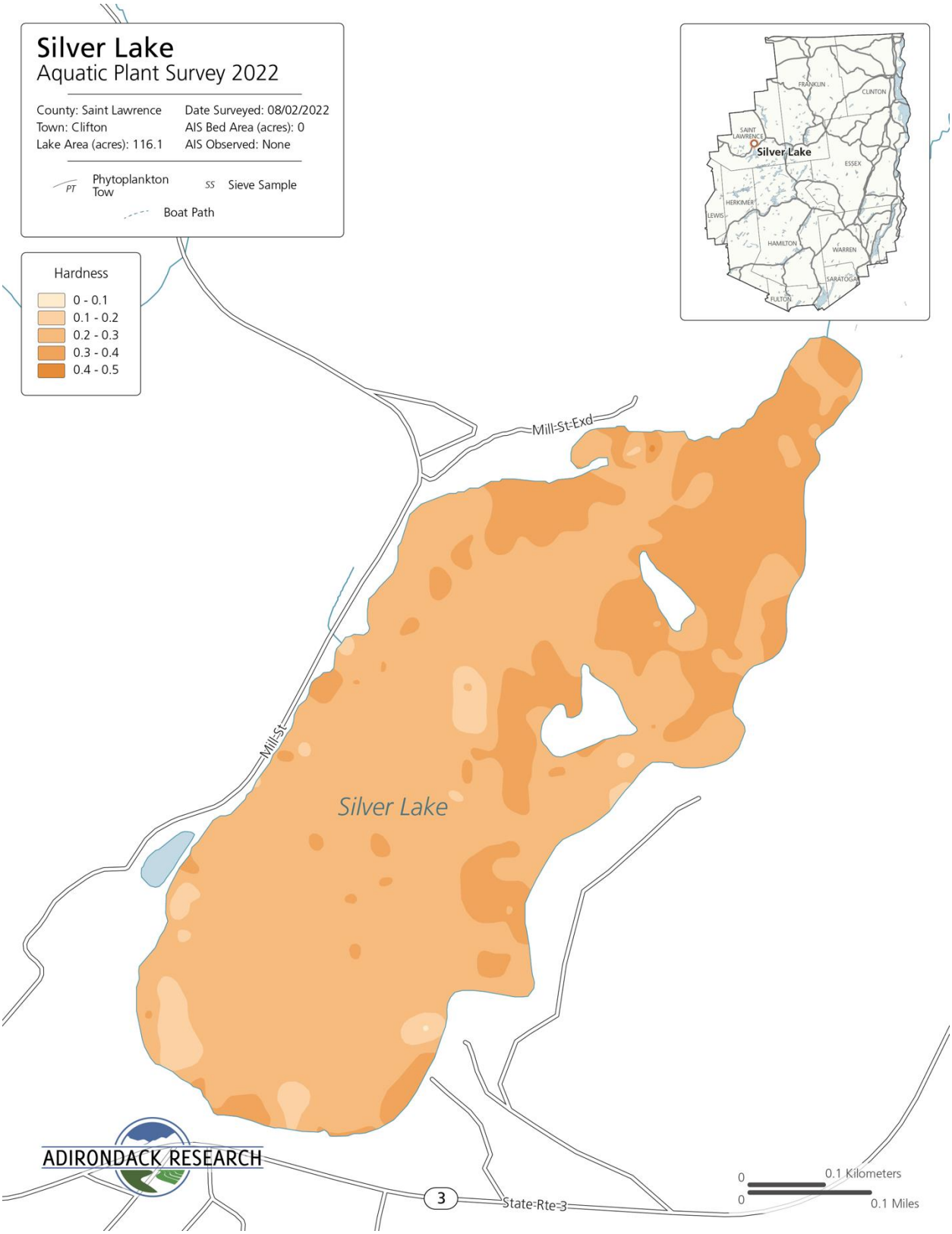
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nymphaea odorata* (American white waterlily), *Sparganium* (bur-reeds), *Typha* (cattails).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found.


Silver Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clifton
Lake Area (acres): 116.1
Date Surveyed: 08/02/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
Silver Lake
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Mill-St-Exd
Mill-St
Silver Lake
SS
ADIRONDACK RESEARCH
3
State-Rte-3
0
0.1 Kilometers
0
0.1 Miles


Silver Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clifton
Lake Area (acres): 116.1
Date Surveyed: 08/02/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
Silver Lake
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Mill-St-Exd
Mill-St
Silver Lake
ADIRONDACK RESEARCH
3
State-Rte-3
0
0.1 Kilometers
0
0.1 Miles


Silver Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clifton
Lake Area (acres): 116.1
Date Surveyed: 08/02/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
FRANKLIN
CLINTON
SAINT LAWRENCE
Silver Lake
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Mill St Exd
Mill St
Silver Lake
ADIRONDACK RESEARCH
3
State Rte 3
0
0.1 Kilometers
0
0.1 Miles

Soft Maple Reservoir

Survey Date: June 27, 2022 & June 28, 2022
Last Surveyed: 2016
Survey Team: B. Fisher, M. Sharpe, E. Spencer, M. Walton

Lake Description

Soft Maple Reservoir is 330.59 acres and 12.67 miles of shoreline. Soft Maple Reservoir is located in the town of Watson, Lewis County, and lies in the St. Lawrence River watershed. The team launched two canoes the first day from the Soft Maple Campground. The second day the team was able to launch one motorboat from a private residence on the southwestern end of the lake.

Aquatic Invasive Plant Presence

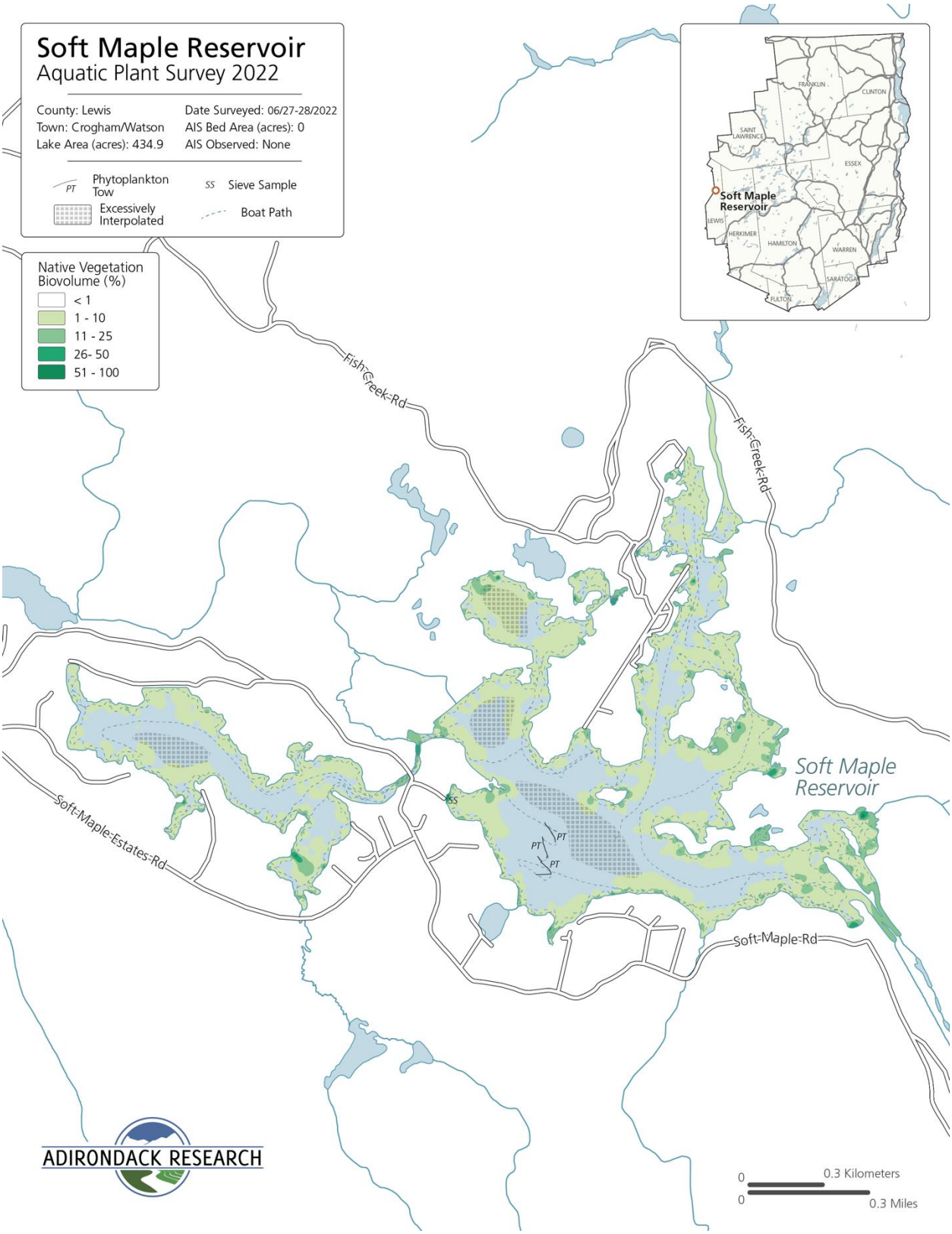
No invasive plants were detected in 2022. *Myriophyllum heterophyllum* (variable leaf milfoil) was documented in this lake in a 2015 DEC report, but no further observations have been documented. This warrants further surveys by local communities to try and confirm the invasive species current status.

