NY Aquatic Invasive Species Management Plan Implementation

F20AP11967 FY 2020

Reporting Period: September 1, 2020 to September 1, 2022

Final Report

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Department of Ecology and Evolution

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Below are the enumerated priorities of the project with the corresponding actions taken during the project period to meet these priorities. If any priorities were not met, an explanation is provided.

TASK 1: Throughout the year the Coordinator will submit biweekly reports on progress during the year and participate in scheduled check-in calls with the NYSDEC Invasive Species Coordination Section

- Reports and meetings were attended at regular intervals.

TASK 2: Throughout the year the Coordinator will attend the Long Island-Metro AIS Task Force meetings and Long Island Invasive Species Management Area meetings as class schedule allows

- Coordinator attended all Task Force meetings and updated the Task Force on activities completed by NYSDEC region 1.

TASK 3: In January through March the Coordinator will work with DMR (Division of Marine Resources), OPRHP (Office of Parks, Recreation, and Historic Preservation), local municipalities, lakes associations and others to obtain permission for deployment of watercraft inspection stewards/outreach stewards at chosen freshwater launches(Lake Ronkonkoma, Peconic River-Forge Pond) and marine launches (Ponquogue Bridge in Hampton Bays, Captree State Park, Heckscher State Park, Nissequogue River State Park, and Stony Brook Harbor). The majority of these sites have not been covered before and we will be collecting data about level of traffic to assess whether these locations are the most impactful locations for steward outreach.

- As in previous years, a boat steward was stationed at Lake Ronkonkoma and Peconic River-Forge Pond.
- A boat steward was later moved from Lake Ronkonkoma to Heckscher State Park to test the reception of a boat steward at a marine launch.
- Traffic at Heckscher was high and continued boat steward activity with marine-directed literature is recommended.

TASK 4: NYSDEC Invasive Species Coordination Section (ISCS) will draft request for quotes (RFQ) and conduct the contracting process for hiring a consulting firm to perform the pilot herbicide treatment of water primrose in a one-acre portion of the Peconic River. ISCS will also manage the awarding of the contract and work with USFWS regarding NEPA compliance.

- Requests were created in collaboration with Stony Brook University
- Quotes were submitted to Stony Brook University and NYSDEC ISCS
- SOLitude Lake Management, LLC was selected for the contract
- All required permits and paperwork were completed through NYSDEC ISCS

TASK 5: In January AIS Coordinator will attend the Northeast Aquatic Plant Management Society Meeting if class schedule allows.

- Due to scheduling conflicts, the NAISMA (North American Invasive species management association) conference was attended virtually by the Coordinator instead.

TASK 6: Recruitment for the Watercraft Inspection Stewards will occur in January and February of each year. The AIS Coordinator will recruit and hire stewards with proven outreach ability and will utilize the diverse applicant pool available through local universities and Partnership for Regional Invasive Species Management (PRISM) listservs. Unpaid volunteer stewards will also be recruited as needed. The AIS Coordinator will continue providing and attending education and outreach events, including tabling events and presentations.

- Watercraft inspection stewards were hired through Stony Brook University. Seven applications were received, and three interviews were conducted, resulting in two hires.
- A volunteer steward was also recruited to help as time allows.

TASK 7: The Coordinator will purchase 3 tablets (Samsung Tab A or equivalent) with ruggedized cases for use by boat stewards. ISCS will provide the specifications for the products purchased. The Coordinator will learn to use the Watercraft Inspections Steward Program app (WISPA), install it on all tablets, and train watercraft inspection stewards to use the app and troubleshoot technical difficulties reported by stewards. The Coordinator will also QA/QC the data before it is submitted to the centralized database.

- 3 Samsung A tablets were purchased, and the Coordinator installed the WISPA app.
- Data submitted by Watercraft inspection stewards was QA/QCed before it was submitted, and any issues were corrected.

TASK 8: Between January and April the Coordinator will begin the preparation for aquatic plant surveys and the process of obtaining permission/permits for the surveys, developing protocols for data collection, creating a database for survey data and the mapping of distribution points. She will also install iMapInvasives and SAS Pro apps on steward tablets for use during aquatic plant surveys and invasive species reports.

Surveys will be conducted in freshwater habitats (rivers and lakes) with stewards, volunteers, and stakeholders at Guggenheim Lakes, Caleb Smith State Park: Phillips Mill Pond and Willow Pond, Blydenburgh County Park (including Stump Pond), and Franklin Melville Pond and additional locations where hydrilla has been reported. Additional surveys at Nissequogue River, Connetquot River, and Carmans River may occur if time permits. Access will be through launch areas and non-motorized watercraft will be used for the surveys. The methodology used for the surveys will include the point intercept method (GPS coordinates), which involves rake tosses at designated points and qualitative assessment of density and species identification. All individuals performing the surveys will be trained to 1) identify federally endangered sandplain gerardia (*Agalinis acuta*) and federally threatened seabeach amaranth (*Amaranthus pumilus*) to avoid damaging or disturbing these plants and 2) identify three listed birds (Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Roseate Tern (*Sterna dougallii dougallii*) to avoid disturbing or injuring these birds.

- Complete aquatic plant surveys were conducted in Blydenburgh County Park and Lake Ronkonkoma.
- Data was input into a database and analyzed via R.

- A pre-treatment survey was also conducted at Upper Twin Pond in Wantagh after there was a report of a water chestnut infestation
- Hydrilla surveys will be expanded to Caleb Smith State Park and additional locations using the same methods developed in 2021 surveys

TASK 9: The Coordinator will collaborate with the Long Island Invasive Species Management Area, Long Island-Metro AIS Task Force, and other partners on aquatic invasive plant removal efforts. The coordinator will use iMapInvasives and survey data to designate aquatic invasive plant populations in need of control efforts and track the change in population coverage. Water chestnut removal will be conducted by hand and involve the launching of non-motorized watercraft from access launches in freshwater lakes and rivers. All individuals performing the surveys will be trained to 1) identify federally endangered sandplain gerardia (*Agalinis acuta*) and federally threatened seabeach amaranth (*Amaranthus pumilus*) to avoid damaging or disturbing these plants and 2) identify three listed birds (Piping Plover (*Charadrius melodus*), Red Knot (*Calidris canutus rufa*), Roseate Tern (*Sterna dougallii dougallii*) to avoid disturbing or injuring these birds. Water chestnut hand removal efforts involving use of non-motorized watercraft will occur at Massapequa Preserve, Lake, and Creek in Massapequa, Mill Pond Preserve in Wantagh, Swan Lake in Calverton, and Mill Pond in Oyster Bay NWR.

In terms of early detection-rapid response, small populations of purple loosestrife (*Lythrum salicaria*) will be controlled by digging up plants and cutting and bagging flower heads at 4-5 locations along the Peconic River. Small populations of Phragmites (*Phragmites australis*) will be removed via hand digging at Tarkill Pond (coastal pond) in Brookhaven and Fox Pond in Robert Cushman Murphy County Park (pine barrens pond). Aquatic plant surveys will be conducted at all locations to monitor efficacy of the removal efforts.

- On June 9, 2021, as part of Aquatic Invasive Species Awareness Week (AISAW) the NYSDEC conducted a water chestnut pull event at Upper Twin Pond with a group of volunteers from DEC fisheries, AIS interns, and LIISMA. The event collected 70 35-pound bags of plant material for a total of 1.4 tons of material removed.
- On June 11, 2021, as another event for AISAW, NYSDEC organized a public water chestnut pull at Wantagh Mill pond in Wantagh. Volunteers from DEC Fisheries, permits, AIS interns, LIISMA, and members of the public (totaling 19 individuals) pulled water chestnut. Approximately 120 45-pound bags were removed.
- On June 17, 2021, NYSDEC Fisheries, AIS Strike Team, and Nassau County Parks went to Massapequa Reservoir at Brady Park in Massapequa to remove a small population of water chestnut. Only 15 pounds of plant material were found. This reduction in the population is an early sign of success but the reservoir will be continually monitored.
- On June 17, 2021, after not finding many individuals at Massapequa, all volunteers moved back to Upper Twin Pond and conduced a second removal of the population. This removal resulted in an additional 40 35-pound bags of plant material being removed from the pond.
- On July 2, 2021, NYSDEC Fisheries and AIS Strike Team went to Swan Pond in Calverton to remove a known population of European water chestnut. The population was found to be in the same general area that is has been noted in the past. It consisted of one relatively dense patch of water chestnut growing as a monoculture. A team of 3 removed the entire population, resulting in 18 35-pound bags of removed plant material. A possible hybrid or

secondary morph of pink water chestnut was found in the population. Areas surrounding the primary infestation were searched and any individuals were removed.

- On July 28, 2021, a third pull of water chestnut took place at Upper Twin Pond with volunteers from DEC, LIISMA, Nassau County Soil and Sater, and Town of Hempstead. This pull removed a further 77 40-pound bags, yielding a total of 1.54 tons of material.
- On Sept 17, 2021, NYSDEC Fisheries removed a small stand of *Phragmites* from Fox Pond by hand and with hand tools. The stand totaled less than 50 stems; all stems were removed.

TASK 10: Between June and October, the Coordinator will hold various public trainings for lake associations, marinas, and yacht clubs. The Coordinator will continue to provide presentations to students, teachers, and municipal leaders to educate people about AIS identification, management, and prevention. The Coordinator will work closely with the Education and Outreach Coordinator from the Long Island Invasive Species Management Area.

- A presentation was made to the Peconic Estuary Partnership's Community Advisory Committee to provide the board with information about the trial herbicide project that took place in 2021 and the planned expansion of the project starting in 2022 in the Peconic River. The Coordinator helped provide materials and input for the presentation material.
- The Coordinator participated in AISAW (mentioned above) and provided public volunteers with information about aquatic invasive species and education on spread prevention. A Facebook live event was also conducted to raise further awareness of the importance of invasive species control and prevention.
- As part of AISAW week the coordinator helped LIISMA with an aquatic invasive species presentation in which ways to prevent the spread of invasive species was discussed.
- The Coordinator provided information through a tabling event at the Women's fly-fishing Expo in Connetquot. Attendees were informed of the species present on the island and made aware of the DECON station that was present at the park.
- Education and outreach were provided at the Fall Fishing Festival in Belmont State Park. Materials regarding clean, drain, dry practices as well as invasive species ID information were provided.
- "Chronolog" stations were installed at 4 locations on the island (Wantagh Mill Pond, Forge Pond, Massapequa Reservoir, and Brown's Bog). These stations provide a place for the pubic to take a picture of a waterbody and add it to a time lapse that is created from the photos. The public is also given information about the species (native and invasive) that are present in the waterbody where the station is located. The organization page can be found here(https://www.chronolog.io/project/DEC).

TASK 11: In May, paid and unpaid watercraft inspection stewards will receive two days of training (including how to use the Watercraft Inspection Steward Program app) on Long Island in collaboration with the Long Island Invasive Species Management Area and other stakeholders. Stewards will begin working at launches on the Friday before Memorial Day and will continue working every weekend through Labor Day. Stewards will note presence or absence of clean, drain, dry signage and AIS disposal stations at each location they cover for future efforts to educate the public.

Stewards will conduct outreach and inspections at boat launches from Memorial Day Weekend through Labor Day Weekend, 4 days per week (Thursday through Sunday). Shifts will generally fall between 8 am and 4pm. The Coordinator will visit stewards on a weekly basis to verify things are running smoothly and to replenish steward supplies. Coordinator will participate in monthly program update calls with ISCS to assist with any site or personnel issues.

- The two paid and one unpaid watercraft inspection stewards received training on how to use the WISP app and tablets, how to interact with the public and were taught how to identify aquatic plant species.
- Stewards used the app to conduct surveys of boaters at the three locations mentioned above.
- The steward stationed at Forge Pond encouraged the public to use the Chronolog station there and used it to create more data points for the time lapse.

TASK 12: In late May-early June, the pilot study of herbicide treatment in a one-acre area within the Peconic River will be conducted using a one-two day injection of ~15 PDU/acre-ft (~30 ppb) liquid formulation florpyrauxifen-benzyl or a foliar treatment with liquid formulation of florpyrauxifen-benzyl at ~10 PDU / acre + imazamox at ~24 ounces per acre. After treatment is completed the coordinator and stewards will monitor the treated location. The water primrose should start to show signs of damage about 3-5 weeks after the treatment. Given that the herbicide will be applied early in the season less herbicide will be needed as the plants have not reached maximum biomass and decomposition of a smaller amount of biomass will have less of an impact on water quality. The contractor will also delineate the water primrose infestations throughout the Peconic River in addition to surveying native plants at select locations (impoundments, inlets, near bank areas).

- The treatment was delayed until early September due to insufficient plant growth in the early summer.
- The Coordinator monitored the area both pre- and post-treatment and provided photos of the site.
- The Coordinator and the NYSDEC ISCS conducted a macroinvertebrate survey both pre- and post-treatment after concerns about the herbicides' effect on invertebrates were raised.
- SOLitude conducted pre- and post-treatment surveys of the treatment area and the surrounding Peconic River system.
- Drone surveys and ground surveys were conducted by the Coordinator and NYSDEC ECO to determine the presence of *Ludwigia* in the surrounding Peconic River system, including locations at Swezey Pond, Moore's Drain, Swan Pond, and Artist Lake.
- A final report from SOLitude is attached at the end of this report.

TASK 13: Between October and December, the Coordinator will analyze the data collected by stewards during the boating season and will continue to provide outreach events to the public.

- Collected data from the Stewards was reviewed for accuracy before a report is created.
- Data from the 2021 season will be used to help determine possible modes of transport for a new *Ludwigia* population in Artist Lake.
- Data will also help determine how to best approach the Clean Drain Dry message with the Long Island public.

TASK 14: In November 2021, the Coordinator will attend the Cornell In-Service for Invasive Species in Ithaca, NY as class schedule allows.

- The Coordinator is attending the invasive species summit that is being held in Albany Nov 16-17.
- The Cornell In-Service in Ithaca did not take place this year.

TASK 15: The pilot study contractor will submit a final report for the 2021 project by December 31, 2021. The coordinator will submit a summary of work completed and an annual plan for the subsequent year by December 31, 2021. The annual plan will be developed in collaboration with NYSDEC.

- A final report from SOLitude is attached at the end of this report.

Peconic River

2021 Submersed Aquatic Vegetation (SAV) Monitoring in the Peconic River

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2021 *Submersed Aquatic Vegetation (SAV) Monitoring in the Peconic River Report*

New York State Department of Environmental Conservation
Bureau of Invasive Species and Ecosystem Health

Introduction

The Peconic River is the longest river on Long Island measuring approximately fifteen miles in length, and flowing from wetlands in the central portion of Long Island, flowing east to the Peconic Bay in Riverhead, NY. This river represents an important ecology feature of Long Island, as well as providing for recreational activities. NYSDEC Region 1 has been performing unsuccessful hand harvesting efforts for the invasive aquatic plant floating water primrose (*Ludwigia peploides*) within the Peconic River for more than a decade.

In 2021 SOLitude Lake Management was awarded a contract through New York State DEC Invasive Species Coordination Section and SUNY Stonybrook University Department of Ecology and Evolution to conduct a pilot herbicide treatment and point-intercept method aquatic vegetation surveys of both the treatment and non-treatment areas of the Peconic River from the outlet of Donahue Pond to the Town of Riverhead, NY.

Procedures

Task 2: Obtaining all necessary permits

In 2021, the water primrose pilot study required aquatic pesticide permits for the application of ClearCast and ProcellaCOR EC, as well as a Freshwater Wetland Permit. On May 25th the approved aquatic pesticide permits for Clearcast (#AV042021AH101) and ProcellaCOR EC (#AV042021AH102) were signed and forwarded to NYSDEC and SOLitude. The freshwater wetland permit (#1-4722-02195/00014) was approved and issued on July 6th.

Task 4: Point Intercept Submersed Aquatic Plant Mapping: Mapping Treatment Area, Non-Treatment Area Survey

The Point Intercept Method (PIM) of sampling aquatic macrophytes is generally accepted by lake managers as a suitable procedure to map submersed aquatic macrophytes in a lake. By applying a few modifications, this method can be employed on river systems (such as the Cayuga River Inlet and the Croton River, both located in New York, or the D and R Canal in New Jersey). The PIM is designed to be utilized by volunteer and citizen science groups, and is the method often preferred by state regulators, since it is repeatable.

The total number of sample locations is typically based on the total acreage of the lake. As a rule of thumb, one sample location per acre (minimum 50 sample locations) is surveyed at a given site. In a river system, (such as the Peconic River) sample locations are not placed on a grid, but instead are situated 50 to 75 meters apart.

For Tasks 4, pre-treatment aquatic plant survey, 291 sites In May and 290 sites in September were sampled along approximately seven (7) miles of the Peconic River for this project. Table 1 below is a summary of the nine sections mapped in 2021. Using a Trimble Geo XH handheld GPS unit (or a 2017 series unit), survey crews piloted to the stations established in 2021 for this survey.