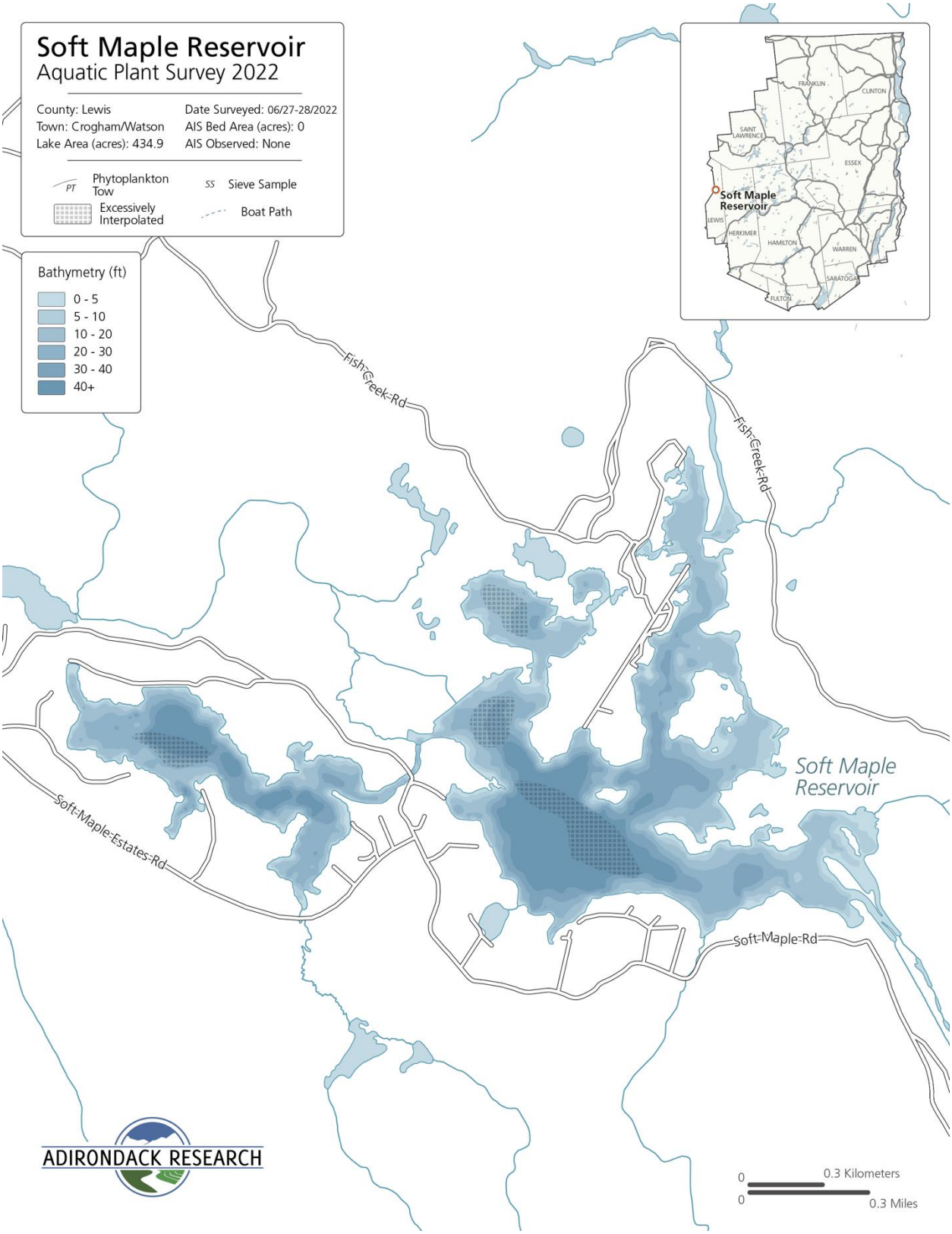
Native Plant Biota

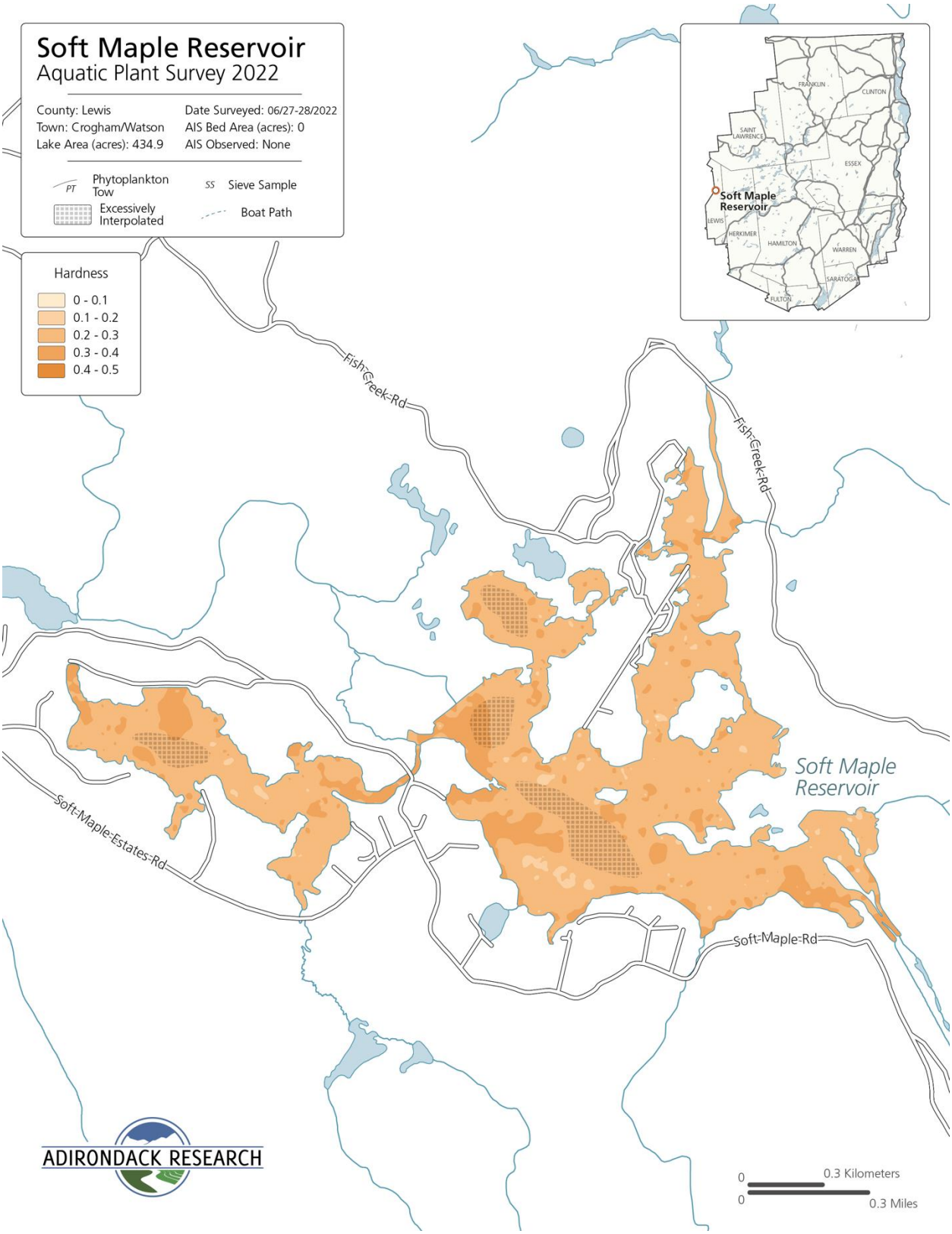
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Utricularia macrorhiza* (common bladderwort), *Pontederia cordata* (pickerel weed), *Brasenia schreberi* (water shield), *Iris versicolor* (northern blue flag), *Nymphaea odorata* (American white waterlily).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


Soft Maple Reservoir
Aquatic Plant Survey 2022
County: Lewis
Town: Crogham/Watson
Lake Area (acres): 434.9
Date Surveyed: 06/27-28/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Soft Maple Reservoir
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Fish Creek Rd
Fish Creek Rd
Soft Maple Reservoir
SS
PT
PT
PT
Soft Maple Estates Rd
Soft Maple Rd
ADIRONDACK RESEARCH
0
0.3 Kilometers
0
0.3 Miles


Soft Maple Reservoir
Aquatic Plant Survey 2022
County: Lewis
Town: Crogham/Watson
Lake Area (acres): 434.9
Date Surveyed: 06/27-28/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
Excessively Interpolated
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Soft Maple Reservoir
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Fish Creek Rd
Fish Creek Rd
Soft Maple Reservoir
Soft Maple Estates Rd
Soft Maple Rd
ADIRONDACK RESEARCH
0
0
0.3 Kilometers
0.3 Miles


Soft Maple Reservoir
Aquatic Plant Survey 2022
County: Lewis
Town: Crogham/Watson
Lake Area (acres): 434.9
Date Surveyed: 06/27-28/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
Soft Maple Reservoir
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HERKIMER
HAMILTON
WARREN
SARATOGA
FULTON
Fish Creek Rd
Fish Creek Rd
Soft Maple Reservoir
Soft Maple Estates Rd
Soft Maple Rd
ADIRONDACK RESEARCH
0
0
0.3 Kilometers
0.3 Miles

South Lake

Survey Date: July 6, 2022
Last Surveyed: 2015
Survey Team: B. Fisher, M. Sharpe

Lake Description

South Lake is 485.38 acres and 8.79 miles of shoreline. South Lake is located in the town of Ohio, Herkimer County and lies in the Black River watershed. The team launched a motorboat from the launch on South Lake Road.

Aquatic Invasive Plant Presence

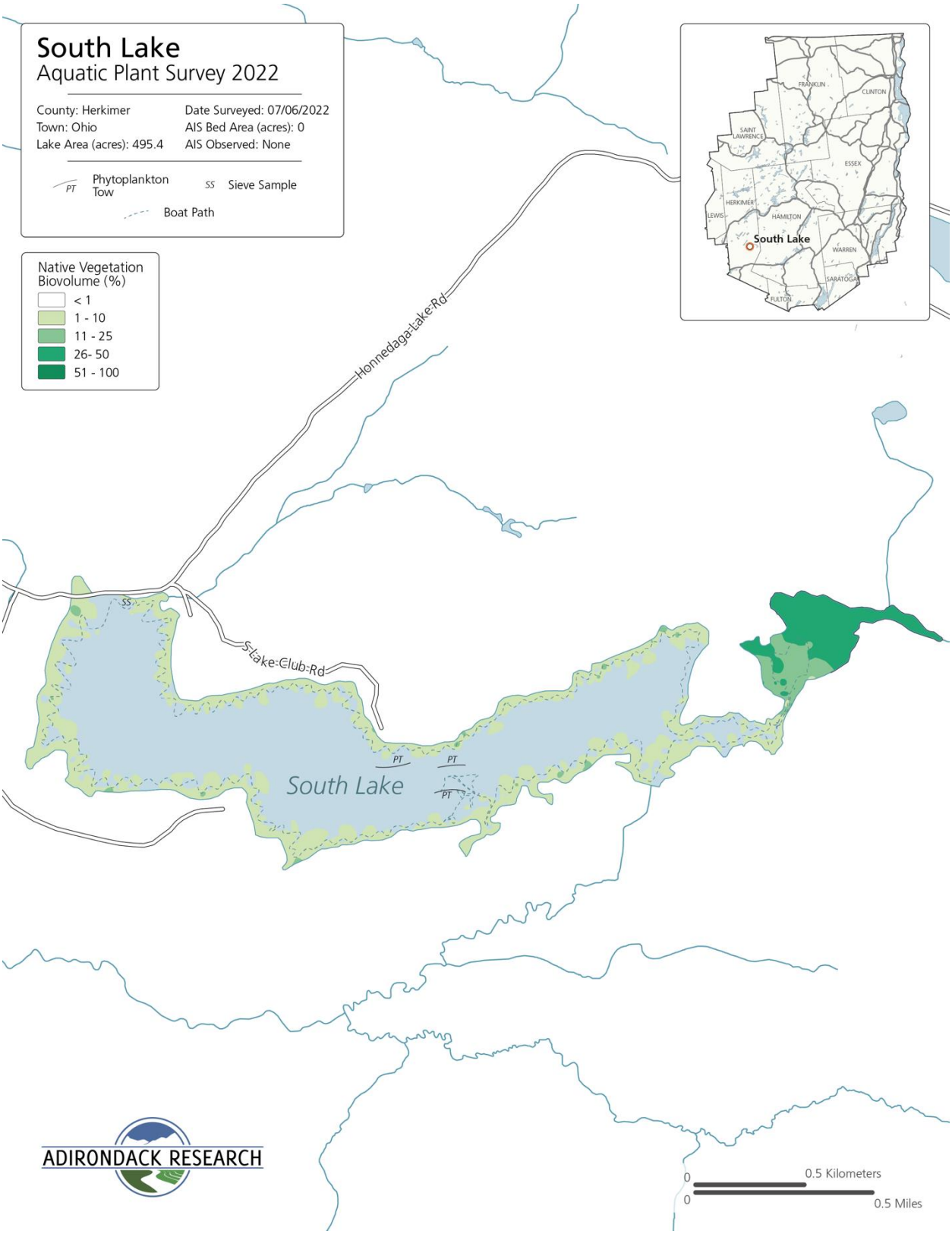
No invasive plants were detected.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Brasenia schreberi* (watershield), *Nuphar advena* (spatterdock), *Iris versicolor* (northern blue flag), *Myriophyllum farwellii* (Farwell's water milfoil), *Utricularia macrorhiza* (common bladderwort), *Myriophyllum humile* (low water milfoil).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


South Lake
Aquatic Plant Survey 2022
County: Herkimer
Town: Ohio
Lake Area (acres): 495.4
Date Surveyed: 07/06/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Honnedaga Lake Rd
S Lake Club Rd
South Lake
SS
PT
PT
PT
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
South Lake
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0
0.5 Kilometers
0.5 Miles

Star Lake

Survey Date: August 4, 2022
Last Surveyed: 2021
Survey Team: M. Bargabos, K. Dernier, B. Fisher, M. Sharpe

Lake Description

Star Lake is 205.14 acres with 6.59 miles of shoreline. It is located in the town of Fine, St. Lawrence County, and lies in the Oswegatchie River watershed. The team launched two canoes from a carry-in launch off of where Youngs Road meets New York State Route 3.

Aquatic Invasive Plant Presence

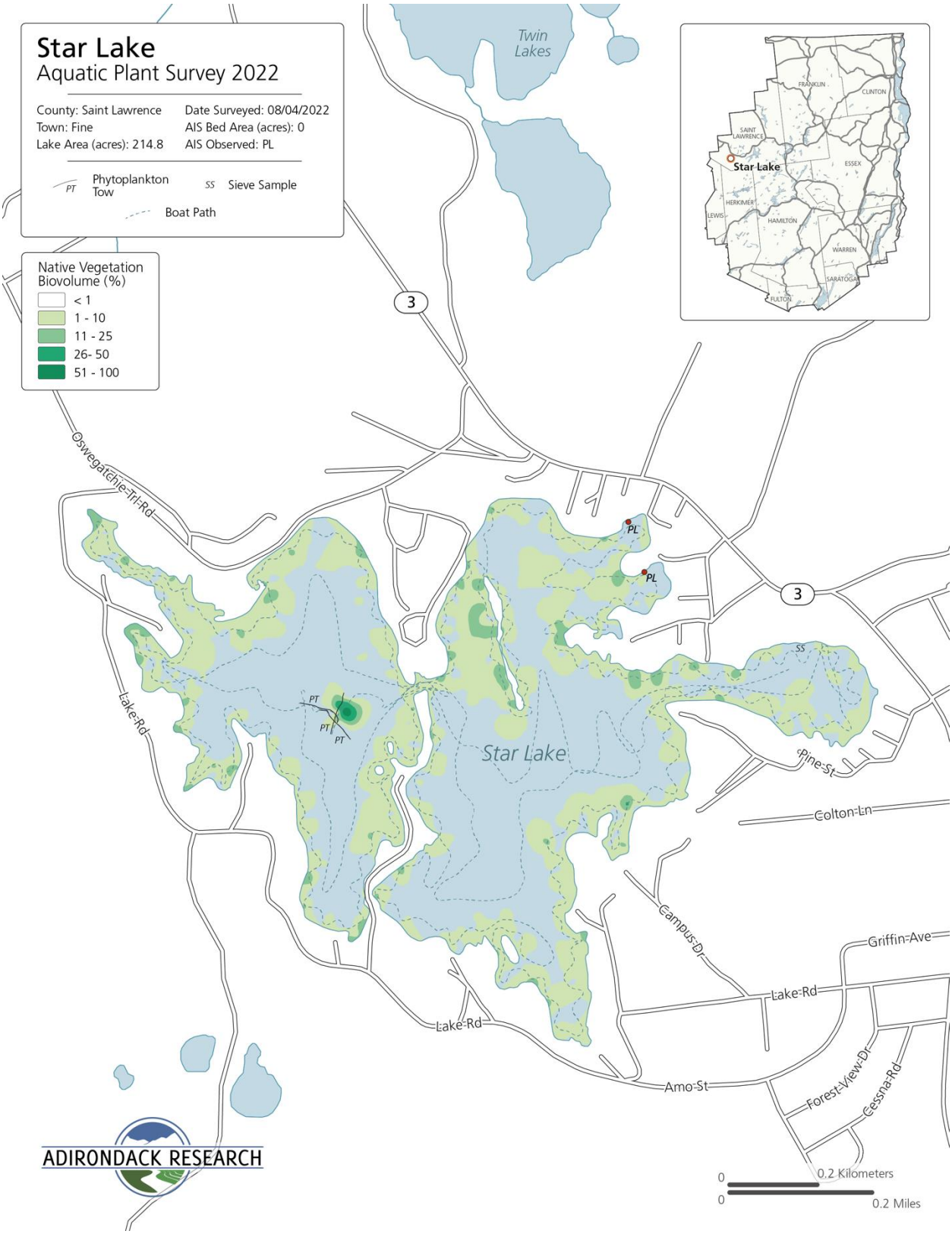
No aquatic invasive plants were detected. The terrestrial wetland plant *Lythrum salicaria* (purple loosestrife) was detected along the shoreline in two locations.

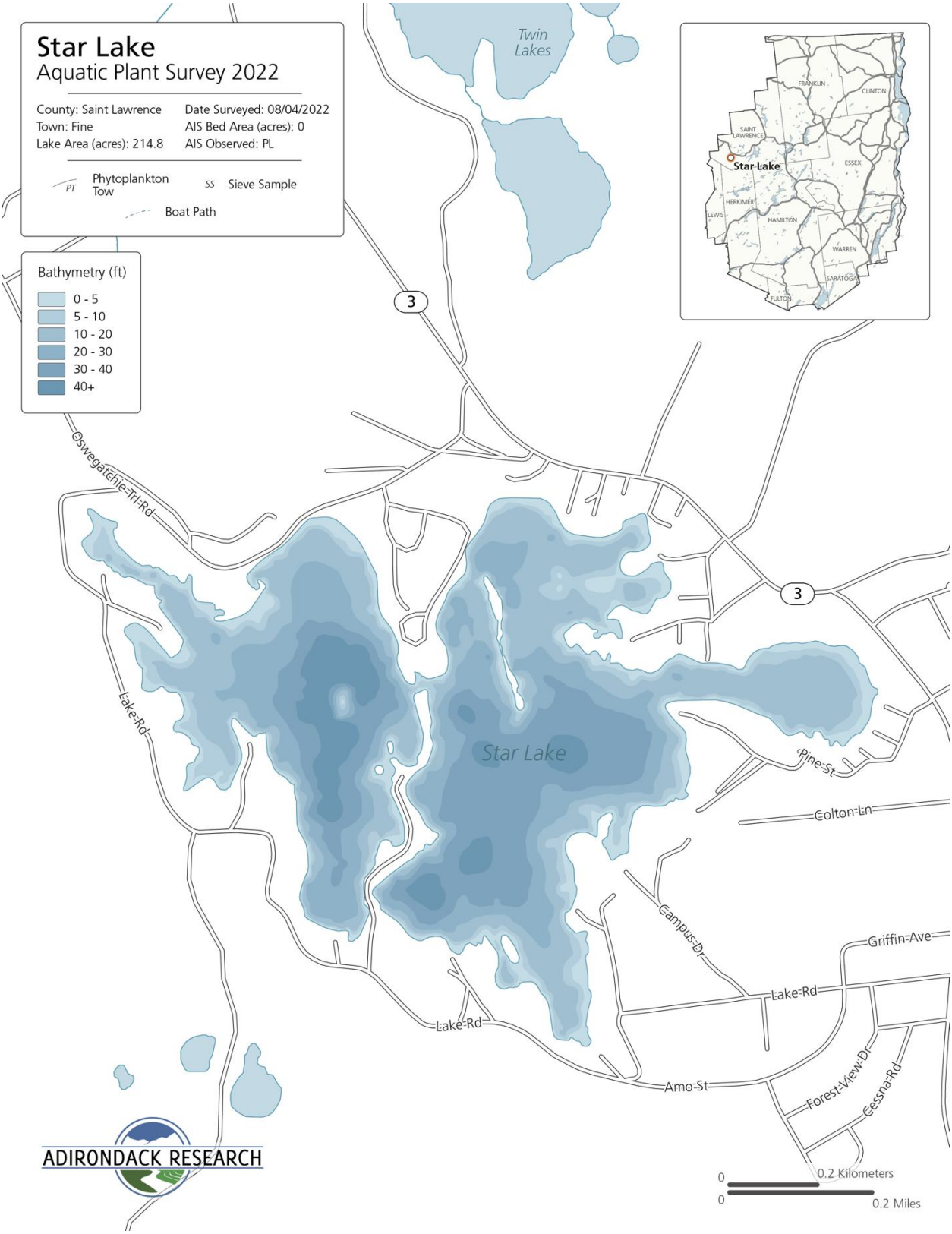
Native Plant Biota

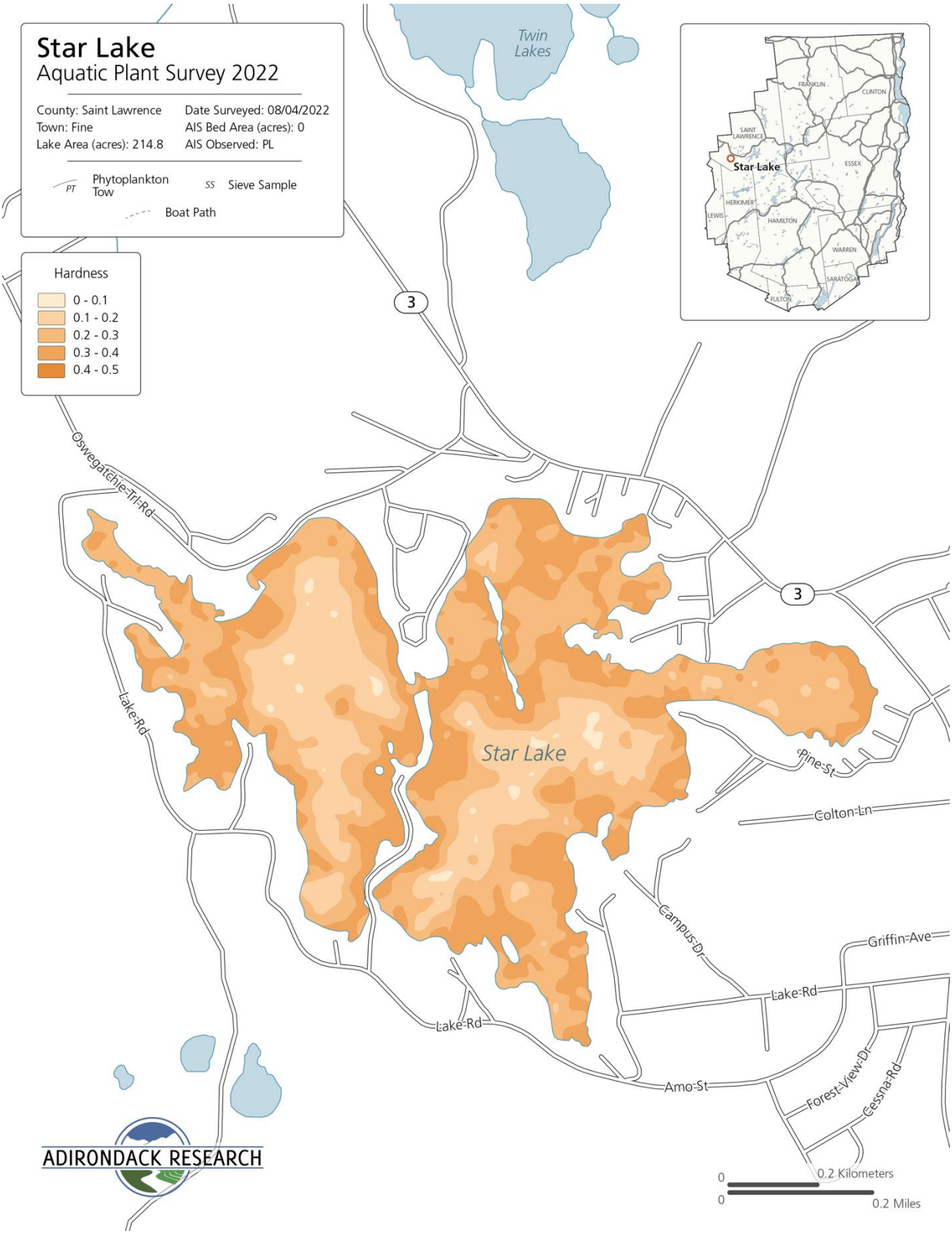
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nymphaea odorata* (American white waterlily), *Lobelia dortmanna* (water lobelia).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


Star Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Fine
Lake Area (acres): 214.8
Date Surveyed: 08/04/2022
AIS Bed Area (acres): 0
AIS Observed: PL
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Twin Lakes
Star Lake
Oswegatchie-Tri-Rd
Lake-Rd
Pine-St
Colton-Ln
Campus-Dr
Griffin-Ave
Amo-St
Forest-View-Dr
Cessna-Rd
3
PL
PT
SS
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
0 0.2 Kilometers
0 0.2 Miles
ADIRONDACK RESEARCH


Star Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Fine
Lake Area (acres): 214.8
Date Surveyed: 08/04/2022
AIS Bed Area (acres): 0
AIS Observed: PL
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
Twin Lakes
Star Lake
Oswegatchie-Tri-Rd
Lake-Rd
Pine-St
Colton-Ln
Campus-Dr
Griffin-Ave
Amo-St
Forest-View-Dr
Cessna-Rd
3
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
0
0.2 Kilometers
0
0.2 Miles
ADIRONDACK RESEARCH


Star Lake
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Fine
Lake Area (acres): 214.8
Date Surveyed: 08/04/2022
AIS Bed Area (acres): 0
AIS Observed: PL
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
Twin Lakes
Star Lake
3
Oswegatchie-Trl-Rd
Lake-Rd
Pine-St
Colton-Ln
Campus-Dr
Griffin-Ave
Amo-St
Forest-View-Dr
Cessna-Rd
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
0 0.2 Kilometers
0 0.2 Miles
ADIRONDACK RESEARCH

Stillwater Reservoir

Survey Date: June 30, 2022
Last Surveyed: 2013
Survey Team: B. Fisher, M. Sharpe, E. Spencer, M. Walton

Lake Description

Stillwater Reservoir is 6224.71 acres and 110.07 miles of shoreline. Stillwater Reservoir is located in the town of Webb, Herkimer County, and lies in the Black River watershed. The team launched two motorboats from the DEC hard launch on Stillwater Road. The team spent a full day doing a partial survey of the area surrounding the public launch. A total of 1250.79 acres and 17.5 miles of shoreline were surveyed.