Table 1: 2021 Task 4: May Peconic River Section Summary:

Section	Section Start	Section Finish	Date	# Sites Surveyed
1	40.900252, -72.775072	40.901630, -72.756689	5/19/2021	27
2	40.901630, -72.756689	40.905506, -72.743085	5/19/2021	50
3	40.905506, -72.743085	40.907712, -72.738450	5/19/2021	8
4	40.907712, -72.738450	40.912107, -72.729481	5/19/2021	17
5	40.912107, -72.729481	40.912681, -72.713271	5/20/2021	79
6	40.912681, -72.713271	40.914159, -72.687754	5/20/2021	64
7	40.914159, -72.687754	40.916841, -72.677546	5/20/2021	17
8	40.916841, -72.677546	40.917610, -72.669358	5/20/2021	12
9	40.917610, -72.669358	40.915916, -72.662697	5/20/2021	17

Table 2: 2021 Task 7: September Peconic River Section Summary:

Section	Section Start	Section Finish	Date	# Sites Surveyed
1	40.900252, -72.775072	40.901630, -72.756689	9/7/2021	26
2	40.901630, -72.756689	40.905506, -72.743085	9/7/2021	49
3	40.905506, -72.743085	40.907712, -72.738450	9/7/2021	8
4	40.907712, -72.738450	40.912107, -72.729481	9/7/2021	18
5	40.912107, -72.729481	40.912681, -72.713271	9/8/2021	79
6	40.912681, -72.713271	40.914159, -72.687754	9/8/2021	64
7	40.914159, -72.687754	40.916841, -72.677546	9/7/2021	17
8	40.916841, -72.677546	40.917610, -72.669358	9/7/2021	12
9	40.917610, -72.669358	40.915916, -72.662697	9/7/2021	17

Before the surveys began, random sample locations were plotted on an overlay map of the target sections of the river, 50 to 75 meters apart based on the characteristics of the river. At GPS-referenced sites, using an overlay grid loaded onto the GPS unit, the canoe was paddled to the first sample location. On arrival, the GPS coordinates of the sample location was recorded in the center of the canal using a Trimble GeoXH 2008 series (or 2017 series) handheld GPS unit with

sub-meter accuracy. Notes of all observed aquatic plant species were noted at each of the sampling locations.

At each sample station, we logged a GPS point, and we conducted visual and double rake toss inspections. If necessary, we tossed weed rakes (one in each direction for the A and B sub-samples) to confirm the identification or abundance of aquatic plants observed.

Next, a weed rake attached to a 10-meter-long piece of rope is tossed from each side of the canoe toward or along one of the shorelines. It is important to toss the weed rake the full 10 meters (a loop at the end of the rope is attached to the boat to prevent losing the rake). The weed rake is slowly retrieved along the bottom, and carefully hoisted into the boat. To determine the overall submersed vegetation amount, the weed mass is assigned one of five densities, based on semi-quantitative metrics developed by Cornell University (Lord, et al, 2005). These densities are: **No Plants** (empty anchor), **Trace** (one or two stems per anchor, or the amount that can be held between two fingers), **Sparse** (three to 10 stems, but lightly covering the anchor, or about a handful), **Medium** (more than 10 stems, and covering all the tines of the anchor), or **Dense** (entire anchor full of stems, and one has trouble getting the mass into the boat). See the Appendix of this report for pictures of these representative densities. These densities are abbreviated in the field notes as 0, T, S, M, and D. Next, the submersed weed mass is sorted by genus (or species if possible) and one of the five densities (as described above) is assigned to each genus and/or species. This procedure is then repeated for the remaining sample points.

Following methods established at Cayuga Lake Inlet for the monitoring of hydrilla, we utilized two rake tosses per site. The data for both of these tosses are included in the Appendix. Each density was assigned a numeric value: 0 for no plants, 1 for trace, 2 for sparse, 3 for medium, and 4 for dense plants. The mean of these three values for both tosses (rounded up) are also displayed in the Appendix. These mean values were used to assign overall densities, as depicted on the distribution maps in the Appendix. For example, if toss A was dense density (4), and toss B was sparse density (2) for the same macrophyte, the mean density would be medium (4+2=6/2=3). Although using two tosses is ideal for detecting the presence of target species (and species occurring infrequently), these procedures and associated calculations tend to decrease the overall abundance per site. Due to the density and diversity of the aquatic plant assemblage, visual assessments were also used during the data collection.

A sample of each different macrophyte is collected and placed in a bottle or Ziploc-type bag with a letter or number code (A, B, 1, 2, etc.). If possible, these samples included both submersed and floating leaves (if any), seeds, and flowers (if present), to facilitate identification. These bottles are placed in a cooler stocked with blue-ice packs or ice and returned to SOLitude Lake Management's lab for positive identification and photographing. Regionally appropriate

taxonomic keys are used to identify the aquatic macrophytes (a list of references is included in the appendix) to the lowest practical taxa, typically to species.

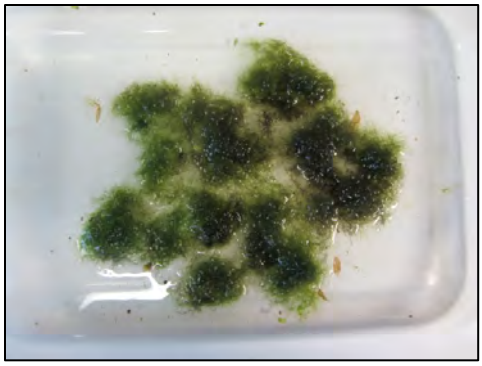
The weed rake used for aquatic macrophyte surveys has a specific design. It is constructed with two 13.5-inch wide metal garden rakes attached back to back with several hose clamps. The wooden handles are removed and a 10-meter long nylon rope is attached to the rake heads.

2021 Macrophyte Summary

The following aquatic macrophytes were collected during the vegetation surveys in the Peconic River in 2021. The respective macrophyte percent abundance data are summarized in the Appendix, organized by overall distribution and per Task. Below is a short description of each macrophyte and a picture. Twenty-six aquatic macrophytes (including filamentous algae and macro-algae) were collected during the 2021 survey. Please note that individual maps of each species are not included in the Appendix of this report, as the focus of species-specific mapping was focused on water primrose and European frogbit. Descriptions of the two target plant species have also been left out.

The brief summaries that follow are organized alphabetically. All photos are from the archives at SOLitude Lake Management, unless noted differently.

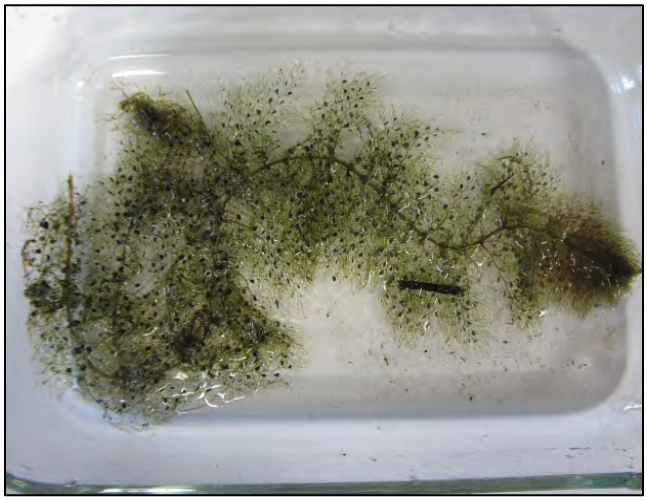
Bass Weed (*Potamogeton amplifolius*. Common Names: Large-leaf Pondweed, Bass Weed, Musky Weed. **Native.**): Bass weed has robust stems that originate from black-scaled rhizomes. The submersed leaves of bass weed are among the broadest in the region. The submersed leaves are arched and slightly folded, attached to stems via stalks, and possess many (25-37 veins). Floating leaves are produced on long stalks (8-30 cm). Stipules are large, free and taper to a sharp point. Flowers, and later in the season fruit are densely packed onto a spike. Bass weed prefers soft sediments in water one to 4 meters deep. This plant is sensitive to increased turbidity and also has difficulty recovering from top-cutting, from such devices as boat propellers and aquatic plant harvesters. As its name implies the broad leaves of this submersed plant provides abundant shade, shelter and foraging opportunities for fish. The high number of nutlets produced per plant make it an excellent waterfowl food source.



Benthic/Floating Filamentous Algae: Filamentous algae is a chain or series of similar algae cells arranged in an end to end manner. Benthic filamentous algae is attached to a hard substrate, such as logs, rocks, a lake bottom, or even other aquatic plants. When growing in heavy densities, benthic filamentous algae can appear as brown or green mats of vegetation that can reach the surface. When large pieces break off the bottom substrate they become floating filamentous algae patches. Benthic filamentous algae can comprise an entire range of morphologies, but flagellated taxa are far less common.

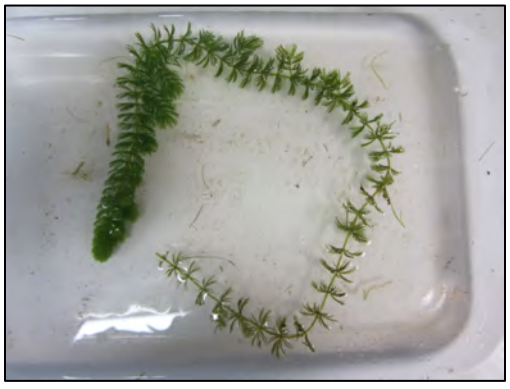
Brazilian Elodea (*Egeria densa*. Common Names: Egeria, Anacharis, Brazilian waterweed. **Exotic, Aggressive, Invasive.**): Brazilian elodea is an aggressive exotic invasive submersed plant that originated from South America. It was introduced via the aquarium hobby trade, and is a top selling plant used as an oxygenator. The stems can be several meters long, and the strap-like leaves are situated in whorls of three to six, but usually four. The leaves are finely serrated, and are tightly packed together near the end of the stem. Brazilian elodea can be rooted or free floating, and due to its highly branching nature, can quickly reach nuisance densities and crowd out or block light penetration for desirable native submersed plants. Although it can be confused with *Hydrilla*, another invasive submersed plant, its lack of tuber production and leaf structure differentiates it. Although it can produce white flowers, it reproduces vegetatively in the United States. Waterfowl consume Brazilian elodea, and fish and invertebrates uses the stems for refuge and habitat.

Bur-reed (*Sparganium* sp. Common Names: floating bur-reed): Bur-reed is an aquatic perennial herb that grows from long rhizomes. The stems are usually submerged and can reach lengths up to 2 meters long. The leaves are alternate, limp, unkeeled and ribbon-like, and can reach 1 meter long, often floating on the surface. Leaves often originate from the base or lower portion of the stem. Only the flowering part of the plant pokes above the water. Bur-reeds often inhabit lakes, ponds, or slow moving stream edges.



Common Bladderwort (*Utricularia vulgaris*: Common Names: common bladderwort, great bladderwort. **Native.**): Common bladderwort is a free-floating plant that can reach 2-3 meters in length. Since they are free-floating, they can grow in areas with very loose sediment. Along its stem are finely divided leaf-like branches, forked 3-7 times. Scattered about the branches are numerous bladders, used to capture prey ranging from the size of unicellular protozoans (such as Euglena), to mosquito larvae. Prey is slowly digested inside the bladders by enzymes. Common bladderwort produces small yellow flowers that protrude above the water. Stems of common bladderwort provide food and cover for fish.

Common Waterweed (*Elodea canadensis*: Common Names: elodea, common waterweed. **Native.**): Common waterweed has slender stems that can reach a meter in length, and a shallow root system. The stem is adorned with lance-like leaves that are attached directly to the stalk that tend to congregate near the stem tip. The leaves are populated by a variety of aquatic invertebrates. Male and female flowers occur on separate plants, but it can also reproduce via stem fragmentation. Since common waterweed is disease resistant, and tolerant to low-light conditions, it can reach nuisance levels, creating dense mats that can obstruct fish movement, and the operation of boat motors.



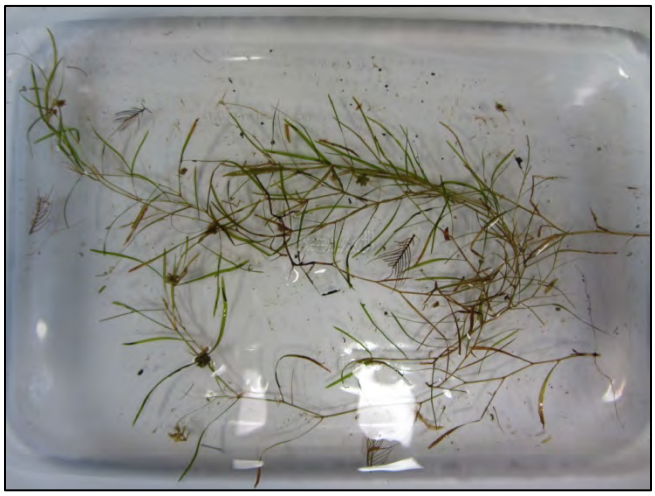
Coontail (*Ceratophyllum demersum*. Common Names: coontail, hornwort. **Native**.): Coontail has long trailing stems that lack true roots, although it can become loosely anchored to sediment by modified leaves. The leaves are stiff and arranged in whorls of 5-12 at each node. Each leaf is forked once or twice (only) and has teeth along the margins. The whorls of leaves are spaced closer at the end of the stem, creating a raccoon tail appearance. Coontail is tolerant of low light conditions, and since it is not rooted, it can drift into different depth zones. Coontail can also tolerate cool water and can over winter as a green plant under the ice. Typically, it reproduces via

fragmentation. Bushy stems of coontail provide valuable habitat for invertebrates and fish (especially during winter), and the leaves are grazed on by waterfowl.

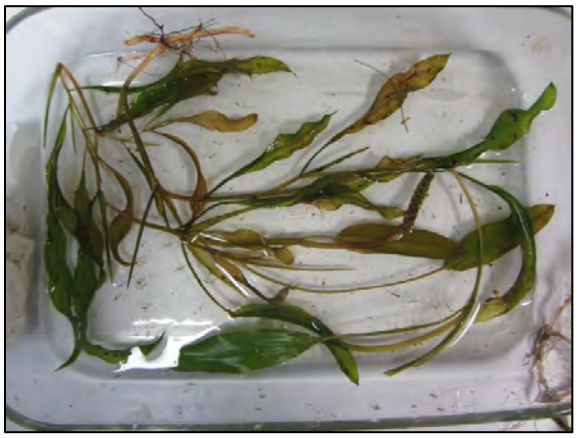
Curly-leaf Pondweed (*Potamogeton crispus*. Common Name: curly-leaf pondweed. **Invasive, aggressive.**): Curly-leaf pondweed has spaghetti-like stems that often reach the surface by mid-June. Its submersed leaves are oblong, and attached directly to the stem in an alternate pattern. The margins of the leaves are wavy and finely serrated, hence its name. No floating leaves are produced. Curly-leaf pondweed can tolerate turbid water conditions better than most other macrophytes. In late summer, Curly-leaf pondweed enters its summer dormancy stage. It naturally dies off (often creating a sudden loss of habitat and releasing nutrients into the water to fuel algae growth) and produces vegetative buds called turions. These turions germinate when the water gets cooler in the autumn and give way to a winter growth form that allows it to thrive under ice and snow cover, providing habitat for fish and invertebrates.

Fanwort (*Cabomba caroliniana*. Common Name: fanwort. **Exotic, aggressive, Invasive.**)**:** Fanwort is a submerged rooted herb, native to Southeastern United States, from Virginia to South Florida. A popular aquarium plant, fanwort has since spread to much of the Northeast, and even parts of the Northwest, and is considered a non-native invasive species in these regions. Fanwort prefers sluggish streams, or acidic ponds and lakes. It can reach six feet long and can colonize water up to ten feet deep. Fanwort has slender stems covered with a thin gelatinous slime, and two types of leaves. Submerged leaves are green and situated in a whorl pattern, similar to a fan. The floating leaves are alternate and linear, about one half to one inch in diameter. Fanwort blooms in the fall, producing small white flowers with a slight pinkish tint. Although it can reproduce via seed germination, it can also reproduce by fragmentation. In late summer, the stems become brittle, and break easily. The loose fragments can then rapidly move throughout the aquatic system due to natural flow patterns. Unattached plants can even continue to grow, indicating it removes most of its nutrients directly from the water column instead of the sediment. Due to its rapid spreading, it can occur in dense stands, clogging streams or canals, and impairing aquatic systems. Fanwort provides suitable habitat for aquatic invertebrates and fish.

Floating-leaf Pondweed (*Potamogeton natans*: Common Name: floating-leaf pondweed): Floating-leaf pondweed has stems that emerge from a red-spotted rhizome. Submersed leaves are stalk like, with no obvious leaf blade. Floating leaves are heart-shaped at their base and appears like someone pinched the stalk and bent it, which allows the leaf blade and stalk to form a right angle for floating leaves. The pinched region is usually lighter in color than the rest of the stalk. Floating-leaf pondweed can tolerate a variety of sediment types and water chemistries. New stems develop in spring from buds located on the rhizome. Flowering occurs in early summer and fruit are produced by mid-growing season. In the fall, the upper portion of the stems die back. This plant is considered good fish habitat because is provides shade and foraging opportunities.



Leafy Pondweed (*Potamogeton foliosus*: Common Name: leafy pondweed. **Native.**): Leafy pondweed has freely branched stems that hold slender submersed leaves that become slightly narrow as they approach the stem. The leaf contains 3-5 veins and often tapers to a point. No floating leaves are produced. It produces early season fruits in tight clusters on short stalks in the leaf axils. These early season fruits are often the first grazed upon by waterfowl during the season. Muskrat, beaver, deer and even moose also graze on the fruit. The fruit are often required to distinguish this pondweed from several other thin-leaved pondweeds that occur in the region. It inhabits a wide range of habitats, but usually prefers shallow water. It has a high tolerance for eutrophic conditions, allowing it to even colonize secondary water treatment ponds.



Long-leaf Pondweed (*Potamogeton nodosus*. Common Name: Long-leaf pondweed. **Native.**): Long-leaf pondweed has stems up to two meters long that originate from a branching rhizome. Submersed leaves can be up to 30 cm long, lance-shaped, and taper to a long leaf stalk. Floating leaves also taper on long leaf stalks, which distinguish this pondweed from other similar pondweed species. Flowers and fruit are produced on a thick cylindrical spike. Fruits are somewhat oval, have a short beak, and a lumpy dorsal ridge. Long-leaf pondweed prefers flowing water versus lakes. It inhabits a variety of sediments and can tolerate eutrophic conditions and turbid water. Long-leaf pondweed fruit are grazed on by waterfowls, and portions of the plant are eaten by muskrat, beaver, deer and even moose. Long-leaf pondweed offers excellent invertebrate habitat. Researchers estimate a 20 by 60 meter standing patch can support 33 million invertebrates.

Muskgrass (*Chara* sp. Common Names: muskgrass, stonewort, chara. **Native.**): Muskgrass is actually a multibranched algae that appears as a higher plant. It is simple in structure and has rhizoids instead of true roots. The branches of muskgrass has ridges that are often encrusted with calcium carbonate. This grants the entire plant a "crusty" feel and appearance. The side branches develop in whorls that look like the spoke in a wheel. Muskgrass is easily identified by a pungent, skunky odor. It prefers softer sediments and can often be found in deeper water than other plants. As such, it's considered an early pioneer, the first species to colonize a disturbed lakebed.

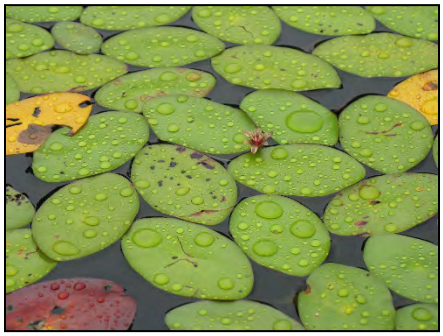
Parrot Feather (*Myriophyllum aquaticum)*. This aquatic species looks very similar to Eurasian water milfoil below the water surface but parrot feather produces a shoot that extends several inches to a foot above the water surface. This shoot has deeper green coloration than the subsurface leaves, and is rigid. Parrot feather is common in the water garden and aquarium business and is frequently spread when owners dump plants into waterways around their homes. This is an invasive exotic species and has the potential to cause significant harm to an aquatic system.

Pickerelweed (*Pontedaria cordata*. Common names: Pickerel weed. **Native**.) Pickerelweed is a native emergent plant that inhabits lake margins and sluggish stream from ankle deep to several meters deep. It was glossy heart-shaped leaves that originate from a sprawling rhizome. The leaf blade is adorned with numerous parallel veins. The flower spike is crammed with small blue flowers, a distinguishing characteristic. Pickerelweed is very common in the Northeast. Reproduction is by rhizome spread and late season seed dispersal. The flowering stalk plays host to a myriad of insect species, while the seeds are often consumed by waterfowl. The rhizomes and stems offer shade and habitat for fish. Another ecological benefit of pickerelweed is shoreline stabilization and established beds help to dampen wave action.

Sago Pondweed (*Potamogeton pectinatus*: Common Name: Sago, Sago Pondweed. **Native**.). The stems of sago pondweed originate from fine rhizomes studded with starchy tubers. The leaves are three to 10 cm long and very thin, resembling pine needles, complete with a sharp point. The branches often are forked several times, resulting in a fan-like arrangement. Stipules are fused to the leaves creating a stipular sheath. Flowers and fruit are produced on a slender stalk that can be submersed, or float on the water. Sago pondweed is widespread, and often inhabits water one to two meters deep. It can tolerate a variety of sediment types and a wide range of water conditions. It is adapted to thrive in low-light, high turbid conditions, and is often the last surviving plant when such conditions persist for an extended amount of time. Sago pondweed is considered a top food producer for waterfowl, which graze heavily on its fruit and tubers. Juvenile fish also utilize sago pondweed as a food source and shelter.

Small Duckweed (*Lemna minor.* Common Names: Small duckweed, water lentil, lesser duckweed. **Native**). Small duckweed is a free-floating plant, with round to oval-shaped leaf bodies typically referred to as fronds. The fronds are small (typically less than 0.5 cm in diameter), and it can occur in large densities that can create a dense mat on the water's surface. Each frond contains three faint nerves, a single root (a characteristic used to distinguish it from other duckweeds), and no stem. Although it can produce flowers, it usually reproduces via budding at a tremendous rate. Its population can double in three to five days. Since it is free floating, it drifts with the wind or water current, and is often found intermixed with other duckweeds. Since it's not attached to the sediment, it derives nutrients directly from the water, and is often associated with eutrophic conditions. It overwinters by producing turions late in the season. Small duckweed is extremely nutritious and can provide up to 90% of the dietary needs for waterfowl. It's also consumed by muskrat, beaver and fish, and dense mats of duckweed can actually inhibit mosquito breeding.

Spatterdock (*Nuphar variegata*. Common Name: yellow pond lily, bullhead pond lily, spatterdock. **Native.**): Spatterdock leaf stalks emerge directly from a submerged fleshy rhizome. Spatterdock has heart-shaped leaves with a prominent notch. Depending on the habitat, these leaves can be held aloft via erect stems. A distinguishing characteristic of spatterdock is the leaf stalk, which bears a winged margin. Flowering occurs in the summer and, the flowers open during the day and close at night. Spatterdock typically inhabits quiet water less than two meters deep with a soft substrate, such as ponds, shallow lakes and slow-moving streams. The leaves offer shade and protection for fish, and the leaves, stems, and flowers are grazed upon by muskrats, beaver, and sometimes, even deer.



Watershield (*Brasenia schreberi*. Common Names: common water shield, water target. **Native**.): Watershield is a floating-leaf aquatic plant similar to water lilies. Its stem and leaves are elastic, and are attached to a rooted rhizome that acts as an anchor and source of stored nutrients. The leaf stalks are attached to the middle of the leaf, creating a bull's eye effect, hence its name water target. The leaves are green on the upper surface, and purple underneath. Maroon to purple flowers peak above the water's surface on short, stout stalks. Watershield is usually coated with a clear gelatinous slime on the stem and underside of the leaves. Watershield prefers soft-water lakes and ponds in sediments containing decomposing organic matter. The whole plant is consumed by waterfowl, and the floating leaves provide shade and cover for fish.

Water Moss (*Fontinalis* sp. Common Name: water moss. **Native.**): Water mosses are submerged mosses that are attached to rocks, trees, logs, and other hard substrates by false rootlets located at the base of their stems. The stems are dark green to brown, and about one foot long. The leaves share a similar color as the stems and are usually ovate with fine-toothed margins. Water moss is utilized by aquatic invertebrates, and as a breeding site for small fish. Water moss rarely reaches nuisance levels of abundance.

Water Smartweed (*Polygonum amphibium*, var. *stipulaceum*. Common Names: Water Smartweed, Water Knotweed. **Native**.): Water smartweed has a variable appearance, and occurs in both terrestrial and aquatic varieties. The aquatic variety has floating branches with alternate, smooth elliptical leaves that have a rounded tip. It can be easily distinguished from other pondweeds by a lack of submersed leaves and swollen nodes on the stem. Water smartweed prefers quiet backwaters of lakes and ponds and can tolerate a variety of sediment types. It usually occurs in water less than two meters deep. Water smartweed is a perennial which over winters via seed production and rhizomes. Water smartweed seeds are consumed by waterfowl, upland birds, and even deer and muskrats. Its an important food source for migratory birds as well, as extensive beds of water smartweed become regular stopping points during fall migrations.

Water Stargrass (*Zosterella dubia* (=*Heteranthera dubia*): Common Name: Water stargrass**. Native**.): Water stargrass has slender free-branched stems that originate from rhizomes. The leaves are narrow and alternate, attaching directly to the stem. Leaves can be up to 15 cm long, and lack a prominent midvein, a distinguishing characteristic. Water stargrass can inhabit a wide range of water depths and sediment types and can tolerate reduced clarity environments. Yellow star-shaped flowers (pictured) are produced by midsummer, but reproduction is usually via over wintering rhizomes. Water stargrass is a locally important waterfowl food source and provides suitable cover and foraging for fish.

White Water Lily (*Nymphaea* sp. Common Name: white water lily, fragrant water lily. **Native**.): White water lily leaf stalks emerge directly from a submerged fleshy rhizome. White water lilies have round floating leaves. Flowering occurs during the summer, and the flowers open during the day, and close during the night. Water lilies typically inhabit quiet water less than two meters deep, such as ponds, shallow lakes and slow-moving streams. The leaves offer shade and protection for fish, and the leaves, stems, and flowers are grazed upon by muskrats, beaver, and sometimes even deer.

Wild Celery (*Vallisneria americana*. Common Names: Wild celery, eel grass, tape-grass. **Native**.): Wild Celery has long flowing ribbon-like leaves that have a basal arrangement from a creeping rhizome. The leaves can be up to two meters long, have a cellophane-like texture, with a prominent center stripe and finely serrated edges. The leaves are mostly submersed, although they can reach the surface allowing the tips to trail. Male and female flowers are produced on separate plants, but reproduction is usually via over wintering rhizomes and tubers. Wild celery usually inhabits hard substrate bottoms in shallow to deep water. It can tolerate a wide variety of water chemistries. Wild celery is the premiere food source for waterfowl, which greedily consume all parts of the plant. Canvasback ducks (*Aythya vallisneria*) enjoy a strong relationship with wild celery, going so far to alter their migration routes based on its abundance. Extensive beds of wild celery are considered excellent shade, habitat and feeding opportunities for fish, and commonly are used in submersed vegetation restoration projects due to its availability ease of growth and high quality.

Results

2021 Macrophyte Abundance in the Peconic River Discussion

In May and September of 2021, sections of the Peconic River were surveyed for the presence of submersed aquatic vegetation (SAV). The river sections include approximately seven (7) miles of the waterway and comprise Task 7 of the 2021 scope of work.

For this discussion, it would be helpful for the reader to refer to the distribution tables and the summary of percent abundance by section data tables, located in the appendix of this report. Table 3 and Graph 1 below summarizes the 2021 percent occurrence (or frequency of occurrence) data for all of the aquatic plants collected and observed during the May survey.

On May 19th and 20th 2021, SOLitude Lake Management surveyed 291 sample stations in the Peconic River from the outlet of Donahue Pond to the Town of Riverhead. Macrophyte vegetation

was documented at 283 sample stations, which is equivalent to 97.3%. In total, 28 species were observed during the May survey. Six invasive species, including the target species' water primrose and European frogbit, 19 native species, and three forms of alga. Of the 283 sample station with vegetation, the majority (59.9%) were present at nuisance level abundances (medium=104, dense=71). At 36 stations the abundance was observed at trace levels and the remaining 72 stations were considered sparse.

The most common aquatic vegetation observed during the May survey was benthic filamentous algae, or BFA. This alga was observed at 178 stations or 61.2% of the surveyed sites. Trace level abundance was found at 40 sites, sparse abundance at 52 sites, medium abundance at 47 sites, and 39 sites were considered dense. It is important to note that benthic filamentous algae is not a true macrophyte, although for management reasons, we document it during SAV surveys. This also applies to floating filamentous algae and the macro-algae: muskgrass.

Fanwort, an aggressive invasive species, was the second most common species in the Peconic River. Vegetation was observed at 159 sites (54.6%). Trace levels were found at 85 sites, sparse levels at 32 sites, medium levels at 18 sites, and dense levels at 24 sites.

Great and small duckweed are free-floating macrophytes that are subjected to wind and wave movement throughout the river. Duckweeds often accumulate among emergent species and other aquatic plants near the surface. This presence could also be influenced by seasonal factors. Small duckweed was the third most abundant macrophyte with presence at 137 sites (47.1%). Nearly all abundances of small duckweed were at non-nuisance levels (96.0%). Great duckweed was much less abundant with presence at 21 stations, all at non-nuisance levels.

Spatterdock was present at 124 sites (42.6%). The majority of spatterdock was observed at non-nuisance levels (trace=66, sparse=37). Medium abundance was present at 20 sites and dense abundance was found at one site.

Floating filamentous algae was observed at 40.9% of the sites (119) in the May survey. Filamentous phytoplankton are typically macroscopic (that is, visible with the naked eye), composed of long chains of cells that are attached to a substrate, submersed or emergent vegetation, or rocks. As pieces of benthic filamentous algae break apart, it often floats on the surface as dense unsightly mats called floating filamentous algae (FFA). Typically, genera of green algae or blue-green algae develop into nuisance filamentous mats.

Water primrose, the plant of most concern for this project, was present at 99 sites (34.0%) in the Peconic River. Trace abundances were found at 48 sites, sparse abundance at 42 sites, and nine sites were observed at medium abundance. No abundances were considered dense during the May survey. The highest concentrations were found in section 5 and section 6 with presence at 30 sites and 50 sites, respectively.

Water smartweed was present at 32.0% of the sample stations (93). Nearly all abundances were at non-nuisance levels. Trace abundance was found at 66 sites, sparse abundance at 23 sites, and medium abundance at four sites.

Similar to the water primrose, European frogbit was also a plant of concern in the Peconic River. Presence was found at 74 sites, or 25.4%. All observations of European frogbit were considered non-nuisance as 67 sites were observed at trace level abundance and 7 sites observed at sparse levels. Higher concentrations of European frogbit were observed in section 4 (13 sites), section 5 (13 sites), and section 6 (20 sites).

Parrot feather, an invasive species, was present at 68 sample stations (23.4%). Trace abundance was found at 53 sites, sparse abundance at 13 sites, medium abundance at one site, and dense abundance at one site.

Common bladderwort was observed at 66 sites (22.7%). Trace abundance was observed at 43 sites, sparse abundance at 20 sites, and medium abundance at three sites.

Leafy pondweed was collected at 48 sites (16.5%). Trace abundance was present at 35 sites, sparse abundance at 11 sites, and medium abundance at two sites.

Curly-leaf pondweed, an invasive species, was present at 39 sites (13.4%). All observations of this species were at non-nuisance levels (trace=31, sparse=8).

The following plants were observed during the survey at less than 10% of the surveyed sample stations: bur-reed sp. (9.3%), coontail (9.3%), watermoss (8.9%), wild celery (8.6%), water starwort (6.5%), Brazilian elodea (5.8%), watershield (4.5%), muskgrass (3.4%), sago pondweed (2.7%), white waterlily (2.7%), Ribbon-leaf pondweed (2.4%), common watermeal (1.7%), bassweed (1.0%), common waterweed (1.0%), arrowhead (0.7%).

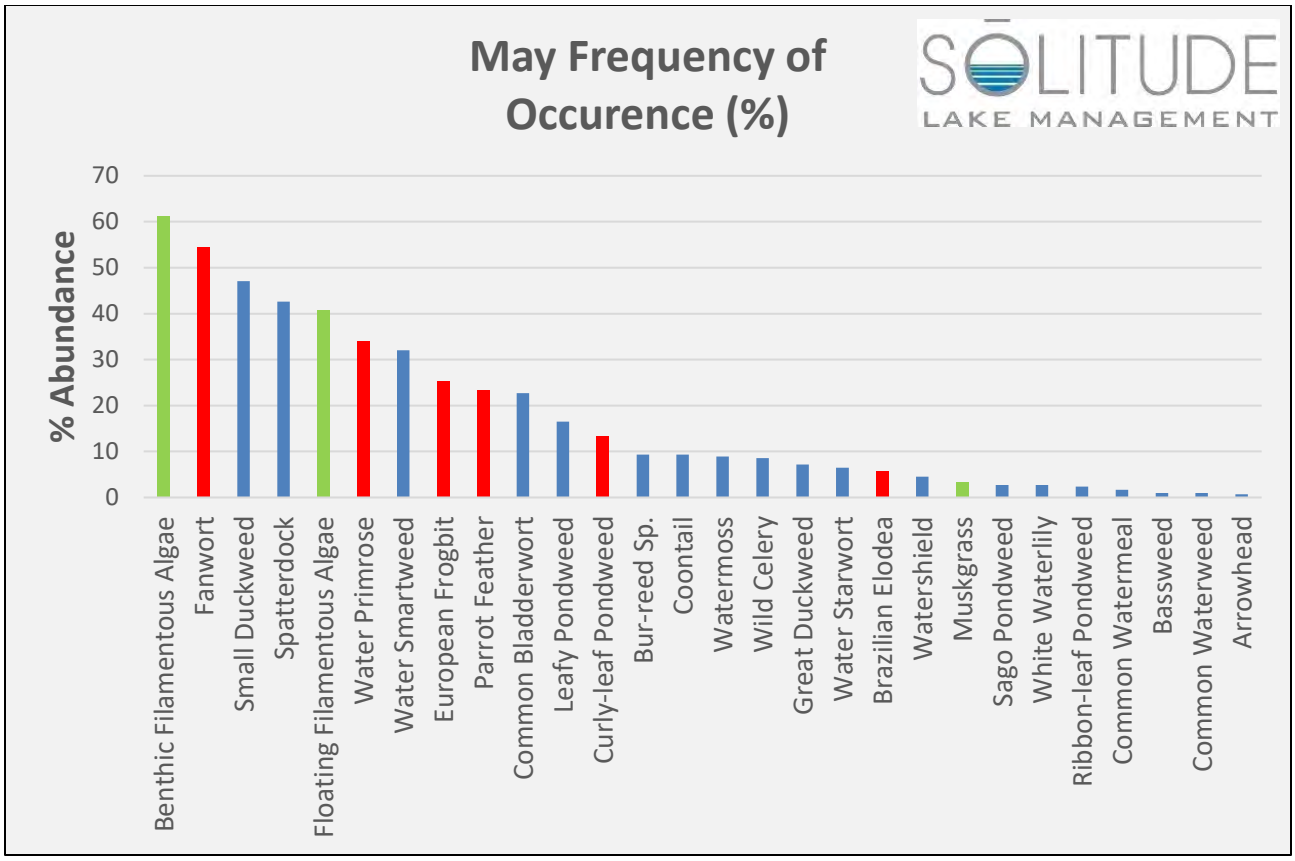
Table 3. 2021 May Survey: Summary of Submersed Aquatic Vegetation

Common Name	Scientific Name	2021 # of Sites	2021 %
Overall SAV		**283**	**97.3%**
Benthic Filamentous Algae		178	61.2%
Fanwort	*Cabomba caroliniana*	159	54.6%
Small Duckweed	*Lemna minor*	137	47.1%
Spatterdock	*Nuphar variegata*	124	42.6%
Floating Filamentous Algae		119	40.9%
Water Primrose	*Ludwigia* sp.	99	34.0%
Water Smartweed	*Persicaria amphibia*	93	32.0%
European Frogbit	*Hydrocharis morsus-ranae*	74	25.4%

Parrot Feather	*Myriophyllum aquaticum*	68	23.4%
Common Bladderwort	*Utricularia vulgaris*	66	22.7%
Leafy Pondweed	*Potamogeton foliosus*	48	16.5%
Curly-leaf Pondweed	*Potamogeton crispus*	39	13.4%
Bur-reed Sp.	*Sparganium sp.*	27	9.3%
Coontail	*Ceratophyllum demersum*	27	9.3%
Watermoss	*Fontinalis* sp.	26	8.9%
Wild Celery	*Vallisneria americana*	25	8.6%
Great Duckweed	*Spirodela polyrhiza*	21	7.2%
Water Starwort	*Callitriche palustris*	19	6.5%
Brazilian Elodea	*Egeria densa*	17	5.8%
Watershield	*Brasenia schreberi*	13	4.5%
Muskgrass	*Chara sp.*	10	3.4%
Sago Pondweed	*Stuckenia pectinata*	8	2.7%
White Waterlily	*Nymphaea alba*	8	2.7%
Ribbon-leaf Pondweed	*Potamogeton epihydrus*	7	2.4%
Common Watermeal	*Wolffia* sp.	5	1.7%
Bassweed	*Potamogeton amplifolius*	3	1.0%
Common Waterweed	*Elodea canadensis*	3	1.0%
Arrowhead	*Sagittaria* sp.	2	0.7%

Highlighted in red indicates an invasive species and green indicates algae.