Aquatic Invasive Plant Presence

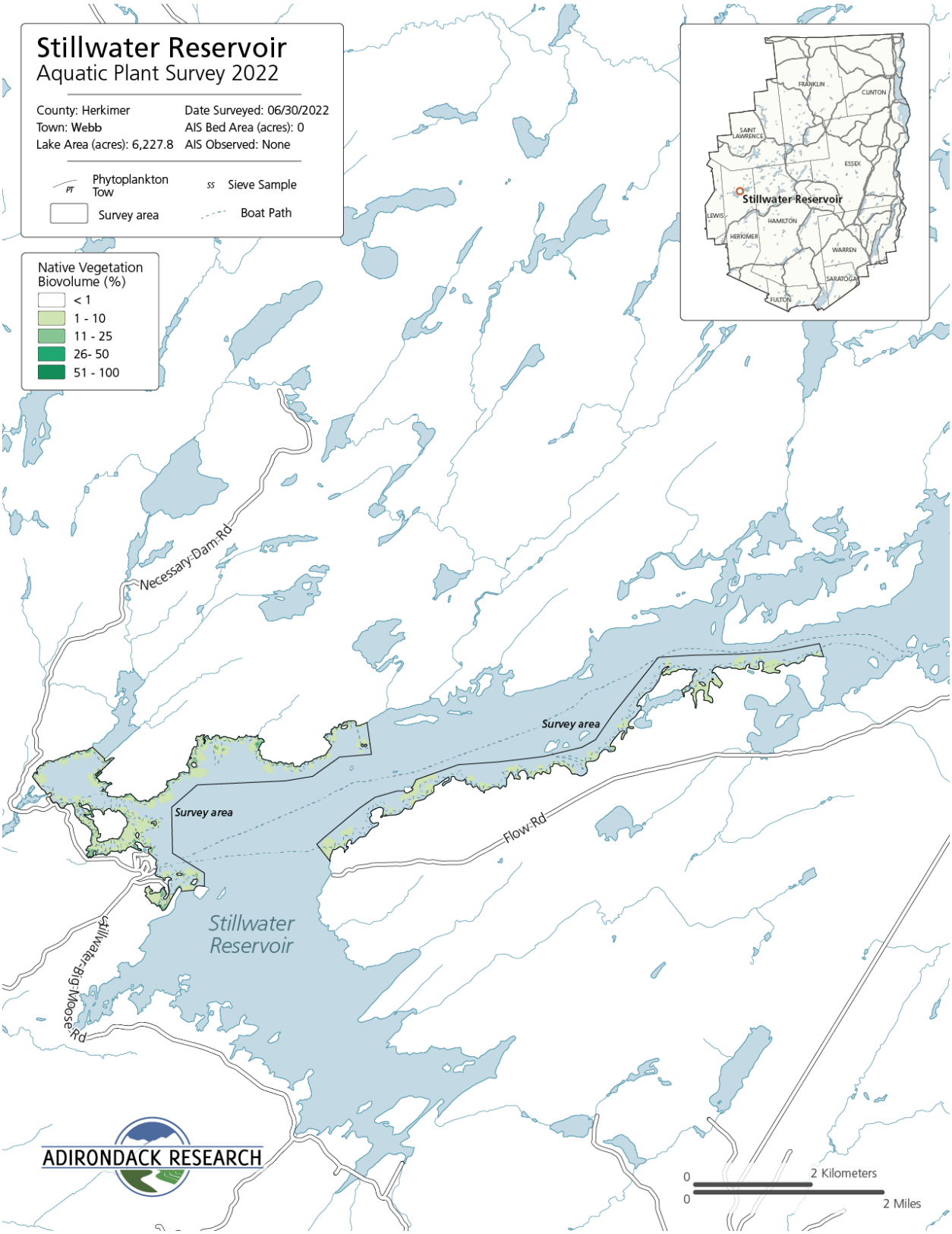
No invasive plants were detected. *Myriophyllum heterophyllum* (Variable leaf milfoil) was documented in this lake in a 2015 DEC report, but no further observations have been documented. This warrants further surveys by local communities to try and confirm the invasive species current status.

Native Plant Biota

Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Iris versicolor* (northern blue flag), *Sparganium fluctuans* (floating bur-reed), *Nuphar advena* (spatterdock), *Potamogeton gramineus* (various-leaved pondweed), *Potamogeton nodosus* (long-leaf pondweed), *Utricularia macrorhiza* (common bladderwort).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. No plankton tows were conducted due to the time frame of the partial survey.


Stillwater Reservoir
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 6,227.8
Date Surveyed: 06/30/2022
AIS Bed Area (acres): 0
AIS Observed: None
Phytoplankton Tow
Sieve Sample
Survey area
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Stillwater Reservoir
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
Necessary Dam Rd
Survey area
Survey area
Flow Rd
Stillwater Reservoir
Stillwater-Big Moose Rd
ADIRONDACK RESEARCH
0
2 Kilometers
0
2 Miles

Stoney Creek Ponds

Survey Date: July 28, 2022
Last Surveyed: 2021
Survey Team: M. Bargabos, K. Dernier, B. Fisher, M. Walton

Lake Description

Stoney Creek Ponds is 186.77 acres with 5.78 miles of shoreline. It is located 9 miles East of Tupper Lake, Franklin County, and lies in the Raquette River watershed. The teams launched two canoes from a roadside carry-in on Coreys Road.

Aquatic Invasive Plant Presence

No invasive plants were detected.

Native Plant Biota

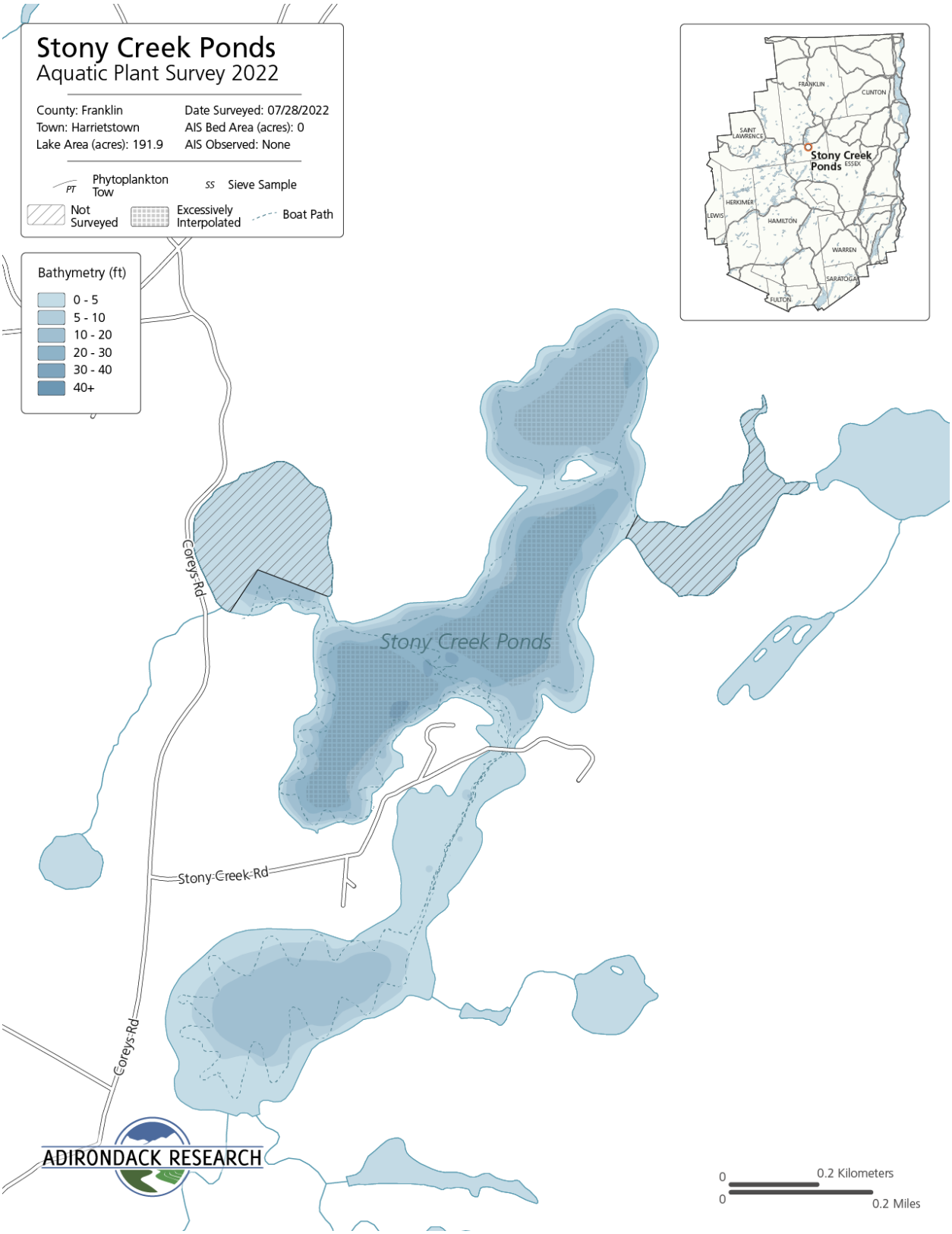
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Ranunculus flammula* (lesser spearwort), *Najas flexilis* (nodding waternymph), *Potamogeton epihydrus* (ribbon leaved pondweed), *Utricularia macrorhiza* (common bladderwort), *Potamogeton pusillus* (lesser pondweed), *Nymphaea odorata* (American white waterlily), *Lobelia dortmanna* (water lobelia), *Persicaria amphibia* (water smartweed), *Sparganium fluctuans* (floating bur-reed), *Pontederia cordata* (pickerel weed), *Brasenia schreberi* (watershield).