Graph 1: May 2021 Frequency of Occurrence of Species in the Peconic River



Highlighted in red indicates an invasive species and green indicates algae.

On September 7th and 8th 2021, SOLitude Lake Management re-surveyed 290 sample stations within the Peconic River from the outlet of Donahue Pond to the Town of Riverhead. Macrophyte vegetation was documented at 283 sample stations, which is equivalent to 97.6%. In total, 26 species were observed, two fewer than the May survey. The same six invasive species were present, 18 native species, and two forms of alga were also found. Of the 283 sites with vegetation, the majority (84.1%) were present at nuisance level abundances (medium=42, dense=196). At 14 stations the abundance was observed at trace levels and the remaining 31 stations were considered sparse. September typically will have higher abundance levels as it occurs after the peak growing season of June-August.

Table 4 and Graph 2 below summarizes the 2021 percent occurrence (or frequency of occurrence) data for all of the aquatic plants collected and observed during the September survey. For this discussion, it would be helpful for the reader to refer to the distribution tables and the summary of percent abundance by section data tables, located in the appendix of this report.

The most common aquatic vegetation observed during the September survey was fanwort. The invasive species was observed at 216 stations or 74.5% of the surveyed sites. Trace level

abundance was found at 16 sites, sparse abundance at 19 sites, medium abundance at 19 sites, and 162 sites were considered dense.

Small duckweed was the second most abundant macrophyte with presence at 160 sites (55.2%). The majority of small duckweed vegetation was present at non-nuisance levels (75.0%). Trace abundance was observed at 65 sites, sparse abundance at 55 sites, medium abundance at 26 sites, and dense abundance at 14 sites. Great duckweed was not observed in the September survey.

Water primrose was third most common plant during this survey with presence at 136 sites (46.9%). Trace abundance was found at 37 sites, sparse abundance at 38 sites, medium abundance at 19 sites, and dense abundance at 42 sites. The highest concentrations of water primrose were found in section 5 (41 sites) and section 6 (59 sties).

Benthic filamentous algae was observed at 134 stations or 46.2% of the surveyed sites. Trace level abundance was found at 78 sites, sparse abundance at 47 sites, medium abundance at five sites, and four sites were considered dense.

European frogbit was present at 111 sites, or 38.3%. Abundance was considered trace at 64 sites, sparse at 18 sites, medium at seven sites, and dense at 22 sites. The highest concentrations were found in section 2 (41 sites) and section 5 (21 sites).

Water smartweed was present at 24.8% of the sample stations (72). Trace abundance was found at 25 sites, sparse abundance at 17 sites, medium abundance at 17 sites, and dense at 13 sites.

Spatterdock was present at 59 sites (20.3%). The majority of spatterdock was observed at non-nuisance levels (trace=41, sparse=9). Medium abundance was present at five sites and dense abundance was found at four sites.

Coontail was observed at 57 sites (19.7%). Trace abundance was observed at 34 sites, sparse abundance at 21 sites, medium abundance at one site, and dense abundance at one site.

Common bladderwort was observed at 48 sites (16.6%). Trace abundance was observed at 42 sites, sparse abundance at one site, and medium abundance at five sites.

Watermoss was observed at 42 sites (14.5%). All vegetation was present at non-nuisance levels (trace=34, sparse=8).

Parrot feather was present at 41 sample stations (14.1%). This invasive was only found at non-nuisance levels (trace=38, sparse=3).

A bur-reed species was observed at 39 sites (13.4%). Trace abundance was observed at 30 sites, sparse abundance at five sites, and medium abundance at four sites.

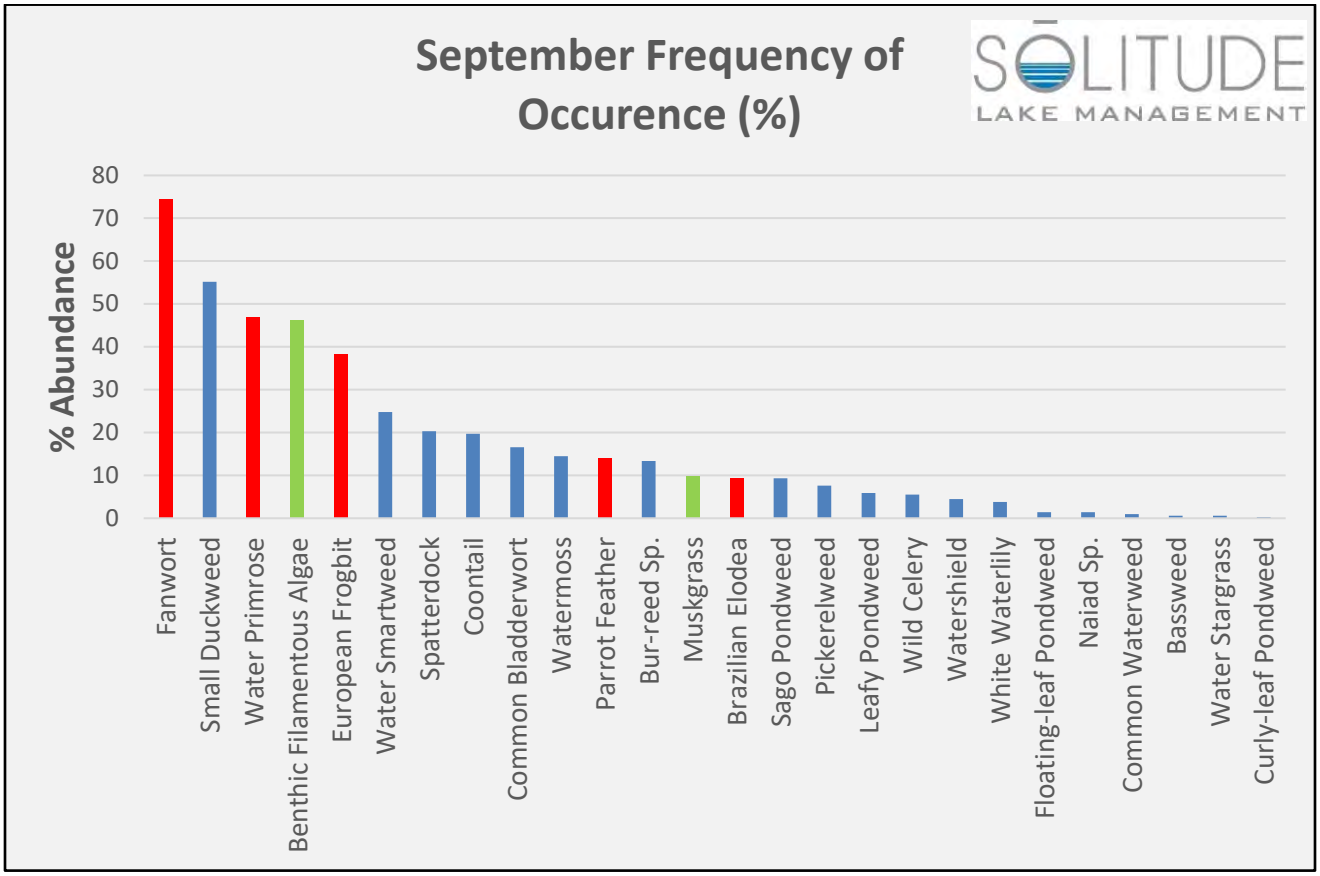
The following plants were observed during the survey at less than 10% of the surveyed sample stations: muskgrass (9.7%), Brazilian elodea (9.3%), sago pondweed (9.3%), pickerelweed (7.6%), leafy pondweed (5.9%), wild celery (5.5%), watershield (4.5%), white waterlily (3.8%), floating-leaf pondweed (1.4%), naiad sp. (1.4%), common waterweed (1.0%), bassweed (0.6%), water stargrass (0.6%), curly-leaf pondweed (0.3%).

Table 4. 2021 September Survey: Summary of Submersed Aquatic Vegetation

Common Name	Scientific Name	2021 # of Sites	2021 %
Overall SAV		**283**	**97.6%**
Fanwort	*Cabomba caroliniana*	216	74.5%
Small Duckweed	*Lemna minor*	160	55.2%
Water Primrose	*Ludwigia* sp.	136	46.9%
Benthic Filamentous Algae		134	46.2%
European Frogbit	*Hydrocharis morsus-ranae*	111	38.3%
Water Smartweed	*Persicaria amphibia*	72	24.8%
Spatterdock	*Nuphar variegata*	59	20.3%
Coontail	*Ceratophyllum demersum*	57	19.7%
Common Bladderwort	*Utricularia vulgaris*	48	16.6%
Watermoss	*Fontinalis* sp.	42	14.5%
Parrot Feather	*Myriophyllum aquaticum*	41	14.1%
Bur-reed Sp.	*Sparganium sp.*	39	13.4%
Muskgrass	*Chara sp.*	28	9.7%
Brazilian Elodea	*Egeria densa*	27	9.3%
Sago Pondweed	*Stuckenia pectinata*	27	9.3%
Pickerelweed	*Pontederia cordata*	22	7.6%
Leafy Pondweed	*Potamogeton foliosus*	17	5.9%
Wild Celery	*Vallisneria americana*	16	5.5%
Watershield	*Brasenia schreberi*	13	4.5%
White Waterlily	*Nymphaea alba*	11	3.8%
Floating-leaf Pondweed	*Potamogetan natans*	4	1.4%
Naiad Sp.	*Najas sp.*	4	1.4%
Common Waterweed	*Elodea canadensis*	3	1.0%
Bassweed	*Potamogeton amplifolius*	2	0.6%
Water Stargrass	*Heteranthera dubia*	2	0.6%
Curly-leaf Pondweed	*Potamogeton crispus*	1	0.3%

Highlighted in red indicates an invasive species and green indicates algae.

Graph 2: September 2021 Frequency of Occurrence of Species in the Peconic River



Highlighted in red indicates an invasive species and green indicates algae.

2021 Macrophyte Abundance in the Treatment Area Discussion

In 2021 a pilot herbicide treatment was conducted in a <1 acre treatment area within the Peconic River for control of water primrose. The treatment area consisted of four survey points (pts. 44-47) located in the southeast corner of survey section 2. Please refer to treatment and distribution maps located in the appendix. A pre-treatment survey (May) and post-treatment survey (September) was conducted with regards to the herbicide treatment conducted in August.

In May, trace amounts of water primrose and European frogbit were observed. Other macrophytes observed included: common bladderwort, fanwort, small duckweed, spatterdock and water shield.

Post-treatment, in September, there was no presence of water primrose. European frogbit was present along with fanwort, small duckweed, spatterdock, and watershield.

Treatment Area Visual Surveys

Three visual surveys were conducted (late July, late August, and early September). The first survey in late July included mapping of survey sections 2, 5, and 6. Please note sections 2 and 6 were surveyed on July 22nd and section 5 was surveyed on August 31st. Mapping was done via a kayak using a Trimble GeoXH 2008 series handheld GPS unit with sub-meter accuracy with an overlay grid. Biologists segmented parts of the river into polygons based on abundance of water primrose (*Ludwigia sp*.) and European frogbit (*Hydrocharis morsus-ranae*). Please refer to Tables 5, 6 and 7 below, and the plant distribution maps located in the appendix.

Table 5. Section 2 Visual Survey Distributions (July 22nd 2021)

Polygon Number	LAT	LONG	Species	Observed Abundance
1	40.900987	-72.755922	European Frogbit	Trace to Sparse
2	40.901407	-72.754525	European Frogbit	Trace to Sparse
3	40.90131	-72.754541	European Frogbit	Trace
4	40.90149	-72.753027	European Frogbit	Sparse to Moderate
5	40.901681	-72.75299	European Frogbit	Sparse to Moderate
6	40.901923	-72.752645	European Frogbit	Sparce to Dense
7	40.902416	-72.750858	European Frogbit	Trace to Moderate
8	40.903462	-72.74909	European Frogbit	Trace to Sparse
9	40.903831	-72.748581	European Frogbit	Trace
10	40.903992	-72.748339	Water Primrose	Trace to Sparse
11	40.904236	-72.747975	European Frogbit	Trace to Sparse
11	40.904236	-72.747975	Water Primrose	Trace
12	40.903859	-72.747487	European Frogbit	Trace to Sparse
13	40.903603	-72.747292	European Frogbit	Trace to Sparse
13.5	40.903356	-72.747625	Water Primrose	Trace
14	40.904827	-72.746815	European Frogbit	Sparse to Dense
14.5	40.905452	-72.745668	Water Primrose	Trace to Dense
15	40.904594	-72.745974	European Frogbit	Sparse to Dense
15	40.904594	-72.745974	Water Primrose	Trace to Dense
16	40.905093	-72.744117	European Frogbit	Trace to Sparse
16	40.905093	-72.744117	Water Primrose	Sparse to Moderate
17	40.90557	-72.744075	European Frogbit	Trace to Sparse
17	40.90557	-72.744075	Water Primrose	Trace

Table 6. Section 5 Visual Survey Distributions (August 31st 2021)

Polygon Number	LAT	LONG	Species	Observed Abundance
1	40.914127	-72.714916	Water Primrose	Moderate
1	40.914127	-72.714916	European Frogbit	Trace
2	40.91491	-72.717189	Water Primrose	Sparse
3	40.915281	-72.717412	Water Primrose	Moderate
3	40.915281	-72.717412	European Frogbit	Trace
4	40.915244	-72.721343	Water Primrose	Trace
5	40.914914	-72.723557	Water Primrose	Trace
6	40.914935	-72.72467	Water Primrose	Trace
6	40.914935	-72.72467	European Frogbit	Trace
7	40.913296	-72.728535	Water Primrose	Dense
7	40.913296	-72.728535	European Frogbit	Moderate
8	40.912136	-72.728721	Water Primrose	Moderate
8	40.912136	-72.728721	European Frogbit	Dense
9	40.912386	-72.72652	Water Primrose	Trace
9	40.912386	-72.72652	European Frogbit	Dense
10	40.912873	-72.724966	Water Primrose	Trace
10	40.912873	-72.724966	European Frogbit	Moderate
11	40.912927	-72.721135	Water Primrose	Trace
11	40.912927	-72.721135	European Frogbit	Sparse
12	40.912643	-72.718588	Water Primrose	Trace
12	40.912643	-72.718588	European Frogbit	Sparse
13	40.913113	-72.717339	Water Primrose	Trace
14	40.91303	-72.71602	Water Primrose	Sparse
15	40.912558	-72.714308	Water Primrose	Trace

Table 7. Section 6 Visual Survey Distributions (July 22nd 2021)

Polygon Number	LAT	LONG	Species	Observed Abundance
1	40.914778	-72.689481	Water Primrose	Dense
1	40.914778	-72.689481	European Frogbit	Trace
2	40.915666	-72.693902	Water Primrose	Dense
2	40.915666	-72.693902	European Frogbit	Trace
3	40.916021	-72.696473	Water Primrose	Sparse to Moderate
3	40.916021	-72.696473	European Frogbit	Trace
4	40.915949	-72.698271	Water Primrose	Sparse to Moderate
4	40.915949	-72.698271	European Frogbit	Trace
5	40.915361	-72.699395	Water Primrose	Sparse to Moderate
5	40.915361	-72.699395	European Frogbit	Trace
6	40.914769	-72.700664	Water Primrose	Trace to Sparse
6	40.914769	-72.700664	European Frogbit	Trace to Sparse
7	40.914163	-72.701858	Water Primrose	Trace to Sparse
7	40.914163	-72.701858	European Frogbit	Trace
8	40.914486	-72.703532	Water Primrose	Trace
8	40.914486	-72.703532	European Frogbit	Trace
9	40.913961	-72.70515	Water Primrose	Trace
9	40.913961	-72.70515	European Frogbit	Trace
10	40.91321	-72.706515	Water Primrose	Trace to Sparse
10	40.91321	-72.706515	European Frogbit	Trace
11	40.912923	-72.708745	Water Primrose	Trace to Sparse
11	40.912923	-72.708745	European Frogbit	Trace to Sparse
12	40.913175	-72.710958	Water Primrose	Trace
12	40.913175	-72.710958	European Frogbit	Trace to Sparse
13	40.912878	-72.712087	Water Primrose	Trace
13	40.912878	-72.712087	European Frogbit	Trace to Sparse
14	40.912662	-72.712097	Water Primrose	Trace
14	40.912662	-72.712097	European Frogbit	Trace
15	40.912932	-72.710914	Water Primrose	Trace to Sparse
15	40.912932	-72.710914	European Frogbit	Trace
16	40.912595	-72.709071	Water Primrose	Trace
16	40.912595	-72.709071	European Frogbit	Trace to Sparse
17	40.912402	-72.707203	Water Primrose	Trace to Sparse
17	40.912402	-72.707203	European Frogbit	Trace
18	40.912525	-72.706209	Water Primrose	Trace
18	40.912525	-72.706209	European Frogbit	Trace
19	40.913014	-72.705842	Water Primrose	Trace to Sparse
19	40.913014	-72.705842	European Frogbit	Trace
20	40.913801	-72.703377	Water Primrose	Trace
20	40.913801	-72.703377	European Frogbit	Trace
21	40.913911	-72.701614	Water Primrose	Trace
21	40.913911	-72.701614	European Frogbit	Trace
22	40.915294	-72.698521	Water Primrose	Sparse to Moderate
22	40.915294	-72.698521	European Frogbit	Sparse
23	40.915177	-72.696126	Water Primrose	Trace
23	40.915177	-72.696126	European Frogbit	Trace
24	40.915225	-72.692312	Water Primrose	Trace to Moderate
24	40.915225	-72.692312	European Frogbit	Trace
25	40.914286	-72.689532	Water Primrose	Sparse to Dense
25	40.914286	-72.689532	European Frogbit	Trace

The remaining two surveys were true visual surveys conducted on August 26th and September 9th at the specific treatment area, located in survey section 2, adjacent to the NYSDEC Edwards Avenue fishing/canoe access site in Calverton. The late August and early September surveys did not include the polygon mapping as only the treatment area was surveyed (<1 acre in size). These visual survey inspections were conducted by a biologist in a kayak noting observations along the treatment area. Please refer to the appendix for pictures from the August and September surveys.

The August survey was conducted on the same day as the herbicide application. Water primrose was present in very small patches near the shoreline. European frogbit was very abundant however spatterdock and fanwort were the most abundant and considered dense. It is expected to have high levels of plant growth in August.

During September survey water primrose was absent from the treatment area. Plant decay was seen for the European frogbit and was also seen in patches of spatterdock and water smartweed. Treatment area had less nuisance vegetation in September compared to August.

Summary of Findings

- In 2021, SOLitude Lake Management conducted a pilot herbicide treatment and point-intercept method aquatic vegetation surveys on the Peconic River from the outlet of Donahue Pond to the Town of Riverhead, NY.
- The herbicide treatment occurred on August 26th, 2021, using ClearCast and ProcellaCOR EC on the <1-acre treatment area for management of water primrose.
- Visual surveys occurred on July 22nd, August 26th, and September 9th.
- During the July 22nd visual survey, water primrose and European frogbit abundances were mapped into polygons within sections 2, 5, and 6.
- In the treatment area, pre-treatment (May), low levels of water primrose were observed, post-treatment (September), water primrose was absent.
- Aquatic vegetation surveys were conducted in late May and early September across the entire Peconic River (all nine sections).
- In total, 291 sites in May, and 290 sites in September were surveyed during the river-wide point-intercept surveys (one point was not accessible during the September survey).
- Vegetation was observed at 283 sites in May (97.3%) and 283 sites in September (97.6%).
- Twenty-eight macrophytes were present during the May survey: 19 native species, six invasive species, and three forms of alga.
- Twenty-six macrophytes were present during the September survey: 18 native, six invasive species, and two forms of alga.
- In May, nuisance level vegetation was present at 59.9% of sites.
- In September nuisance level vegetation was present at 84.1% of sites.

- In May, benthic filamentous algae and fanwort were the two most common macrophytes, present at 61.2% and 54.6% of sites, respectively.
- In September, fanwort and small duckweed were the two most common macrophytes, present at 74.5% and 55.2% of sites, respectively.
- Water primrose was the sixth most abundant macrophyte in May at 34.0% of sites and the third most abundant macrophyte in September at 46.9% of sites.
- European frogbit was the eighth most abundant macrophyte in May at 25.4% of sites and the fourth most abundant macrophyte in September at 38.3% of sites.

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Appendix

Appendix A: Treatment Permits and Reports
Appendix B: Aquatic Macrophyte Density Chart
Appendix C: May Survey Plant Maps
Appendix D: May Survey Abundance and Distribution Tables
Appendix E: September Survey Plant maps
Appendix F: September Survey Abundance and Distribution Tables
Appendix G: Frequency of Occurrence Graphs
Appendix H: Visual Surveys and Polygon Mapping (Sections 2, 5, and 6)
Appendix I: Treatment Area Pictures – August 26th 2021
Appendix J: Treatment Area Pictures – September 9th 2021

Appendix A: Treatment Permits and Reports

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Bureau of Pest Management, Region 1
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790
P: (631) 444-0340 I F: (631) 444-0231
www.dec.ny.gov

ARTICLE 15/PART 327 PERMIT TO USE AN AQUATIC PESTICIDE
Clearcast (EPA Reg. No. 241-437-67690)

Permit Number:	AV042021AH101
Target Species to be Controlled:	Floating Primrose-Willow (*Ludwigia Peploides*)
Permittee:	Joshua Thiel New York State Department of Environmental Conservation
Waters to be Treated:	A portion of Peconic River totaling 0.97 acres, located on Edwards Ave DEC Launch, 4 Mill Rd, Calverton, NY 11933, as depicted on maps, received by the Department on April 2, 2021.
Town of Treatment Location:	Brookhaven
County of Treatment Location:	Suffolk
Address of Permittee:	625 Broadway, Albany, NY 12233

Pursuant to the Rules and Regulations governing the use of chemicals for the control and extermination of undesirable fish, aquatic vegetation and aquatic insects adopted by the New York State Department of Environmental Conservation, permission is granted to the permittee or his or her agent(s) notwithstanding any of the provisions of the Environmental Conservation Law to apply the listed chemical(s) to the waters identified above located in the town and county identified above in conformance with all statements and agreements set forth in the application dated, signed and at the address above.

THIS PERMIT IS ISSUED SUBJECT TO THE FOLLOWING CONDITIONS: (Important Additional Restrictions Follow)

1. Dates of Treatment:	One application scheduled between June 1, 2021 – July 31, 2021
2. Authorized Chemical:	***Clearcast* (EPA Reg. No. 241-437-67690)**. See attached label, accepted for New York State registration on February 28, 2017.
3. Percent or weight of active ingredient:	*Imazamox*.....12.1%

4. Total amount of chemical authorized: Not to exceed one **foliar application in the amount of 32 ounces of *Clearcast* (EPA Reg. No. 241-437-67690).**

5. Waters to be treated will be restricted to: A portion of Peconic River totaling 0.97 acres, located on Edwards Ave DEC Launch, 4 Mill Rd, Calverton, NY 11933, as depicted on maps, received by the Department on April 2, 2021.

6. Use of the treated waters and those waters affected by the treatment will be prohibited or restricted as follows: N/A

7. Names and ID# of Certified Applicators: See attached

8. Business Name and Registration Number: Solitude Lake Management LLC
BR No. 16506
Expiration Date: 06/30/22
310 East Washington Ave., Ste. C
Washington, NJ, 07882
908-850-0303

9. PRIOR ACTUAL NOTICE OF THE DATE(S) OF TREATMENT AND WATER USE RESTRICTIONS WILL BE GIVEN TO ALL AFFECTED RIPARIAN OWNERS AND USERS.

Posting Requirements: If the applicant is unable or does not desire to control access and use of the area, he must post it to indicate the treatment given, as per 6NYCRRPart 328.6(f).

Notification Requirements: Applicant must provide a copy of the label of ***Clearcast*** **(EPA Reg. No. 241-437-67690)** by hand-delivery, or by mail free-of-charge to any person so requesting.

10. THE FOLLOWING INDIVIDUAL MUST BE NOTIFIED **BY FAX OR EMAIL AT LEAST SEVEN (7) DAYS BEFORE** THE TIME OF CHEMICAL TREATMENTS:

Amine Hamdouchi, Pesticide Control Specialist 1, New York State Department of Environmental Conservation, Bureau of Pest Management, SUNY @ Stony Brook, 50 Circle Rd., Stony Brook, NY 11790-3409, R1Pesticides@dec.ny.gov, Fax: (631)-444-0231

11. The permittee must comply with the Rules and Regulations adopted by the New York State Department of Environmental Conservation.

12. The application of chemicals will be deemed in violation of the provision of the State Environmental Conservation Law if the applicant fails to comply with the permit terms.

13. This permit is issued subject to these and additional conditions and restrictions that follow, as well as any additional conditions attached to this permit.

14. ADDITIONAL CONDITIONS OR RESTRICTIONS

a. As a condition of the issuance of this permit, the applicant has accepted expressly by the execution of the application, the full legal responsibilities for all damages, direct or indirect, of whatever nature, and by whomever suffered, arising out of the treatment described herein and has agreed to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said treatment.

b. This permit will not be construed as conveying to the applicant any right to trespass upon the lands of others to perform the treatment or as authorizing the impairment of any right, title or interest in real or personal property held or vested in a person not a party to the permit.

c. This permit grants no right to treatment of lands under control of the Department of Environmental Conservation or relieves the applicant of the responsibility to obtain permission from that Department for any treatment of waters lying under their control, unless a specific signed authorization appears on this permit.

d. Issuance of the permit does not authorize the treatment of water lying on or passing through the property of others without their consent nor relieve the applicant of any legal necessity to obtain such consent before treatment nor relieve the applicant of responsibility for damages to riparian owners or others. Prior notice of the dates of treatment will be given to all affected riparian owners and users as specified in this permit.

e. Notification must be given to all parties listed in Item No. 10 of this permit prior to the treatment date. Failure to comply will be used as a basis for a future permit denial and is in violation of the State Environmental Conservation Law and the applicant is subject to prosecution under this law.

f. If no treatment is made and the permit is not used, notification to this effect should be made to the individual identified in Item No. 10 of this permit.

g. No chemical other than ***Clearcast*** **(EPA Reg. No. 241-437-67690)** is authorized to be used by this permit.

h. Use of low ground pressure tracked vehicles in freshwater wetlands is subject to Article 24 Permit requirements.

i. Permittee is restricted to the application rate of 32 ounces per acre per year of ***Clearcast*** **(EPA Reg. No. 241-437-67690).**

j. Permitee will submit to the attention of Amine Hamdouchi, Pesticide Control Specialist 1, New York State Department of Environmental Conservation, Bureau of Pesticides Management, SUNY @ Stony Brook, 50 Circle Road, Stony Brook, New York 11790-3409, a narrative report that describes the outcome of this treatment no later than **November 30, 2021**. This narrative report will **identify all pesticide(s) by product name, active ingredient and EPA registration number**. This report must also **include the dates of application(s), identification of the rate of application, total quantity of each pesticide used during the 2021 application season, the degree of effectiveness achieved, observed beneficial consequences of the application(s), and any observed adverse or beneficial impact to non-target organisms**. This report must also **include photo documentation and discussion of the treatment area which clearly details the degree of pre and post application vegetation and condition of the water body following the application**. If multiple permits have been issued to the applicant or the

certified applicator, **an individual report must be filed for each Article 15 Aquatic Pesticide Permit issued**.

This permit requirement does not preclude the statutory obligation of the permittee, or other pesticide applicator, registered agency or registered business to comply with Annual Reporting requirements expressed at Section 33-1205 of the Environmental Conservation Law of New York State, and 6 NYCRR Part 325.25.

k. To renew any Article 15 Aquatic Vegetation Pesticide Permit, the applicant must present to the Department a documented necessity to do so as noted in ECL 15-0313. Department staff must determine the necessity of the proposed treatment. Alternative (non-pesticidal) actions, such as but not limited to harvesting, reduction of nutrient input through fertilizer control, creation of vegetative buffer zones around the pond, the installation of aerators and the outcome of a non-action scenario, must be reviewed and discussed. The Department must be able to assess the response of the water body to the pesticide application in order to determine if a repeat application is warranted.

l. Pursuant to Article 24 of the Environmental Conservation Law of New York State (Freshwater Wetlands Act), application of pesticide conducted pursuant to this permit, in any freshwater wetland or adjacent area, may require an Article 24 Freshwater Wetlands Permit. An article 24 Permit may be required in addition to this Aquatic Pesticide Permit.

m. Permittee is not to conduct any algaecide or herbicide application if a significant rain event is predicted within 72 hours of the proposed target treatment date.

n. The applicant must take into account the amount of aquatic vegetation that will die off and decompose while applying the pesticide so as not to cause a fish kill. If a fish kill occurs as a result of the application of a pesticide, the NYSDEC Bureau of Fisheries must be contacted.

16. ADDITIONAL CONDITIONS FOR AQUATIC APPLICATIONS TO CONTROL AQUATIC VEGETATION:

Any Certified Pesticide Applicator Technician working under the direct supervision of the Certified Commercial Pesticide Applicator must be working under the on-site direct supervision of a Certified Commercial Pesticide Applicator pursuant to 6NYCRR Part 325.7(d)(1)(iv).

Any Commercial Pesticide Apprentice working under the direct supervision of the Certified Commercial Pesticide Applicator must be working under the on-site direct supervision of a Certified Commercial Pesticide Applicator pursuant to 6NYCRR Part 325.7(d)(2)(i)(‘b’).

Additional Permit Requirements for Aquatic Pesticide Use

Pursuant to the provisions of 6 NYCRR Part 190.9, application of pesticide conducted pursuant to this permit in any State land under the jurisdiction of the Department of Environmental Conservation requires a Part 190 Temporary Revocable Permit.
Coverage under the State Pollutant Discharge Elimination System (SPDES) Pesticide General Permit (PGP) is also required for applications of pesticides labeled for aquatic uses to surface waters of New York, as defined in the PGP.

Coverage under the SPDES PGP is provided through October 31, 2021 (annual renewal for the PGP is not required) by filing a complete Notice of Intent (NOI). A single NOI may provide

coverage for multiple pesticide applications. The NOI form, the PGP requirements, “Frequently Asked Questions” guidance for NOI completion, and contact information is available on the website: http://www.dec.ny.gov/chemical/70489.html

Authorization to apply aquatic pesticides under the PGP is provided 5 days after the Department has received a complete NOI, and all other required permits are obtained (including Article 15 permits).

17. OTHER: N/A

ISSUED FOR THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Issuing Officer's Signature: _____ Date: 5/25/2021

Merlange Genece
Acting Regional Director
Region One

New York State Department of Environmental Conservation, SUNY @ Stony Brook, 50 Circle Rd., Stony Brook, NY 11790-3409. . . (631) 444-0340

Copies to:

M. Genece (Material Management)	R. Marsh (Natural Resources)
A. Walker (Marine Habitat Protection)	S. Ackerman (Permits)
Andria McMaugh (Endangered Species Unit)	J. Wieland (Permits)
D. McReynolds (Marine)	H. O’Riordan (Freshwater Fisheries)
K. Jennings (Ecosystem Health)	F. Hamilton (Wildlife)
T. Leung (Water)	C. Haas (Water)
M. Gibbons (Wildlife)	J. Rodler (Pesticides)

Permit No.: AV042021AH101

AH

File: Peconic River, Ludwigia Project, Joshua Thiel, NYSDEC, Solitude Lake Management LLC., Clearcast, AV042021AH101, Art 15/Part 327, 2021, A. Hamdouchi

SOLITUDE LAKE MANAGEMENT

Amine Hamdouchi
Pesticide Control Specialist
NYDEC, Bureau of Pesticide Management
SUNY at Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
Amine.Hamdouchi@dec.ny.gov

2021 Final Report – Permit AV042021AH101 (Clearcast)

Submission Date: November 30, 2021

Submitted to: NYSDEC Region 1 Department of Pesticides

Site & Treatment Information

Name of Waterbody Treated:	Peconic River
Location (Town / County):	Town of Brookhaven
FWW Permit Number:	1-4722-02195/00014
Name of Applicator:	Bob Schindler
Certification I.D. Number:	#16505
Aquatic Pesticide Permit Numbers:	AV042021AH102 / AV042021AH101
Products:	ClearCast

Chemical	EPA Reg #	Active Ingredient	Target Pest	Quantity Used	Dates	Application Rate	Acres Treated
ClearCast	214-437-67690	Imazamox	Floating water primrose	4.8 ounces	8/26/2021	32 oz per acre	0.15

Pre-Management Notes:	Pretreatment surveys were performed in June and August.
Method(s) of Application:	Backpack sprayer
Describe conditions of water level and outflow, water held, how long was it held and for how long?	Water was not held during or after treatment.

Evaluation of Treatment

Degree of Target Species Control: (100% excellent - <50% poor)	~90% of targeted plants
Post-Management Notes:	This treatment was a pilot treatment program for floating water primrose within the Peconic River. A comprehensive vegetation survey of the Peconic River was completed in 2021, and it is intended that a larger scale herbicide treatment for floating water primrose will be completed in 2022.

Miscellaneous Notes

Adverse/Beneficial effects: There were established open water areas where treatment was performed.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Bureau of Pest Management, Region 1
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790
P: (631) 444-0340 I F: (631) 444-0231
www.dec.ny.gov

ARTICLE 15/PART 327 PERMIT TO USE AN AQUATIC PESTICIDE
ProcellaCOR EC (SLN NY-190001) (EPA Reg. No. 67690-80)

Permit Number:	AV042021AH102
Target Species to be Controlled:	Floating Primrose-Willow (*Ludwigia Peploides*)
Permittee:	Joshua Thiel New York State Department of Environmental Conservation
Waters to be Treated:	A portion of Peconic River totaling 0.97 acres, located on Edwards Ave DEC Launch, 4 Mill Rd, Calverton, NY 11933, as depicted on maps, received by the Department on April 2, 2021.
Town of Treatment Location:	Brookhaven
County of Treatment Location:	Suffolk
Address of Permittee:	625 Broadway, Albany, NY 12233

Pursuant to the Rules and Regulations governing the use of chemicals for the control and extermination of undesirable fish, aquatic vegetation and aquatic insects adopted by the New York State Department of Environmental Conservation, permission is granted to the permittee or his or her agent(s) notwithstanding any of the provisions of the Environmental Conservation Law to apply the listed chemical(s) to the waters identified above located in the town and county identified above in conformance with all statements and agreements set forth in the application dated, signed and at the address above.