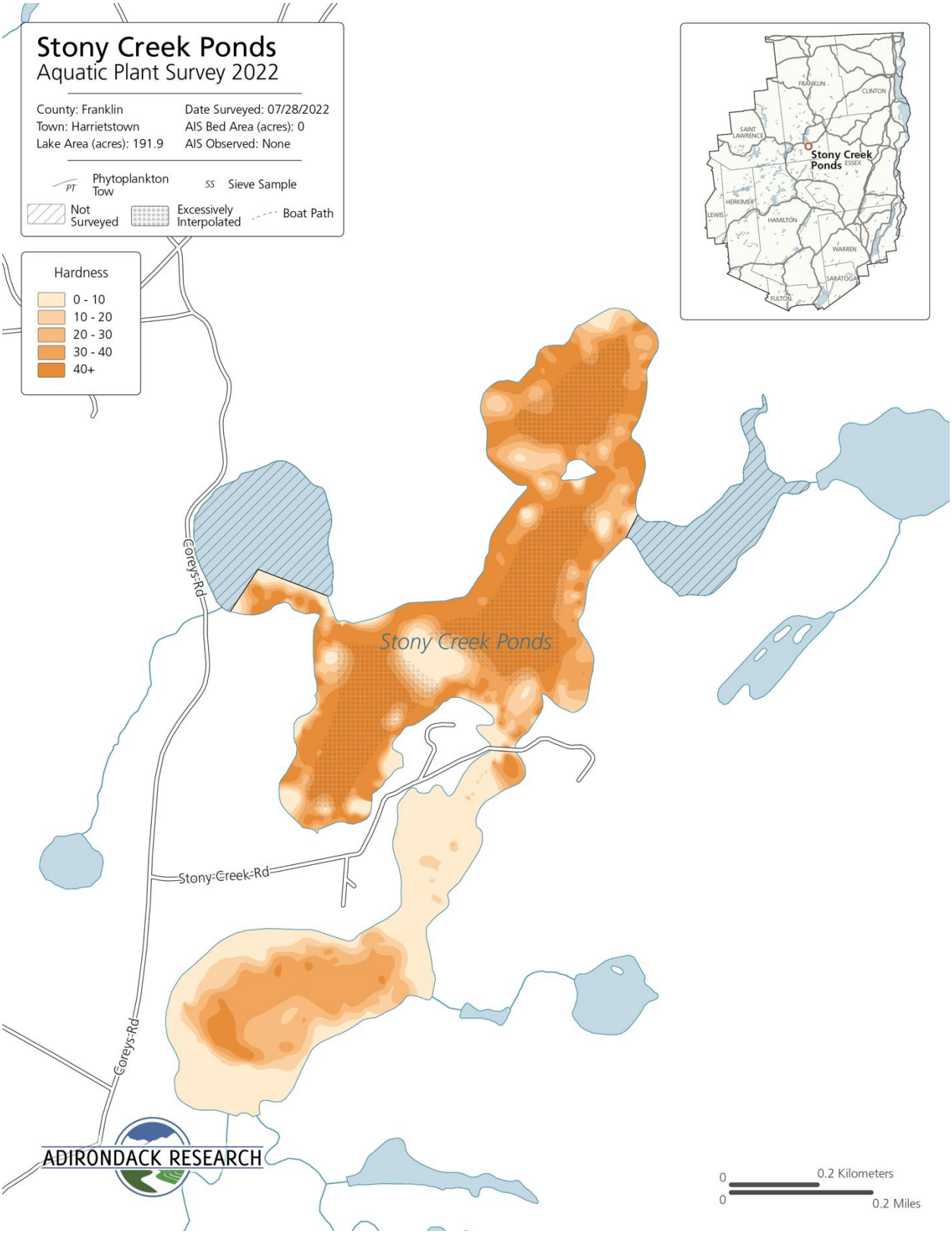
Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected. The trace for the plankton tow is missing from this map.

Map Notes

Sonar data for Stoney Creek Ponds was processed using Reefmaster. Biovolume was not able to be processed through this program, however the following maps display depth and bottom hardness.


Stony Creek Ponds
Aquatic Plant Survey 2022
County: Franklin
Town: Harrietstown
Lake Area (acres): 191.9
Date Surveyed: 07/28/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Excessively Interpolated
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Corey's Rd
Stony Creek Ponds
Stony Creek Rd
Corey's Rd
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles


Stony Creek Ponds
Aquatic Plant Survey 2022
County: Franklin
Town: Harrietstown
Lake Area (acres): 191.9
Date Surveyed: 07/28/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Excessively Interpolated
Boat Path
Hardness
0 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
Stony Creek Ponds
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
Stony Creek Ponds
Corey's Rd
Stony Creek Rd
Corey's Rd
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles

South Pond

Survey Date: June 20, 2022
Last Surveyed: 2019
Survey Team: B. Fisher, I. Miller, M. Walton

Lake Description

South Pond is 431.92 acres with 7.48 miles of shoreline. It is located approximately 5 miles south of Long Lake town, Hamilton County, and lies in the Raquette River watershed. The team launched a canoe from a roadside carry-in launch on the north-east side of the lake adjacent to New York State Route 28N.

Aquatic Invasive Plant Presence

No invasive plants were detected.

Native Plant Biota

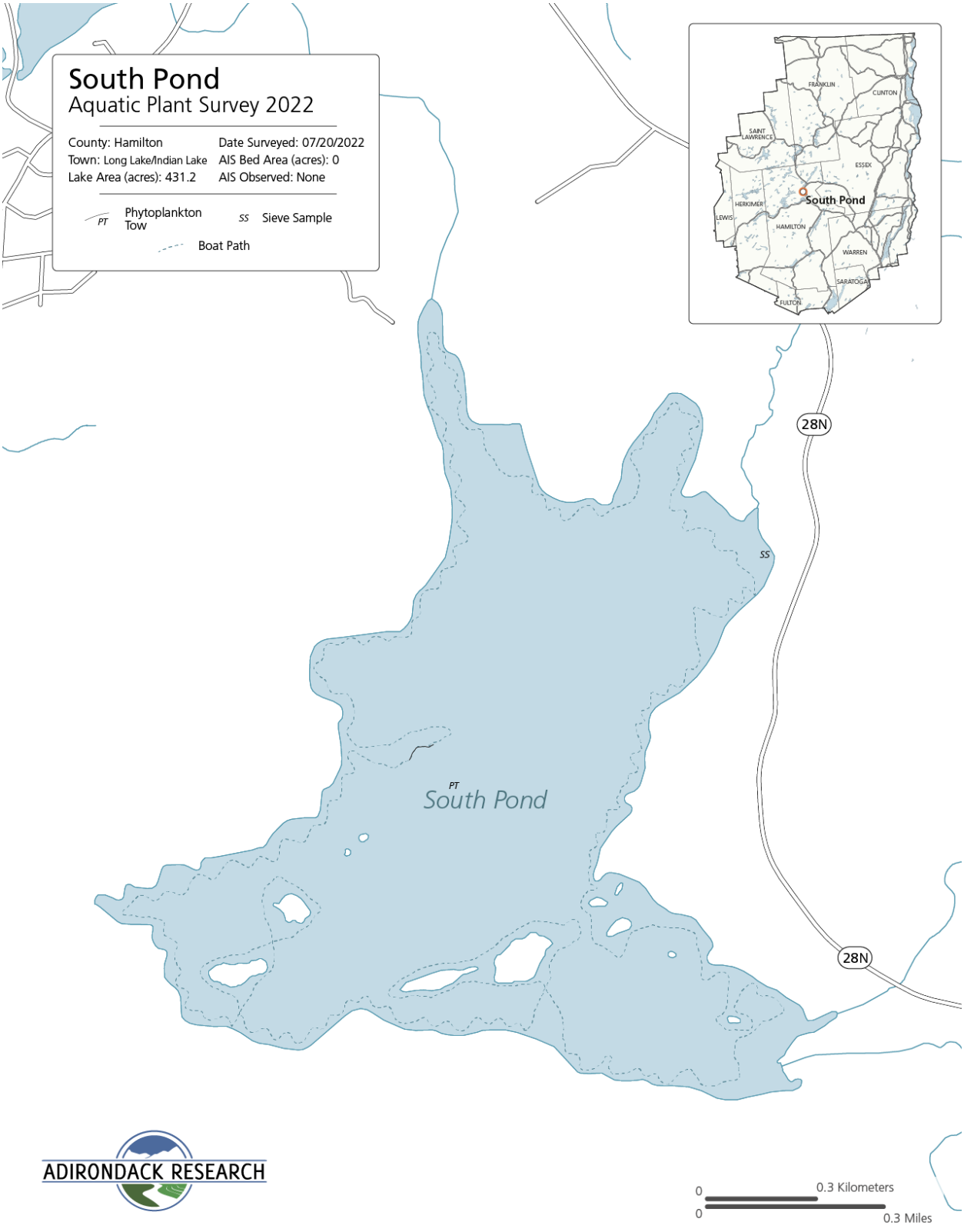
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Sparganium americanum* (American bur-reed), *Eriocaulon aquaticum* (common pipewort), *Potamogeton natans* (floating-leaved pondweed), *Utricularia intermedia* (intermediate bladderwort), *Pontederia cordata* (pickerelweed).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. A single plankton tow was conducted with no invasive zooplankton detected.

Map Notes

Sonar data for South Pond was processed using Reefmaster.


South Pond
Aquatic Plant Survey 2022
County: Hamilton
Town: Long Lake/Indian Lake
Lake Area (acres): 431.2
Date Surveyed: 07/20/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
South Pond
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
28N
SS
PT
South Pond
28N
ADIRONDACK RESEARCH
0
0
0.3 Kilometers
0.3 Miles

Tooley Pond

Survey Date: August 2, 2022
Last Surveyed: 2016
Survey Team: K. Dernier, M. Sharpe

Lake Description

Tooley Pond is 45.89 acres with 1.64 miles of shoreline. It is located in the town of Clare, St. Lawrence County, and lies in the St. Lawrence River watershed. The team launched a canoe from a soft launch off of Tooley Pond Road.

Aquatic Invasive Plant Presence

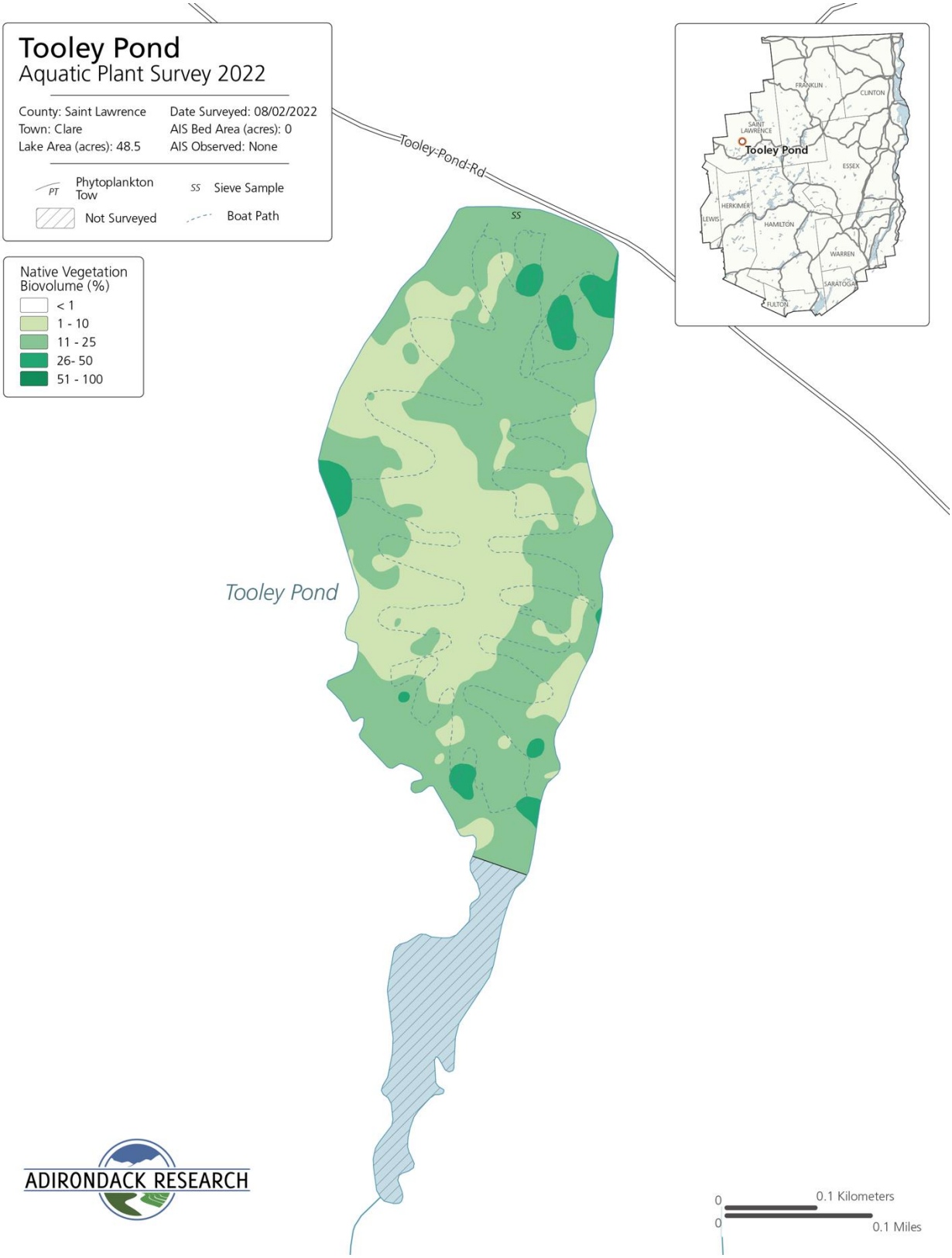
Several small to medium sized beds of *Myriophyllum spicatum* (Eurasian watermilfoil) were found throughout the pond, with most being found on the northern half of the pond.