THIS PERMIT IS ISSUED SUBJECT TO THE FOLLOWING CONDITIONS: (Important Additional Restrictions Follow)

1. Dates of Treatment:	One application scheduled between June 1, 2021 – July 31, 2021
2. Authorized Chemical:	***ProcellaCOR EC* (EPA Reg. No. 67690-80*)***. See attached label, accepted for New York State registration on February 22, 2019. This label is to be used in conjunction with the Special Local Need labeling **SLN NY-190001** accepted for New York State registration on November 15, 2019.

3. Percent or weight of active ingredient: *Florpyrauxifen-benzyl*..... 2.7%

4. Total amount of chemical authorized: Not to exceed one **foliar application in the amount of 10.0 PDU (31.7 fl. oz.) of *ProcellaCOR EC* (SLN NY-190001) (EPA Reg. No. 67690-80) per year.**

5. Waters to be treated will be restricted to: A portion of Peconic River totaling 0.97 acres, located on Edwards Ave DEC Launch, 4 Mill Rd, Calverton, NY 11933, as depicted on maps, received by the Department on April 2, 2021.

6. Use of the treated waters and those waters affected by the treatment will be prohibited or restricted as follows: N/A

7. Names and ID# of Certified Applicators: See attached

8. Business Name and Registration Number: Solitude Lake Management LLC
BR No. 16506
Expiration Date: 06/30/22
310 East Washington Ave., Ste. C
Washington, NJ, 07882
908-850-0303

9. PRIOR ACTUAL NOTICE OF THE DATE(S) OF TREATMENT AND WATER USE RESTRICTIONS WILL BE GIVEN TO ALL AFFECTED RIPARIAN OWNERS AND USERS.

Posting Requirements: If the applicant is unable or does not desire to control access and use of the area, he must post it to indicate the treatment given, as per 6NYCRRPart 328.6(f).

Notification Requirements: Applicant must provide a copy of the label of ***ProcellaCOR EC (EPA Reg. No. 67690-80) (SLN NY-190001)*** by hand-delivery, or by mail free-of-charge to any person so requesting.

10. THE FOLLOWING INDIVIDUAL MUST BE NOTIFIED **BY FAX OR EMAIL AT LEAST SEVEN (7) DAYS BEFORE** THE TIME OF CHEMICAL TREATMENTS:

Amine Hamdouchi, Pesticide Control Specialist 1, New York State Department of Environmental Conservation, Bureau of Pest Management, SUNY @ Stony Brook, 50 Circle Rd., Stony Brook, NY 11790-3409, R1Pesticides@dec.ny.gov, Fax: (631)-444-0231

11. The permittee must comply with the Rules and Regulations adopted by the New York State Department of Environmental Conservation.

12. The application of chemicals will be deemed in violation of the provision of the State Environmental Conservation Law if the applicant fails to comply with the permit terms.

13. This permit is issued subject to these and additional conditions and restrictions that follow, as well as any additional conditions attached to this permit.

14. ADDITIONAL CONDITIONS OR RESTRICTIONS

a. As a condition of the issuance of this permit, the applicant has accepted expressly by the execution of the application, the full legal responsibilities for all damages, direct or indirect, of whatever nature, and by whomever suffered, arising out of the treatment described herein and has agreed to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said treatment.

b. This permit will not be construed as conveying to the applicant any right to trespass upon the lands of others to perform the treatment or as authorizing the impairment of any right, title or interest in real or personal property held or vested in a person not a party to the permit.

c. This permit grants no right to treatment of lands under control of the Department of Environmental Conservation or relieves the applicant of the responsibility to obtain permission from that Department for any treatment of waters lying under their control, unless a specific signed authorization appears on this permit.

d. Issuance of the permit does not authorize the treatment of water lying on or passing through the property of others without their consent nor relieve the applicant of any legal necessity to obtain such consent before treatment nor relieve the applicant of responsibility for damages to riparian owners or others. Prior notice of the dates of treatment will be given to all affected riparian owners and users as specified in this permit.

e. Notification must be given to all parties listed in Item No. 10 of this permit prior to the treatment date. Failure to comply will be used as a basis for a future permit denial and is in violation of the State Environmental Conservation Law and the applicant is subject to prosecution under this law.

f. If no treatment is made and the permit is not used, notification to this effect should be made to the individual identified in Item No. 10 of this permit.

g. No chemical other than ***ProcellaCOR EC*** **(SLN NY-190001) (EPA Reg. No. 67690-80)** is authorized to be used by this permit.

h. Use of low ground pressure tracked vehicles in freshwater wetlands is subject to Article 24 Permit requirements.

i. Permittee is restricted to the application rate of 32 ounces per acre per year of ***ProcellaCOR EC*** **(SLN NY-190001) (EPA Reg. No. 67690-80).**

j. Permitee will submit to the attention of Amine Hamdouchi, Pesticide Control Specialist 1, New York State Department of Environmental Conservation, Bureau of Pesticides Management, SUNY @ Stony Brook, 50 Circle Road, Stony Brook, New York 11790-3409, a narrative report that describes the outcome of this treatment no later than **November 30, 2021**. This narrative report will **identify all pesticide(s) by product name, active ingredient and EPA registration number**. This report must also **include the**

dates of application(s), identification of the rate of application, total quantity of each pesticide used during the 2021 application season, the degree of effectiveness achieved, observed beneficial consequences of the application(s), and any observed adverse or beneficial impact to non-target organisms. This report must also **include photo documentation and discussion of the treatment area which clearly details the degree of pre and post application vegetation and condition of the water body following the application**. If multiple permits have been issued to the applicant or the certified applicator, **an individual report must be filed for each Article 15 Aquatic Pesticide Permit issued**.

This permit requirement does not preclude the statutory obligation of the permittee, or other pesticide applicator, registered agency or registered business to comply with Annual Reporting requirements expressed at Section 33-1205 of the Environmental Conservation Law of New York State, and 6 NYCRR Part 325.25.

k. To renew any Article 15 Aquatic Vegetation Pesticide Permit, the applicant must present to the Department a documented necessity to do so as noted in ECL 15-0313. Department staff must determine the necessity of the proposed treatment. Alternative (non-pesticidal) actions, such as but not limited to harvesting, reduction of nutrient input through fertilizer control, creation of vegetative buffer zones around the pond, the installation of aerators and the outcome of a non-action scenario, must be reviewed and discussed. The Department must be able to assess the response of the water body to the pesticide application in order to determine if a repeat application is warranted.

l. Pursuant to Article 24 of the Environmental Conservation Law of New York State (Freshwater Wetlands Act), application of pesticide conducted pursuant to this permit, in any freshwater wetland or adjacent area, may require an Article 24 Freshwater Wetlands Permit. An article 24 Permit may be required in addition to this Aquatic Pesticide Permit.

m. Permittee is not to conduct any algaecide or herbicide application if a significant rain event is predicted within 72 hours of the proposed target treatment date.

n. The applicant must take into account the amount of aquatic vegetation that will die off and decompose while applying the pesticide so as not to cause a fish kill. If a fish kill occurs as a result of the application of a pesticide, the NYSDEC Bureau of Fisheries must be contacted.

16. ADDITIONAL CONDITIONS FOR AQUATIC APPLICATIONS TO CONTROL AQUATIC VEGETATION:

Any Certified Pesticide Applicator Technician working under the direct supervision of the Certified Commercial Pesticide Applicator must be working under the on-site direct supervision of a Certified Commercial Pesticide Applicator pursuant to 6NYCRR Part 325.7(d)(1)(iv).

Any Commercial Pesticide Apprentice working under the direct supervision of the Certified Commercial Pesticide Applicator must be working under the on-site direct supervision of a Certified Commercial Pesticide Applicator pursuant to 6NYCRR Part 325.7(d)(2)(i)(‘b’).

Additional Permit Requirements for Aquatic Pesticide Use

Pursuant to the provisions of 6 NYCRR Part 190.9, application of pesticide conducted pursuant to this permit in any State land under the jurisdiction of the Department of Environmental Conservation requires a Part 190 Temporary Revocable Permit.
Coverage under the State Pollutant Discharge Elimination System (SPDES) Pesticide General Permit (PGP) is also required for applications of pesticides labeled for aquatic uses to surface waters of New York, as defined in the PGP.

Coverage under the SPDES PGP is provided through October 31, 2021 (annual renewal for the PGP is not required) by filing a complete Notice of Intent (NOI). A single NOI may provide coverage for multiple pesticide applications. The NOI form, the PGP requirements, "Frequently Asked Questions" guidance for NOI completion, and contact information is available on the website: http://www.dec.ny.gov/chemical/70489.html

Authorization to apply aquatic pesticides under the PGP is provided 5 days after the Department has received a complete NOI, and all other required permits are obtained (including Article 15 permits).

17. OTHER: N/A

ISSUED FOR THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Issuing Officer's Signature: _____ Date: 5/21/2021

Merlange genece
Acting Regional Director
Region One

New York State Department of Environmental Conservation, SUNY @ Stony Brook, 50 Circle Rd., Stony Brook, NY 11790-3409. . . (631) 444-0340

Copies to:

M. Genece (Material Management)	R. Marsh (Natural Resources)
A. Walker (Marine Habitat Protection)	S. Ackerman (Permits)
Andria McMaugh (Endangered Species Unit)	J. Wieland (Permits)
D. McReynolds (Marine)	H. O'Riordan (Freshwater Fisheries)
K. Jennings (Ecosystem Health)	F. Hamilton (Wildlife)
T. Leung (Water)	C. Haas (Water)
M. Gibbons (Wildlife)	J. Rodler (Pesticides)

Permit No.: AV042021AH102

AH

File: Peconic River, Ludwigia Project, Joshua Thiel, NYSDEC, Solitude Lake Management LLC., ProcellaCOR EC, AV042021AH102, Art 15/Part 327, 2021, A. Hamdouchi

Amine Hamdouchi
Pesticide Control Specialist
NYDEC, Bureau of Pesticide Management
SUNY at Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
Amine.Hamdouchi@dec.ny.gov

2021 Final Report – Permit AV042021AH102 (ProcellaCOR EC)

Submission Date: November 30, 2021

Submitted to: NYSDEC Region 1 Department of Pesticides

Site & Treatment Information

Name of Waterbody Treated:	Peconic River
Location (Town / County):	Town of Brookhaven
FWW Permit Number:	1-4722-02195/00014
Name of Applicator:	Bob Schindler
Certification I.D. Number:	#16505
Aquatic Pesticide Permit Numbers:	AV042021AH102 / AV042021AH101
Products:	ProcellaCOR EC

Chemical	EPA Reg #	Active Ingredient	Target Pest	Quantity Used	Dates	Application Rate	Acres Treated
ProcellaCOR EC	67690-80	Florpyrauxifen-benzyl	Floating water primrose	1.5 PDU / 4.8 ounces	8/26/2021	10 PDU per acre	0.15

Pre-Management Notes:	Pretreatment surveys were performed in June and August.
Method(s) of Application:	Backpack sprayer
Describe conditions of water level and outflow, water held, how long was it held and for how long?	Water was not held during or after treatment.

Evaluation of Treatment

Degree of Target Species Control: (100% excellent - <50% poor)	~90% of targeted plants
Post-Management Notes:	This treatment was a pilot treatment program for floating water primrose within the Peconic River. A comprehensive vegetation survey of the Peconic River was completed in 2021, and it is intended that a larger scale herbicide treatment for floating water primrose will be completed in 2022.

Miscellaneous Notes

Adverse/Beneficial effects:	There were established open water areas where treatment was performed.

Appendix B: Aquatic Macrophyte Density Chart

Floating Aquatic Plant Density

Trace

Medium

Sparse

Dense

SOLITUDE
LAKE MANAGEMENT

Submersed Aquatic Plant Density

Trace

Medium

Sparse

Dense

SOLITUDE LAKE MANAGEMENT

Appendix C: May Survey Plant Maps

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 1

SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 1
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 27

Sample Station

Note: Station #8 not surveyed in September

0 325 650 Feet

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 1

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 1
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 19, 2021
Sample Stations: 27

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	1	4%
Trace	1	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 325 650 Feet

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Prepared by: KM

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 2
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 2
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 50

Sample Station

Note: Station #19 was not surveyed in September.

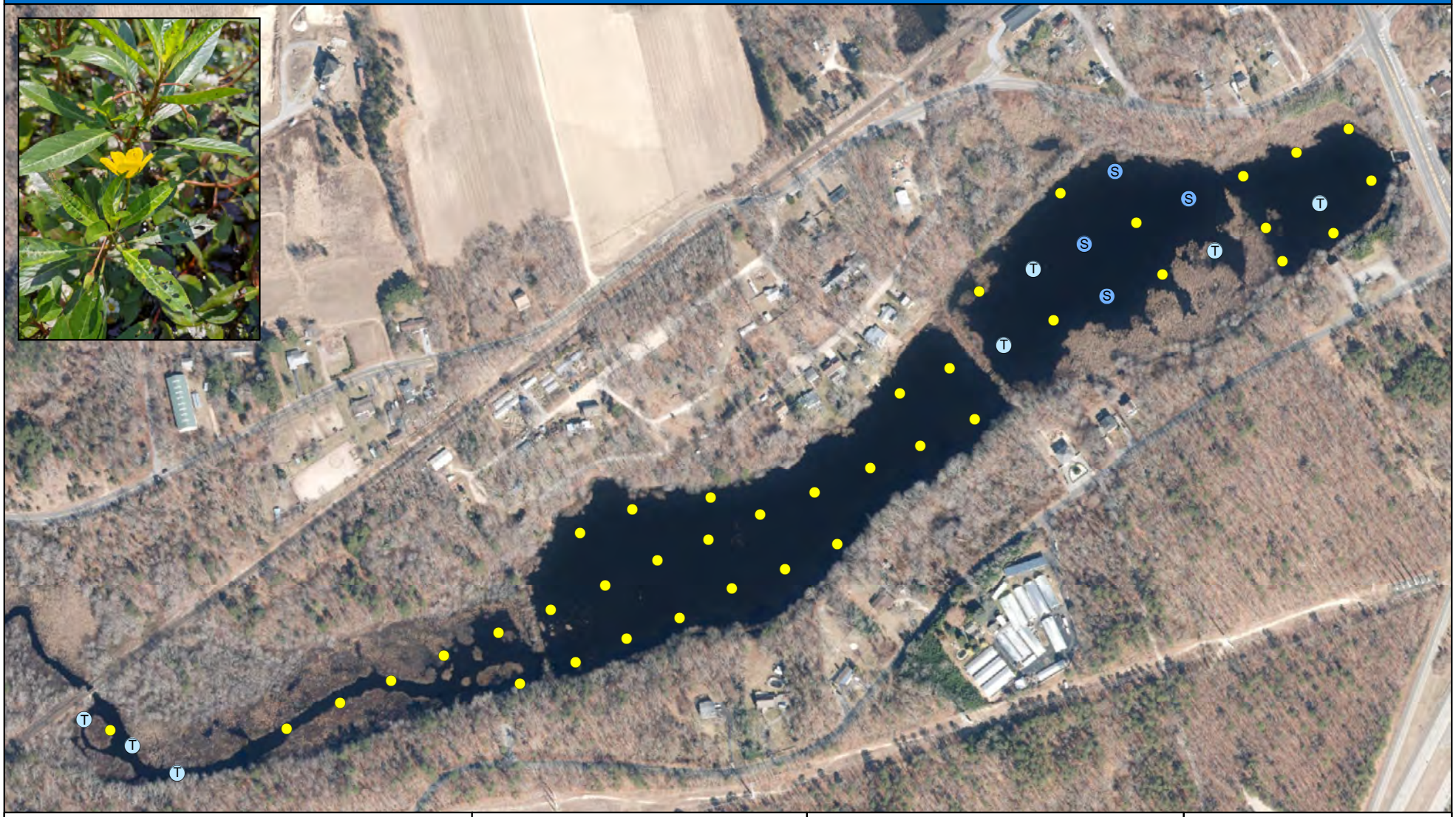
0 255 510 Feet

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 2

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 2
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 19, 2021
Sample Stations: 50

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	11	22%
Trace	7	64%
Sparse	4	36%
Medium	0	0%
Dense	0	0%