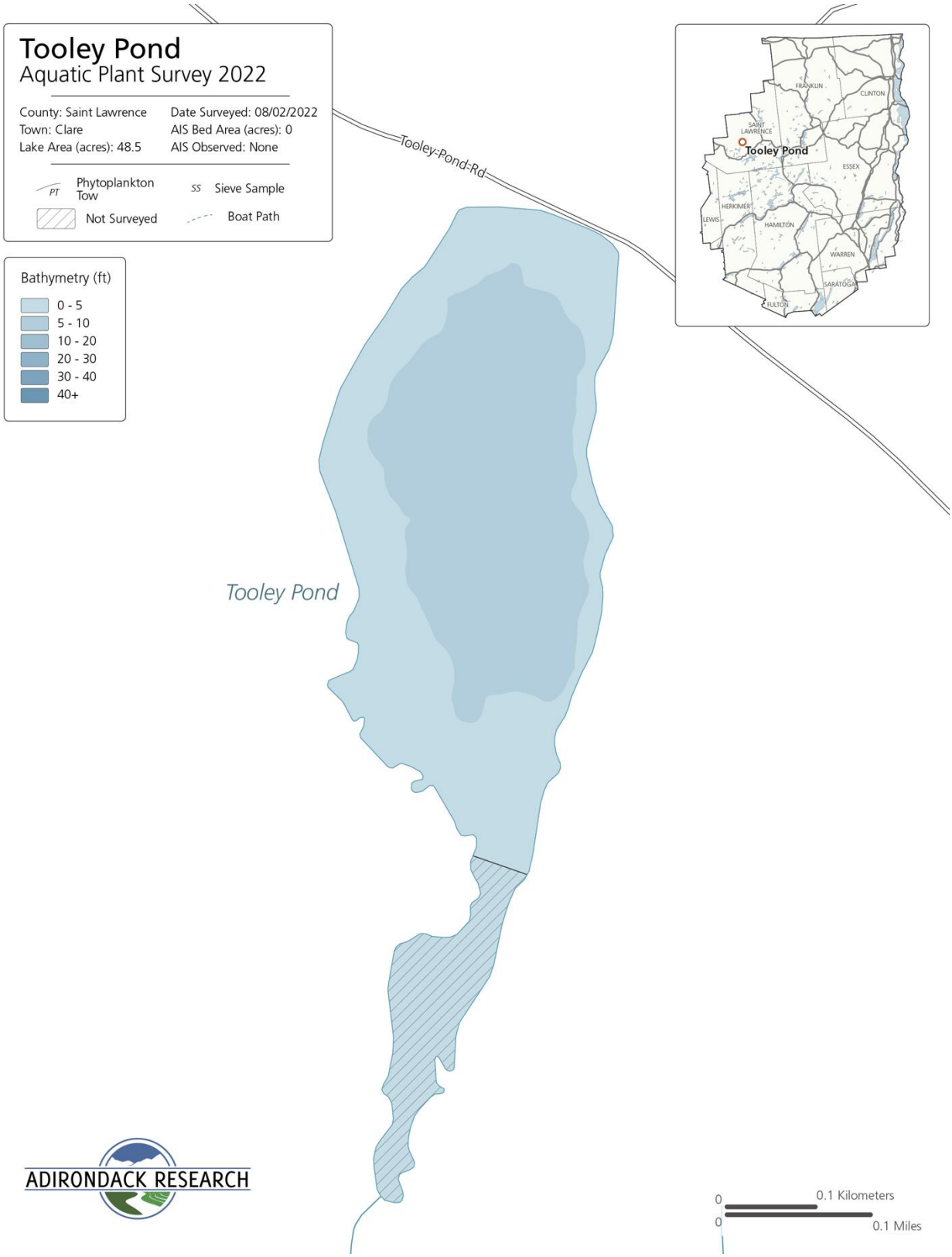
Native Plant Biota

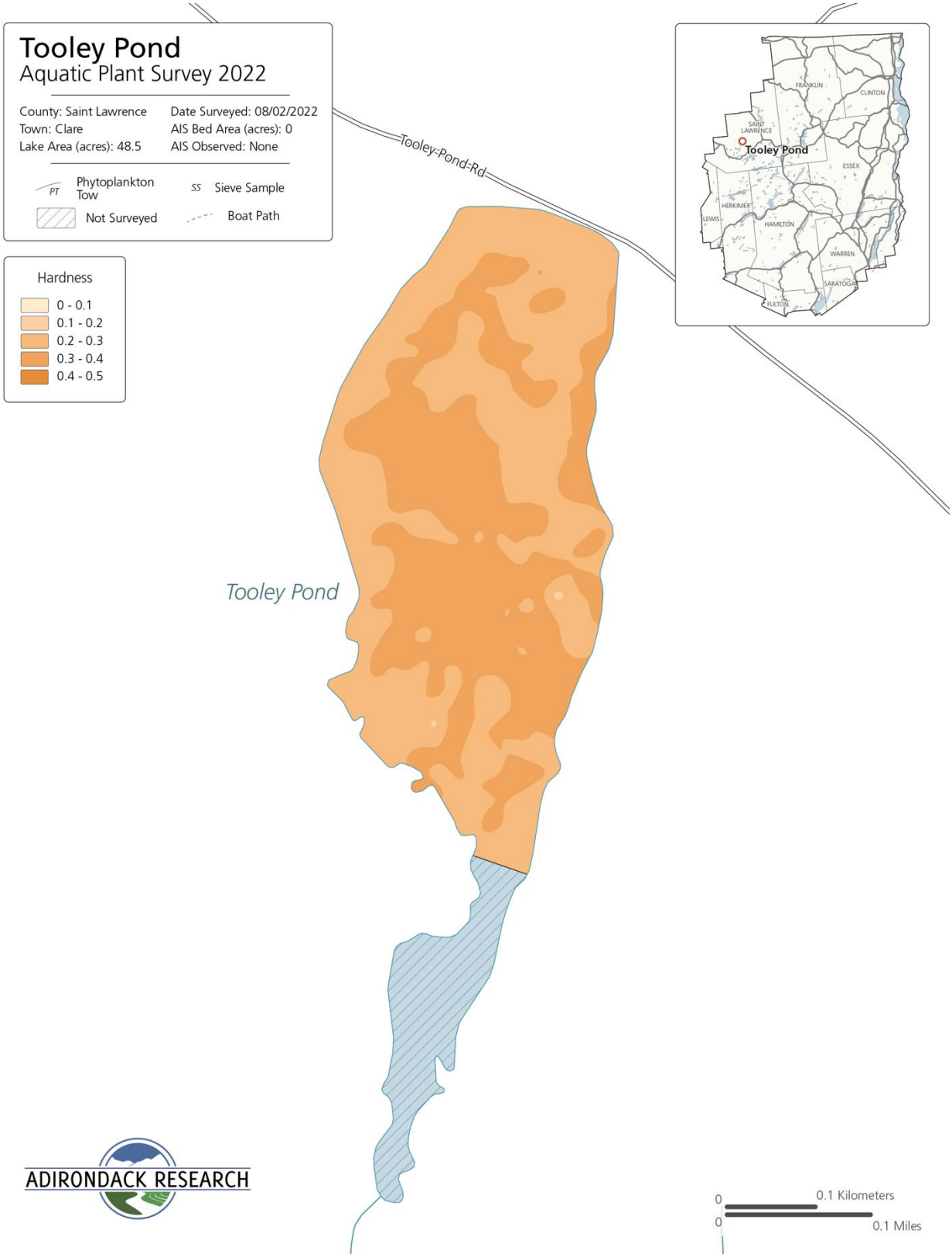
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Pontederia cordata* (pickerel weed), *Eriocaulon decangulare* (pipewort), *Utricularia macrorhiza* (common bladderwort), *Brasenia schreberi* (watershield), *Nuphar advena* (spatterdock), *Potamogeton amplifolius* (largeleaf pondweed), *Sparganium angustifolium* (narrow leaf bur reed), *Nitella sp.* (nitella), *Elodea canadensis* (elodea).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. *Viviparus georgianus* (banded mystery snail) was observed floating in the pond no live samples were obtained.


Tooley Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clare
Lake Area (acres): 48.5
Date Surveyed: 08/02/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Tooley-Pond-Rd
SS
Tooley Pond
FRANKLIN
CLINTON
SAINT LAWRENCE
Tooley Pond
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.1 Kilometers
0
0.1 Miles


Tooley Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clare
Lake Area (acres): 48.5
Date Surveyed: 08/02/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
Tooley-Pond-Rd
Tooley Pond
FRANKLIN
CLINTON
SAINT LAWRENCE
Tooley Pond
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.1 Kilometers
0
0.1 Miles


Tooley Pond
Aquatic Plant Survey 2022
County: Saint Lawrence
Town: Clare
Lake Area (acres): 48.5
Date Surveyed: 08/02/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Not Surveyed
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
Tooley-Pond-Rd
Tooley Pond
FRANKLIN
CLINTON
SAINT LAWRENCE
Tooley Pond
ESSEX
HERKIMER
LEWIS
HAMILTON
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0
0.1 Kilometers
0.1 Miles

Twitchell Lake

Survey Date: June 22, 2022
Last Surveyed: 2019
Survey Team: M. Sharpe, M. Walton

Lake Description

Twitchell Lake is 142.64 acres and 4.36 miles of shoreline. Twitchell Lake is located in the town of Webb, Herkimer County, and lies in the Black River watershed. The team launched a motorboat from Twitchell Lake boat ramp on the southern end of the lake.

Aquatic Invasive Plant Presence

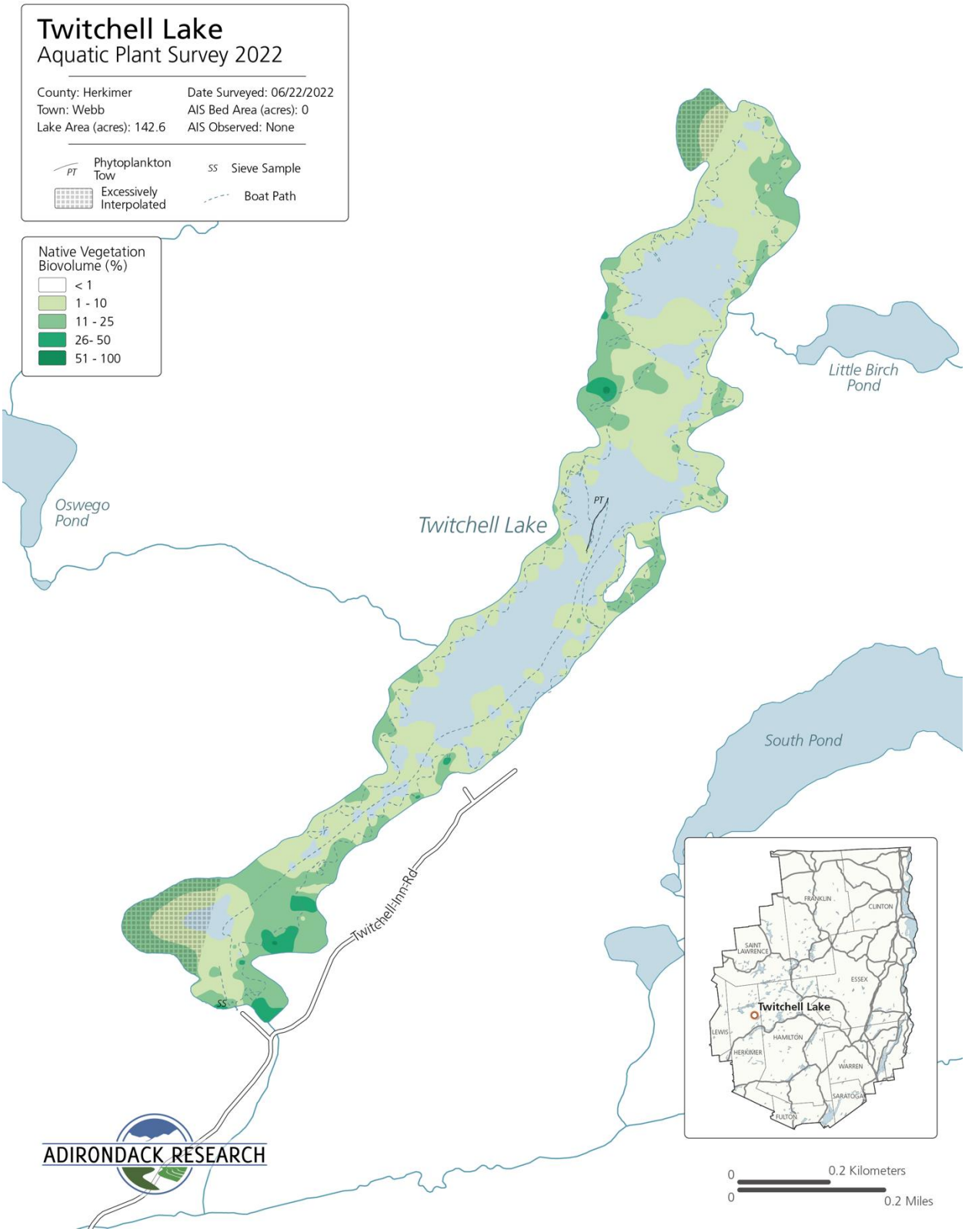
No invasive plants were detected.

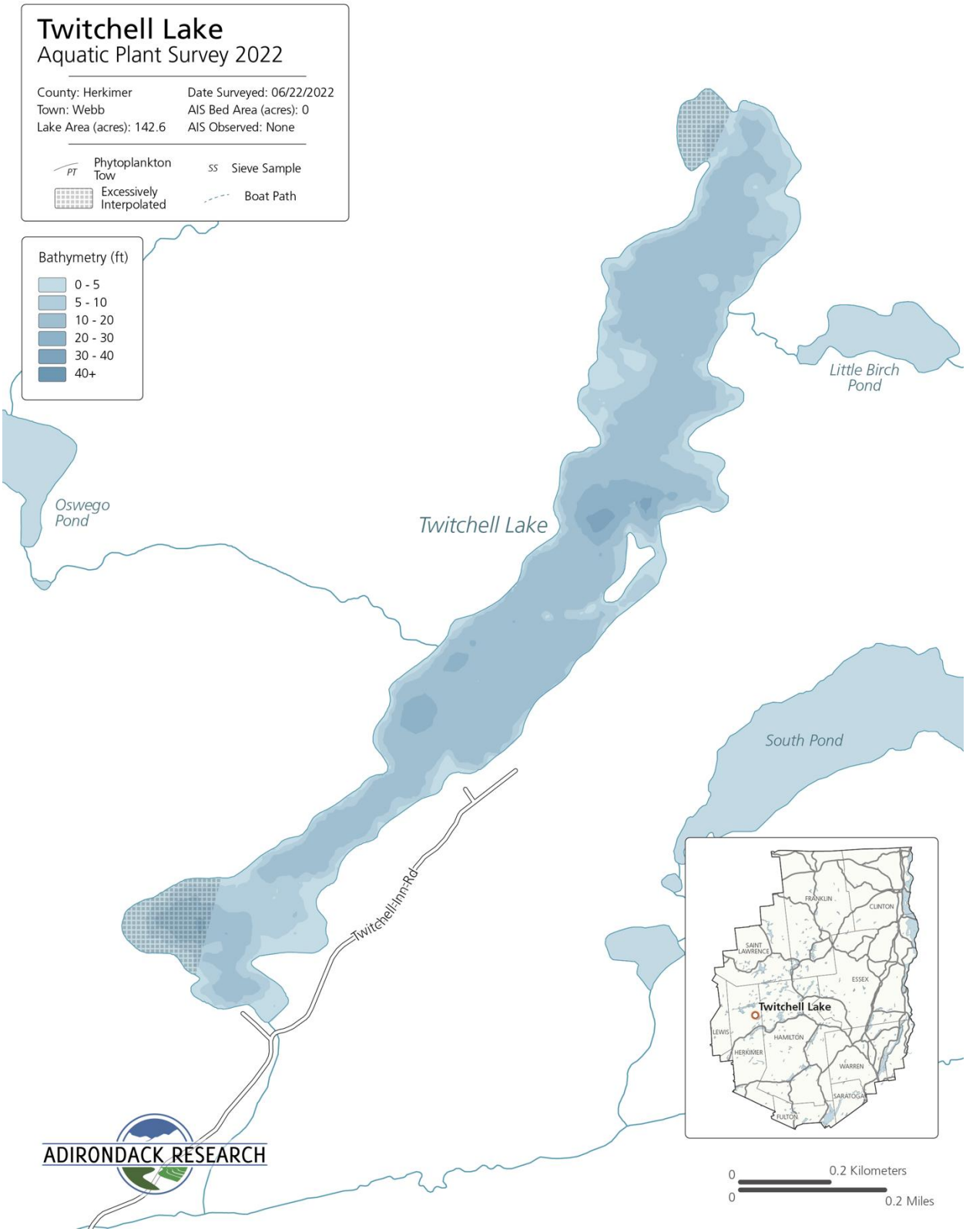
Native Plant Biota

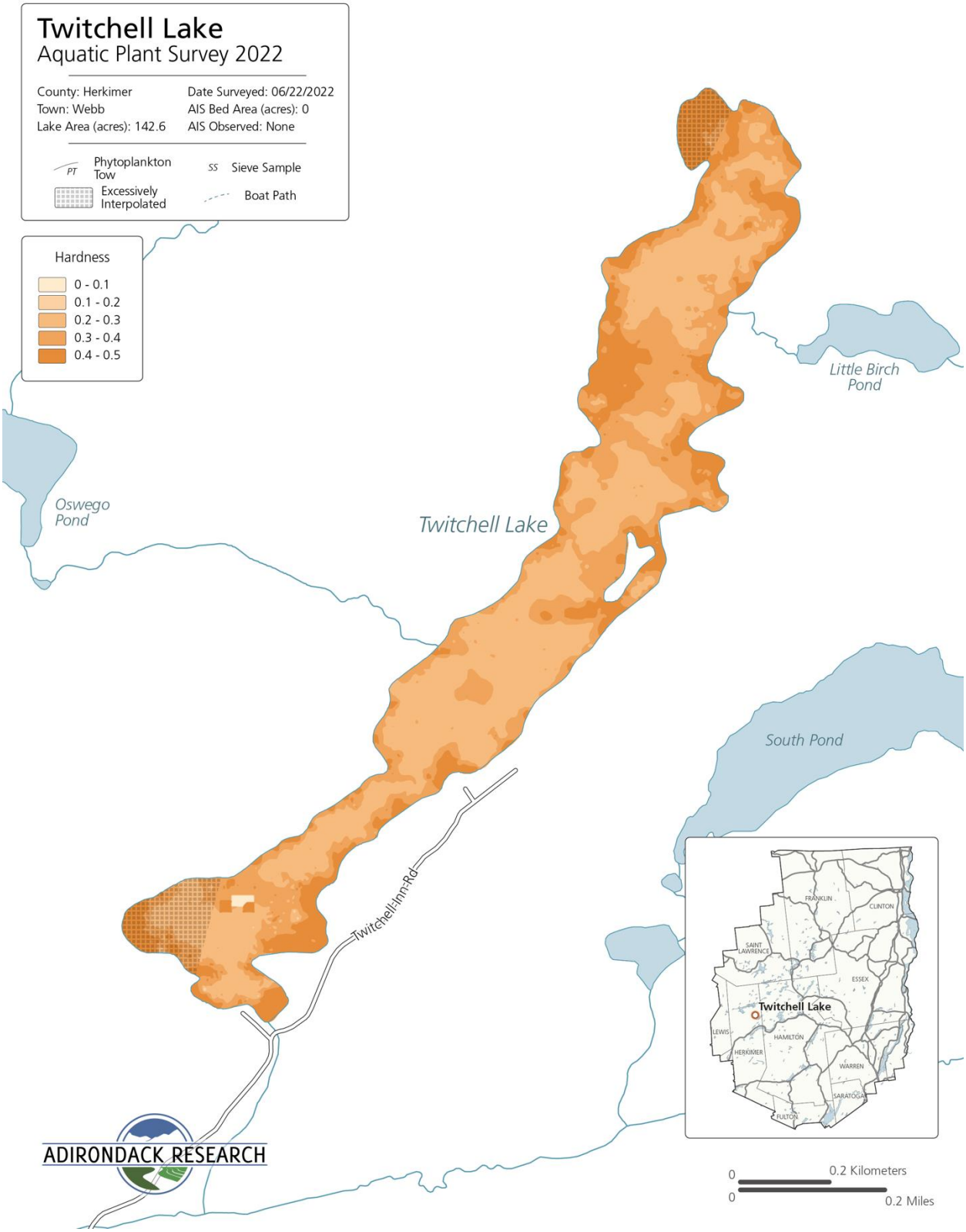
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Brasenia schreberi* (watersheild), *Juncus militaris* (bayonet rush), *Sparganium fluctuans* (floating bur-reed).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. A single plankton tow was conducted with no invasive zooplankton detected.


Twitchell Lake
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 142.6
Date Surveyed: 06/22/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Little Birch Pond
Oswego Pond
Twitchell Lake
South Pond
Twitchell Inn Rd
PT
SS
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Twitchell Lake
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles


Twitchell Lake
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 142.6
Date Surveyed: 06/22/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
Little Birch Pond
Oswego Pond
Twitchell Lake
South Pond
Twitchell Inn Rd
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Twitchell Lake
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0.2 Kilometers
0
0.2 Miles


Twitchell Lake
Aquatic Plant Survey 2022
County: Herkimer
Town: Webb
Lake Area (acres): 142.6
Date Surveyed: 06/22/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
Little Birch Pond
Oswego Pond
Twitchell Lake
South Pond
Twitchell Inn Rd
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
Twitchell Lake
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0 0.2 Kilometers
0 0.2 Miles

White Lake

Survey Date: July 6, 2022
Last Surveyed: 2019
Survey Team: M. Bargabos, M. Walton

Lake Description

White Lake is 240.61 acres and 6.31 miles of shoreline. White Lake is located in the town of Forestport, Oneida County and lies in the Black River watershed. With permissions the team launched a motorboat at the White Lake Association's private launch off NY-Route 28.