0 255 510 Feet

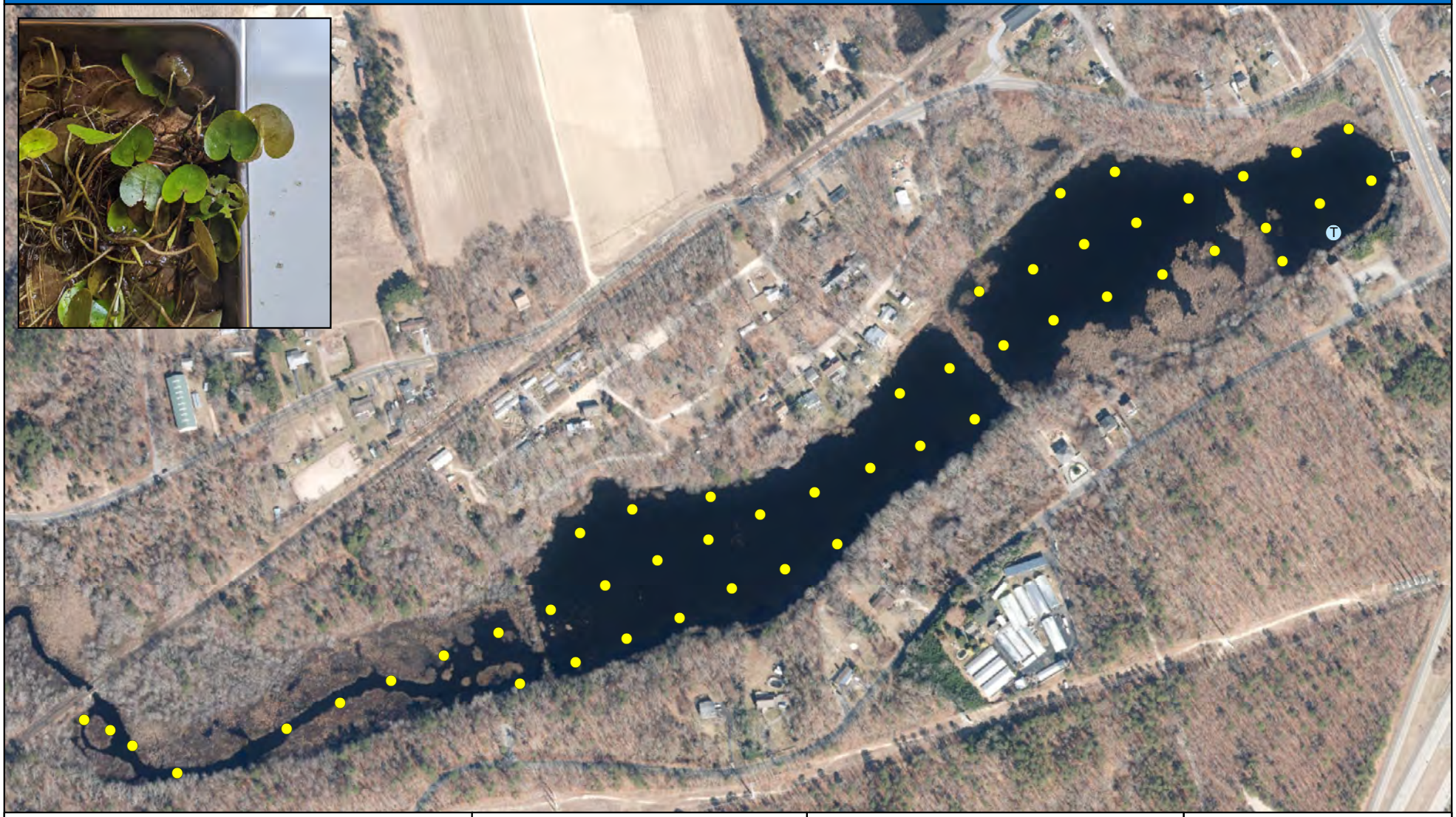
Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 2

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 2
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 19, 2021
Sample Stations: 50

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	1	2%
Trace	1	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 255 510 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 3
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 3
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 8

Sample Station

0 130 260 Feet

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 3

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 3
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 19, 2021
Sample Stations: 8

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	1	13%
Trace	1	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 130 260 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 3

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 3
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 19, 2021
Sample Stations: 8

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	5	63%
Trace	3	60%
Sparse	2	40%
Medium	0	0%
Dense	0	0%

N

0 130 260 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 4
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 4
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 18

Sample Station

Note: Station #10 not surveyed in May.

0 295 590 Feet

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 4

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 4
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 19, 2021
Sample Stations: 17 of 18
Station not surveyed:

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	4	24%
Trace	4	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

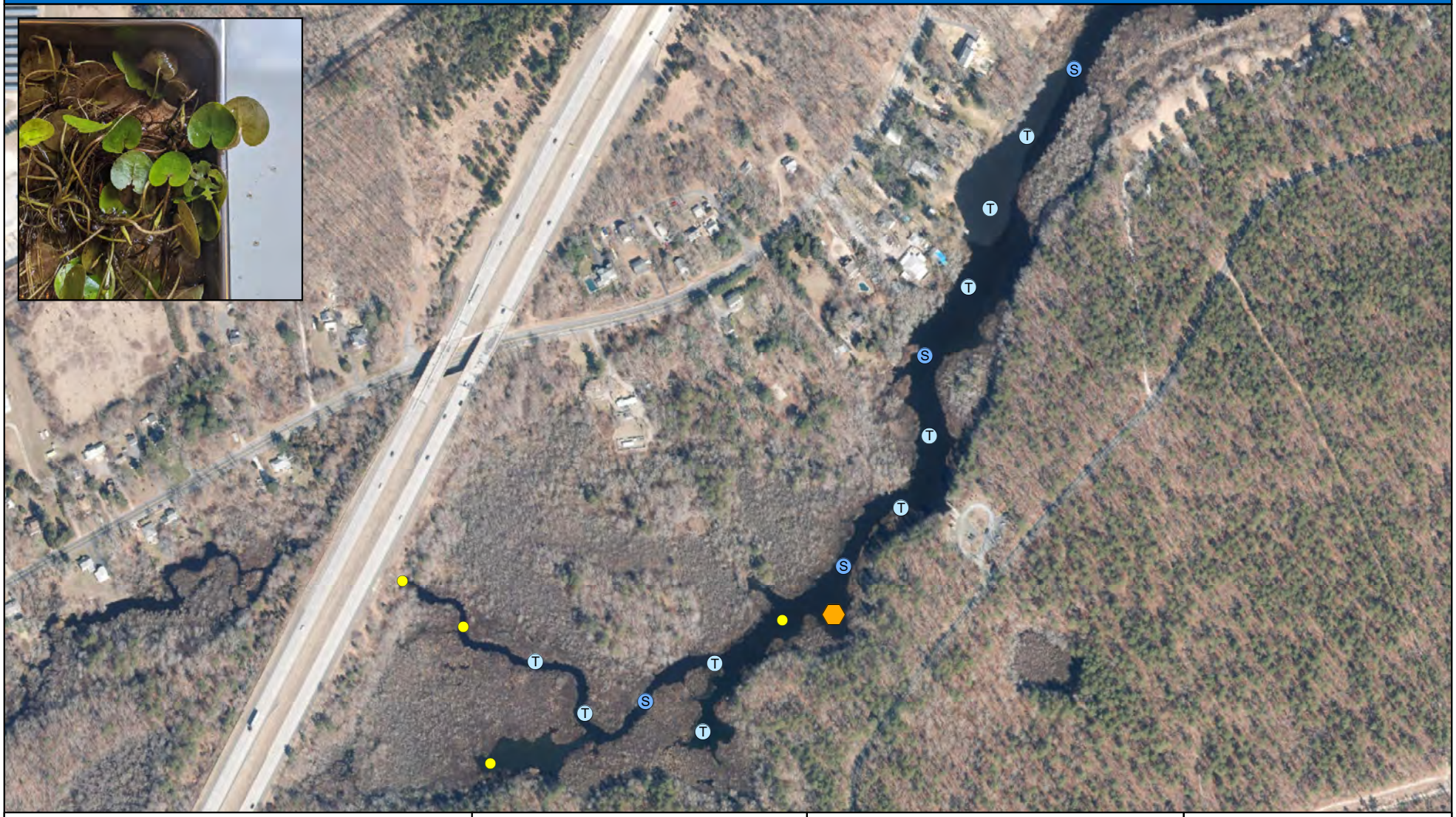
0 295 590 Feet

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 4

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 4
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 19, 2021
Sample Stations: 17 of 18
Station not surveyed:

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	13	76%
Trace	9	69%
Sparse	4	31%
Medium	0	0%
Dense	0	0%

N

0 270 540 Feet

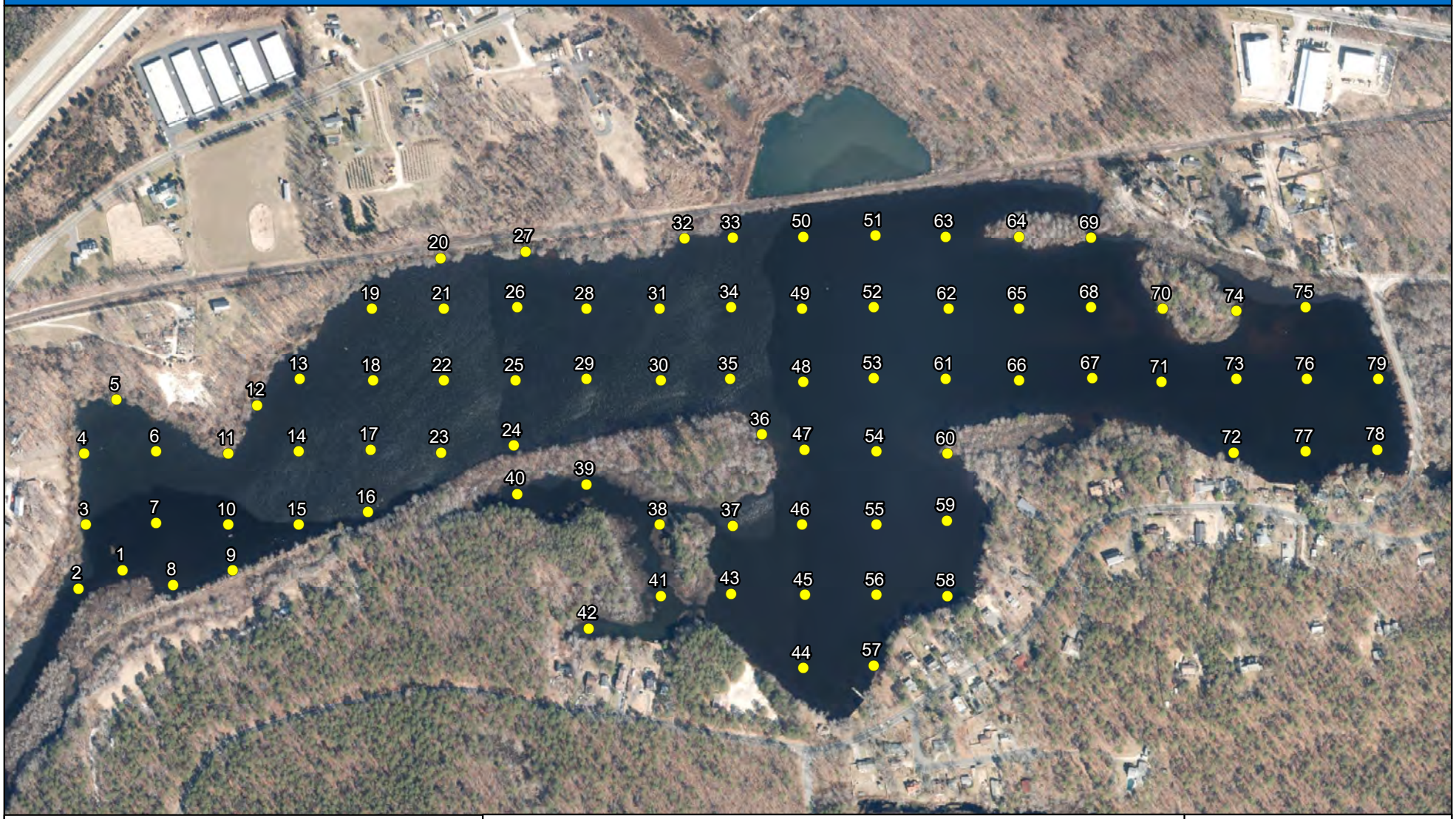
Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 5

SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 5

Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 79

Sample Station

0 310 620 Feet

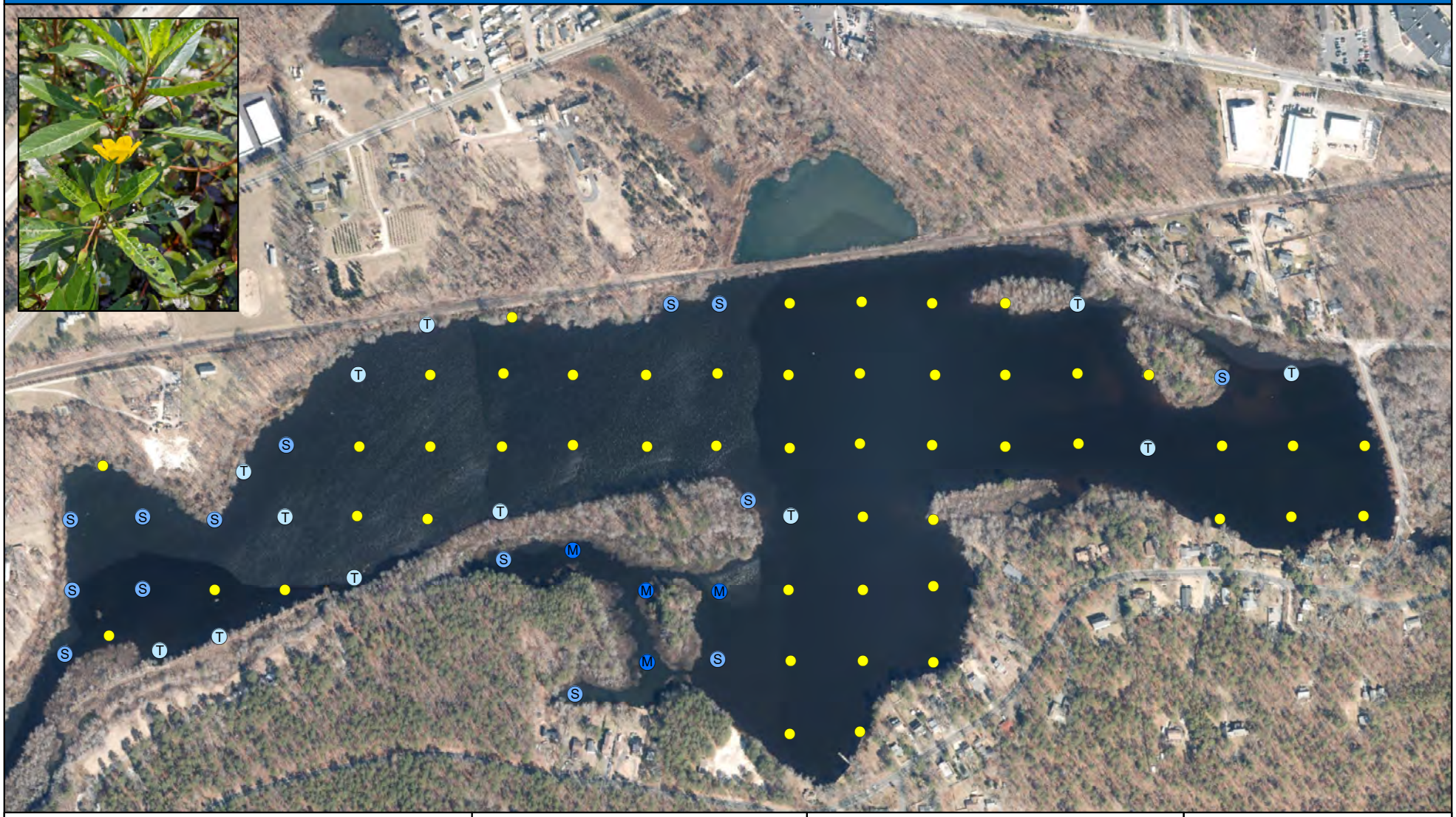
Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 5

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 5
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 20, 2021
Sample Stations: 79

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	30	38%
Trace	12	40%
Sparse	14	47%
Medium	4	13%
Dense	0	0%

N

0 310 620 Feet

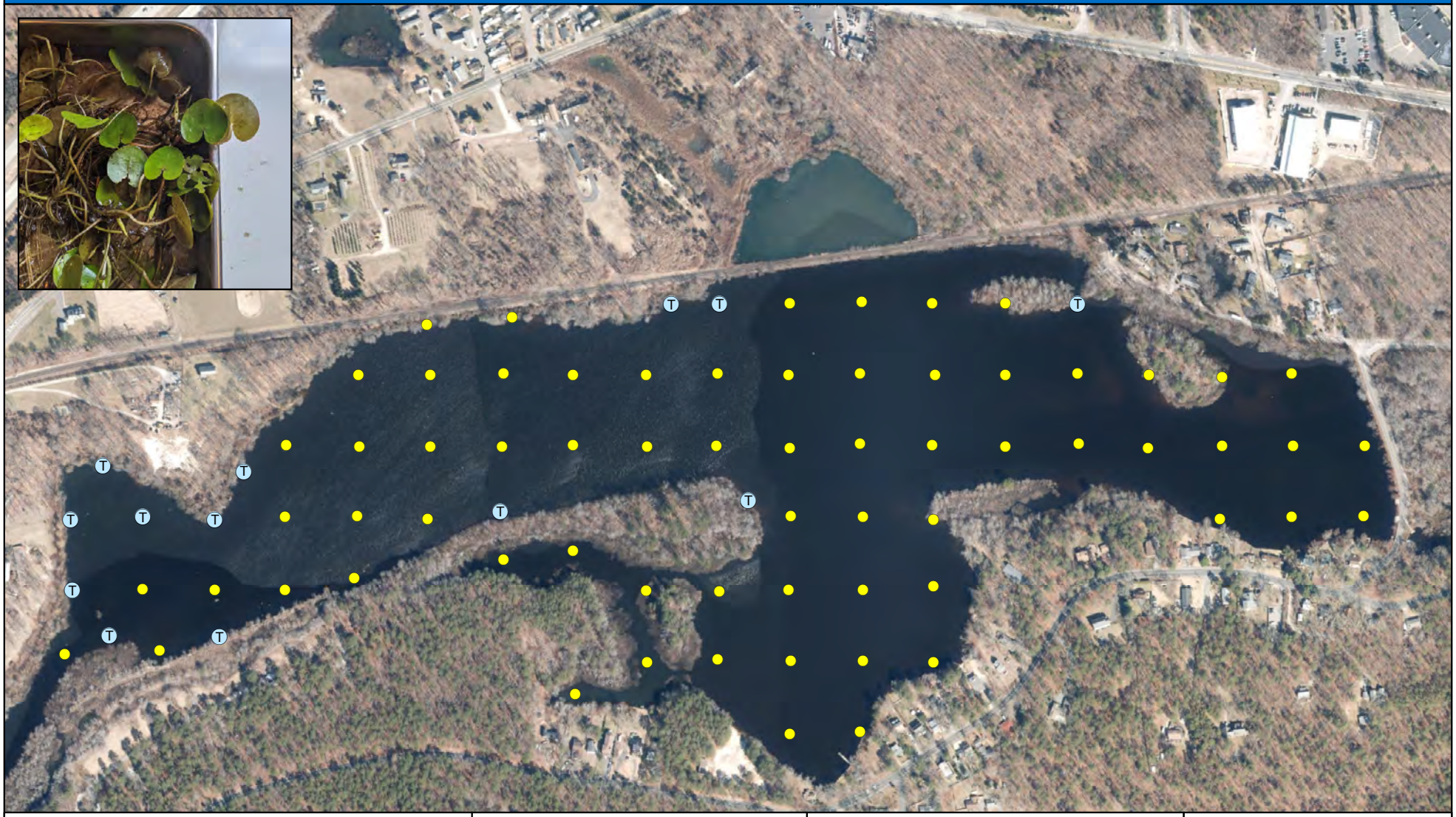
Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 5