Aquatic Invasive Plant Presence

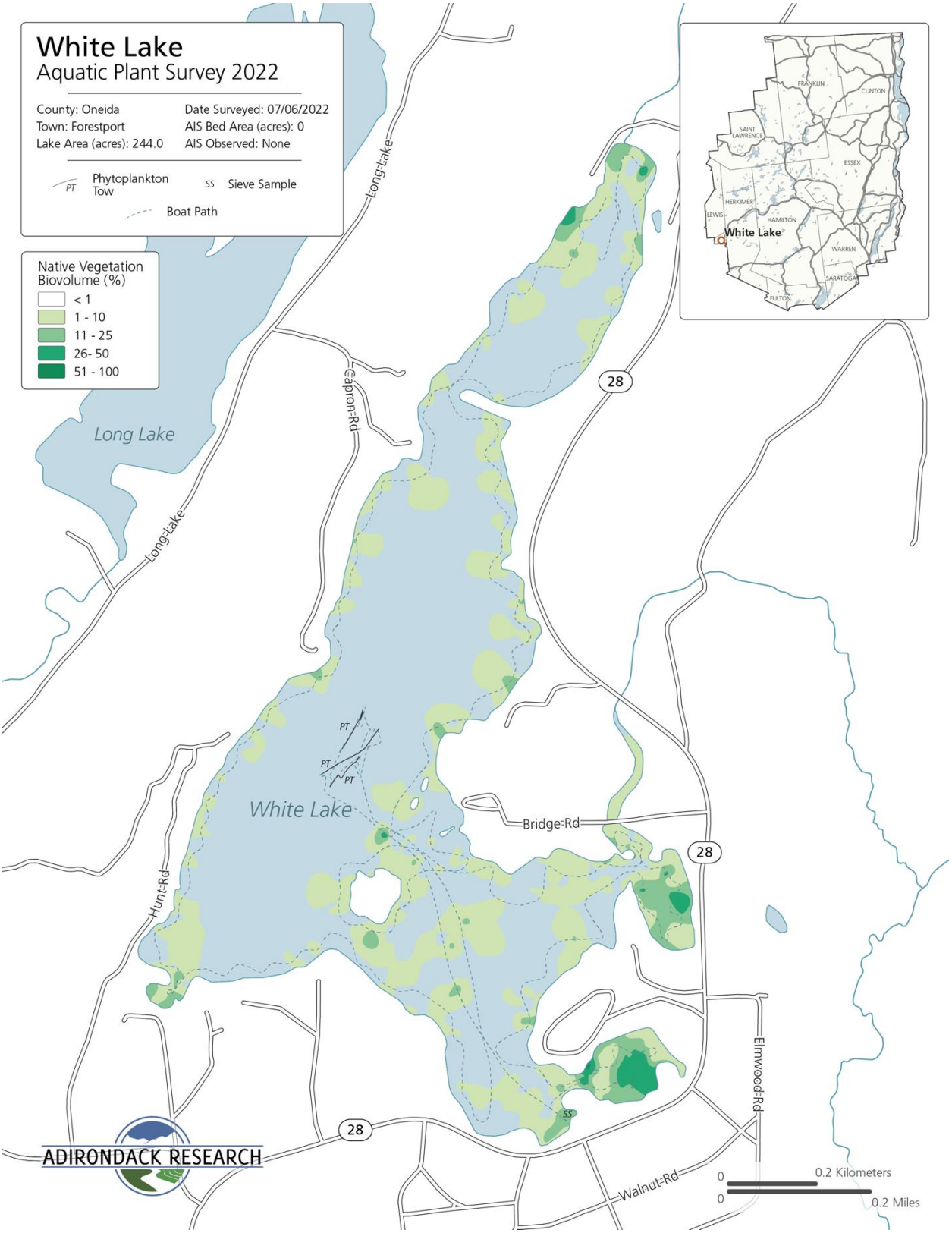
No invasive plants were detected.

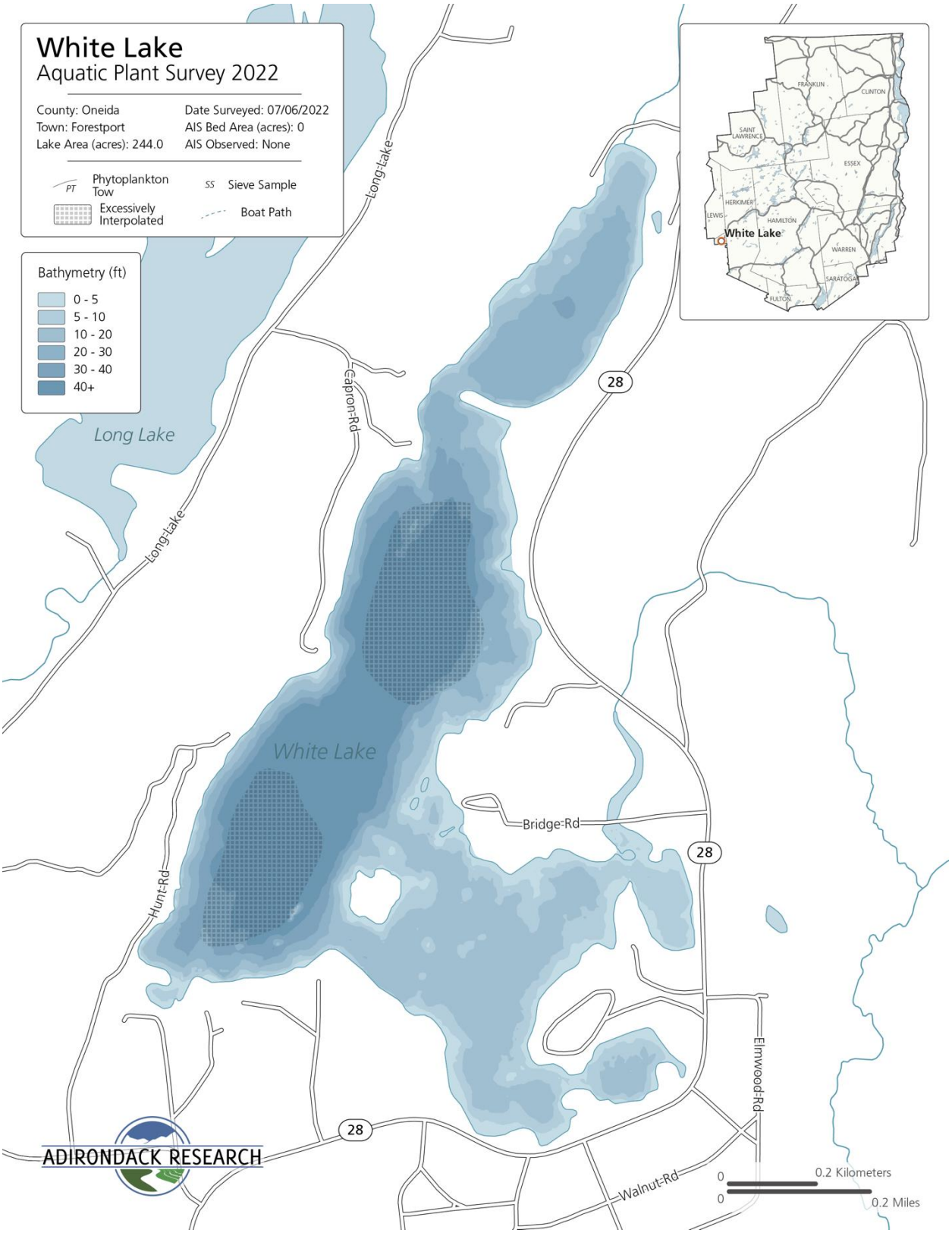
Native Plant Biota

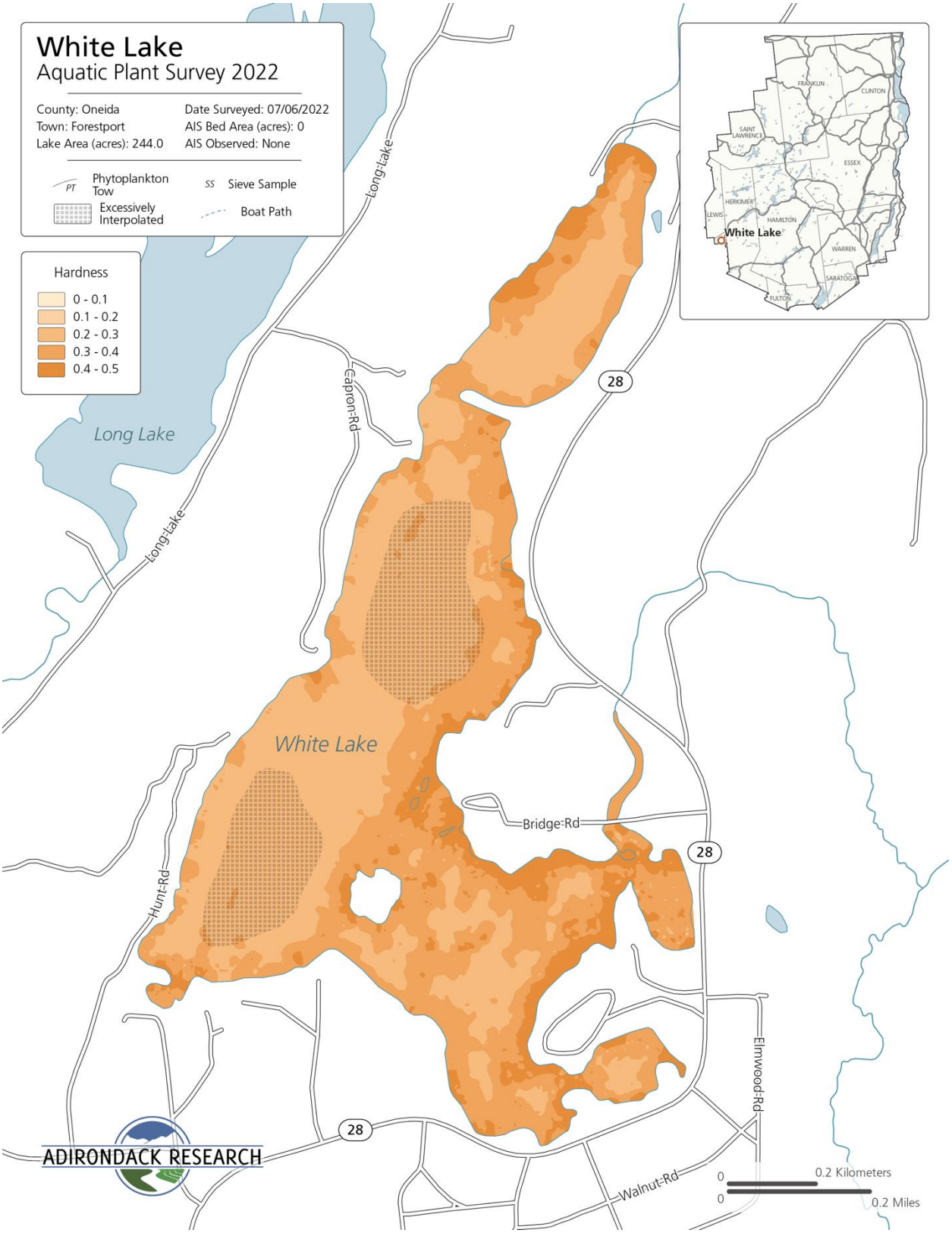
Comprehensive surveys were not prioritized in 2022 as invasive species were the primary focus of the surveys. The following native plants were found: *Nymphaea odorata* (American white waterlily).

Aquatic Invasive Animal Presence

Sediment sieves were taken to determine the presence of *Corbicula fluminea* (Asian clams). None were found. Three plankton tows were conducted with no invasive zooplankton detected.


White Lake
Aquatic Plant Survey 2022
County: Oneida
Town: Forestport
Lake Area (acres): 244.0
Date Surveyed: 07/06/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Boat Path
Native Vegetation Biovolume (%)
< 1
1 - 10
11 - 25
26- 50
51 - 100
Long Lake
White Lake
Long Lake
Long Lake
Capron Rd
Bridge Rd
Hunt Rd
Walnut Rd
Elmwood Rd
28
28
28
PT
PT
PT
SS
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
White Lake
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles


White Lake
Aquatic Plant Survey 2022
County: Oneida
Town: Forestport
Lake Area (acres): 244.0
Date Surveyed: 07/06/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Bathymetry (ft)
0 - 5
5 - 10
10 - 20
20 - 30
30 - 40
40+
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
White Lake
WARREN
SARATOGA
FULTON
Long Lake
Long Lake
Long Lake
Apron Rd
28
White Lake
Bridge Rd
28
Hunt Rd
Elmwood Rd
28
Walnut Rd
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles


White Lake
Aquatic Plant Survey 2022
County: Oneida
Town: Forestport
Lake Area (acres): 244.0
Date Surveyed: 07/06/2022
AIS Bed Area (acres): 0
AIS Observed: None
PT Phytoplankton Tow
SS Sieve Sample
Excessively Interpolated
Boat Path
Hardness
0 - 0.1
0.1 - 0.2
0.2 - 0.3
0.3 - 0.4
0.4 - 0.5
Long Lake
White Lake
Long Lake
Long Lake
Capron Rd
Bridge Rd
Hunt Rd
Walnut Rd
Elmwood Rd
28
28
28
FRANKLIN
CLINTON
SAINT LAWRENCE
ESSEX
HERKIMER
LEWIS
HAMILTON
White Lake
WARREN
SARATOGA
FULTON
ADIRONDACK RESEARCH
0
0
0.2 Kilometers
0.2 Miles

73 Church Street, Suite 2, Saranac Lake, NY 12983 ▪ (518) 278-6070
Adirondack Research uses science to inform decisions. www.adkres.org