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*)) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 5
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 20, 2021
Sample Stations: 79

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	13	16%
Trace	13	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 310 620 Feet

Prepared by: KM

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 6

SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 6
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 64

Sample Station

0 475 950 Feet

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 6

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 6
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 20, 2021
Sample Stations: 64

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	50	78%
Trace	21	42%
Sparse	24	48%
Medium	5	10%
Dense	0	0%

N

0 475 950 Feet

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 6

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*)) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 6
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 20, 2021
Sample Stations: 64

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	20	31%
Trace	19	95%
Sparse	1	5%
Medium	0	0%
Dense	0	0%

N

0 475 950 Feet

Prepared by: KM

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 7
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 7
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 17

Sample Station

0 212.5 425 Feet

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 7

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 7
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 20, 2021
Sample Stations: 17

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	2	12%
Trace	2	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 240 480 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 7

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 7
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 20, 2021
Sample Stations: 17

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	7	41%
Trace	7	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 240 480 Feet

Prepared by: KM

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 8
SAMPLING STATIONS

SOLITUDE
LAKE MANAGEMENT
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PECONIC RIVER - SECTION 8
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 12

Sample Station

0 190 380 Feet

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 8

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

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PECONIC RIVER - SECTION 8
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 20, 2021
Sample Stations: 12

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	9	75%
Trace	9	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 190 380 Feet

Prepared by: KM

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 9
SAMPLING STATIONS

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PECONIC RIVER - SECTION 9
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 17

Sample Station

0 130 260 Feet

Prepared by: KM

PRE-TREATMENT SURVEY - PECONIC RIVER SECTION 9

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

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PECONIC RIVER - SECTION 9
Ludwigia Control Project
Pre-Treatment Aquatic Vegetation Survey
May 20, 2021
Sample Stations: 17

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	6	35%
Trace	6	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 125 250 Feet

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Prepared by: KM

Appendix D: May Survey Abundance and Distribution Tables

Peconic River
Section 1
Aquatic Macrophyte Abundance Distribution
May 19, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	27									
OVERALL	25	93%	13	52%	8	32%	4	16%	0	0%
Great Duckweed	12	44%	12	100%	0	0%	0	0%	0	0%
Watermoss	10	37%	10	100%	0	0%	0	0%	0	0%
Smartweed sp.	10	37%	7	70%	2	20%	1	10%	0	0%
Spatterdock	10	37%	8	80%	0	0%	2	20%	0	0%
Bur-reed sp.	9	33%	4	44%	5	56%	0	0%	0	0%
Leafy Pondweed	7	26%	4	57%	3	43%	0	0%	0	0%
Benthic Filamentous Algae	4	15%	3	75%	1	25%	0	0%	0	0%
Sago Pondweed	4	15%	4	100%	0	0%	0	0%	0	0%
Common Bladderwort	2	7%	2	100%	0	0%	0	0%	0	0%
Water Primrose	1	4%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
May 19, 2021

SECTION 1	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	Great Duckweed	Leafy Pondweed	Sago Pondweed	Smartweed sp.	Spatterdock	Water Primrose	Watermoss
	1	A			0.5											
	1	B			0.5	S										S
	1	M	40.900534°	-72.774013°	0.5	T										T
	2	A			1											
	2	B			1	T		T								
	2	M	40.900669°	-72.773651°	1	T		T								
	3	A			1	T										T
	3	B			0.5	S		S			S		T			
	3	M	40.901026°	-72.772953°	0.75	S		T			T		T			T
	4	A			1.5	M				T			M			
	4	B			1.5	S				T			S			
	4	M	40.901231°	-72.772319°	1.5	M				T			M			
	5	A			0.5	S		S					T			
	5	B			0.5	S		S					T			
	5	M	40.901621°	-72.771752°	0.5	S		S					T			
	6	A			1	S		S		T						T
	6	B			1	S		S		T			S			
	6	M	40.902175°	-72.771304°	1	S		S		T			T			T
	7	A			0.5	M		S		T		S	M			T
	7	B			0.5	S		S		T			T			T
	7	M	40.90258°	-72.77064°	0.5	M		S		T		T	S			T
	8	A			0.5	S		T				T	S			T
	8	B			0.5	S		S		T			T			T
	8	M	40.902674°	-72.770351°	0.5	S		S		T		T	S			T
	9	A			1	T		T		T						T
	9	B			1	S		S		T	T		T			
	9	M	40.902659°	-72.76994°	1	S		S		T	T		T			T
	10	A			1	T		T		T	T		T			
	10	B			1	T				T	T					
	10	M	40.902998°	-72.769197°	1	T		T		T	T		T			
	11	A			0.5	S	S				S		T			
	11	B			0.5	S	S		S	T	S		T	T		
	11	M	40.903328°	-72.7689°	0.5	S	S		T	T	S		T	T		
	12	A			1	M	T		T		T		S	M		
	12	B			1	S					S	T		S		
	12	M	40.903289°	-72.768391°	1	M	T		T		S	T	T	M		
	13	A			1	M					S			M		
	13	B			1.5	S				T	T			S		
	13	M	40.903292°	-72.767504°	1.25	M				T	S			M		
	14	A			2.5	T										T
	14	B			2.5											
	14	M	40.903091°	-72.766709°	2.5	T										T
	15	A			2.5											
	15	B			2.5											
	15	M	40.903103°	-72.765889°	2.5											
	16	A			3.5	T				T						
	16	B			3.5	T	T									
	16	M	40.903366°	-72.765111°	3.5	T	T			T						
	17	A			1.5	S						T				S
	17	B			3.5	T				T						
	17	M	40.903648°	-72.764376°	2.5	S				T		T				T
	18	A			1	T					T					T
	18	B			3	T								T		
	18	M	40.903643°	-72.763582°	2	T					T			T		T
	19	A			3	T										T
	19	B			3	S								S		
	19	M	40.903702°	-72.762705°	3	S								T		T
	20	A			3											
	20	B			3	T								T		
	20	M	40.903414°	-72.761935°	3	T								T		
	21	A			2											
	21	B			4											
	21	M	40.903265°	-72.761144°	3											
	22	A			2.5	T		T								
	22	B			4											
	22	M	40.90325°	-72.760335°	3	T		T								
	23	A			3.5											
	23	B			3	T								T	T	
	23	M	40.90282°	-72.75966°	3.25	T								T	T	
	24	A			3	T								T		
	24	B			4											
	24	M	40.902313°	-72.759074°	3.5	T								T		
	25	A			3	S								S		
	25	B			4											
	25	M	40.901891°	-72.758393°	3.5	T								T		

Peconic River
Aquatic Vegetation Survey
May 19, 2021

SECTION 1	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	Great Duckweed	Leafy Pondweed	Sago Pondweed	Smartweed sp.	Spatterdock	Water Primrose	Watermoss
	26	A			3											
	26	B			3.5	S				S						
	26	M	40.902194°	-72.757629°	3.25	T				T						
	27	A			3.5	T	T			T						
	27	B			2.5	T								T		
	27	M	40.901795°	-72.757089°	3	T	T			T				T		

Peconic River
Section 2
Aquatic Macrophyte Abundance Distribution
May 19, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	50									
OVERALL	49	98%	1	2%	6	12%	16	33%	26	53%
Spatterdock	41	82%	13	32%	17	41%	10	24%	1	2%
Fanwort	38	76%	4	11%	7	18%	6	16%	21	55%
Common Bladderwort	37	74%	19	51%	16	43%	2	5%	0	0%
Benthic Filamentous Algae	25	50%	9	36%	4	16%	8	32%	4	16%
Floating Filamentous Algae	21	42%	5	24%	10	48%	4	19%	2	10%
Smartweed sp.	21	42%	17	81%	3	14%	1	5%	0	0%
Water Primrose	11	22%	7	64%	4	36%	0	0%	0	0%
Leafy Pondweed	11	22%	6	55%	4	36%	1	9%	0	0%
Small Duckweed	11	22%	11	100%	0	0%	0	0%	0	0%
Watershield	6	12%	4	67%	1	17%	1	17%	0	0%
Bur-reed sp.	3	6%	3	100%	0	0%	0	0%	0	0%
Great Duckweed	2	4%	1	50%	1	50%	0	0%	0	0%
Muskgrass	1	2%	1	100%	0	0%	0	0%	0	0%
European Frogbit	1	2%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
May 19, 2021

SECTION 2	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	European Frogbit	Fanwort	Floating Filamentous Algae	Great Duckweed	Leafy Pondweed	Muskgrass	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watershield
	1	A			2.5	S			S									S	T	
	1	B			2	M			M								T	T		
	1	M	40.901369°	-72.756849°	2.25	M			M								T	S	T	
	2	A			3															
	2	B			3															
	2	M	40.901278°	-72.756584°	3															
	3	A			2.5	T								T			T		T	
	3	B			2.5	S											S	T		
	3	M	40.901157°	-72.756359°	2.5	S								T			S	T	T	
	4	A			2	T			T					T				T		
	4	B			2	T											T	T	T	
	4	M	40.900936°	-72.755906°	2	T			T					T			T	T	T	
	5	A			2.5	S	T		S									T		
	5	B			2.5	S	T	S	S								T	S		
	5	M	40.901256°	-72.754773°	2.5	S	T	T	S								T	S		
	6	A			2	T	T		T									T		
	6	B			2.5	M	T		S								T	M		
	6	M	40.901448°	-72.75422°	2.25	S	T		S								T	S		
	7	A			2.5	S			S									S		
	7	B			3	M		S	T									M		
	7	M	40.901614°	-72.75369°	2.75	M		T	S									M		
	8	A			2	S			S				T				S	S		
	8	B			2	M			T						S		M	M		
	8	M	40.901798°	-72.753137°	2	M			S				T		T		M	M		
	9	A			2	M	T		T								T	M		
	9	B			2	M	T		S					T			T	M		
	9	M	40.901964°	-72.752573°	2	M	T		S					T			T	M		
	10	A			2	M			M		T						T	T		
	10	B			2	S			S		T						S	T		
	10	M	40.901562°	-72.752365°	2	M			M		T						S	T		
	11	A			2	M	M					T					T	T		
	11	B			2	D	D					S						S		
	11	M	40.901719°	-72.75179°	2	D	D					S					T	S		
	12	A			1.5	M	M					M					T	S		
	12	B			1.5	D	D					S					T	S		
	12	M	40.90213°	-72.752032°	1.5	D	D					M					T	S		
	13	A			1	M					S	M	S				T	M		
	13	B			1	M					S	M	S				T	S		
	13	M	40.902724°	-72.751709°	1	M					S	M	S				T	M		
	14	A			2	M	M		S		S	S				T	T	S		
	14	B			2.5	D	D		S		T	M						M		
	14	M	40.902313°	-72.751467°	2.25	D	D		S		S	M				T	T	M		
	15	A			2	M	M		S		T	S					T	S		
	15	B			2	S	S		T		T	S						S		
	15	M	40.901894°	-72.75126°	2	M	M		S		T	S					T	S		
	16	A			2	D	D		T		T	S						S		
	16	B			2	S	S					S						S		
	16	M	40.902042°	-72.750708°	2	M	M		T		T	S						S		
	17	A			2	M	S				S	S					T	M		
	17	B			2	S	S				S	S						S		
	17	M	40.902497°	-72.750925°	2	M	S				S	S					T	M		
	18	A			2	D	D		T		T	M				T	T	M		
	18	B			1.5	M	M				S	S					T	M		
	18	M	40.902899°	-72.751168°	1.75	D	D		T		S	M				T	T	M		
	19	A			2	D			T		D	T						S		
	19	B			2	D			T		D	T						S		
	19	M	40.902977°	-72.750356°	2	D			T		D	T						S		
	20	A			2	D					D	T						S		
	20	B			2	D					D	T						S		
	20	M	40.902645°	-72.750396°	2	D					D	T						S		
	21	A			2	D	S		T		D	T					T	S		
	21	B			2	M	M				M	S						S		
	21	M	40.902261°	-72.750165°	2	D	M		T		D	S					T	S		
	22	A			2	M	M				M	S				T		S		
	22	B			2	D	S				D	S					T	M		
	22	M	40.9024°	-72.749613°	2	D	M				D	S				T	T	M		
	23	A			2	D	S				D	S				T		T		
	23	B			2	D	M				D	T						S		
	23	M	40.902829°	-72.749855°	2	D	M				D	S				T		S		
	24	A			2.5	D	T		T		D							T		
	24	B			2.5	D	T				D									
	24	M	40.902995°	-72.74929°	2.5	D	T		T		D							T		
	25	A			1	M	S		T		M	T						T		
	25	B			1	M	M				S	T						T		
	25	M	40.902584°	-72.749071°	1	M	M		T		M	T						T		
	26	A			3	D	S				D	T								

Peconic River
Aquatic Vegetation Survey
May 19, 2021

SECTION 2	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	European Frogbit	Fanwort	Floating Filamentous Algae	Great Duckweed	Leafy Pondweed	Muskgrass	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watershield
	26	B			3	D	T				D	S								
	26	M	40.903169°	-72.748714°	3	D	S				D	S								
	27	A			2.5	M					M	T						T		
	27	B			2.5	M					M	T								
	27	M	40.903335°	-72.748196°	2.5	M					M	T						T		
	28	A			2.5	D	S		T		D	S				T		T		
	28	B			2.5	D	M		T		D	T								
	28	M	40.903746°	-72.748392°	2.5	D	M		T		D	S				T		T		
	29	A			3	D	T		S		D							T		
	29	B			3	D	T		S		D									
	29	M	40.90393°	-72.747873°	3	D	T		S		D							T		
	30	A			2.5	D	M		S		D	D					T			
	30	B			2.5	D	M		T		D	D								
	30	M	40.903528°	-72.747631°	2.5	D	M		S		D	D					T			
	31	A			3	M	T	T	T		M								T	
	31	B			3	M	T		T		M									
	31	M	40.904104°	-72.747309°	3	M	T	T	T		M								T	
	32	A			2	D			T		M	D		T		T		M		
	32	B			2	M					M	M				T		S		
	32	M	40.904524°	-72.747551°	2	D			T		M	D		T		T		M		
	33	A			2	D	T		T		D	T						T	T	
	33	B			2	D			T		D							S	T	
	33	M	40.90469°	-72.746986°	2	D	T		T		D	T						S	T	
	34	A			3.5	M			T		M									
	34	B			3.5	M			T		M									
	34	M	40.904288°	-72.74679°	3.5	M			T		M									
	35	A			2	D			T		D			T				S	S	
	35	B			2	D			T		D							T	T	
	35	M	40.904463°	-72.746237°	2	D			T		D			T				S	S	
	36	A			2	D	T		S		D			T					S	
	36	B			2	D	S		S		D			T					T	
	36	M	40.904873°	-72.746456°	2	D	S		S		D			T					S	
	37	A			2	D	T		T		D					T		S		
	37	B			2	D	T		T		D					T		T		
	37	M	40.905275°	-72.746687°	2	D	T		T		D					T		S		
	38	A			2	D			S		D					T		S	T	
	38	B			2	D			T		D							T	S	
	38	M	40.905432°	-72.746123°	2	D			S		D					T		S	S	
	39	A			4	D			T		D									
	39	B			4	D					D									
	39	M	40.905031°	-72.745915°	4	D			T		D									
	40	A			2	D	S		S		D			S				T		
	40	B			2	D	T		S		D			S				S		
	40	M	40.904619°	-72.745662°	2	D	S		S		D			S				S		
	41	A			2	M			T		M			T			T		T	T
	41	B			2	S			T		S			S			S			
	41	M	40.904794°	-72.74512°	2	M			T		M			S			S		T	T
	42	A			2	D			T		D								S	
	42	B			2	D					D								S	
	42	M	40.905206°	-72.745374°	2	D			T		D								S	
	43	A			2	S					S							T		
	43	B			2	S					S									
	43	M	40.905371°	-72.74481°	2	S					S							T		
	44	A			1.5	M			S		S			S		T		M		T
	44	B			1.5	M			T		S			S		T		M		T
	44	M	40.904961°	-72.744591°	1.5	M			S		S			S		T		M		T
	45	A			2	S			S					S				T		S
	45	B			2	M			S					M						M
	45	M	40.904701°	-72.744426°	2	M			S					M				T		M
	46	A			1.5	S	T		S	T	T							S		S
	46	B			1.5	S			S		T							S		S
	46	M	40.904912°	-72.743894°	1.5	S	T		S	T	T							S		S
	47	A			2	D			T		D					T		D	T	T
	47	B			2	D			S		D							M		
	47	M	40.905144°	-72.744026°	2	D			S		D					T		D	T	T
	48	A			2	D			T		D							T		
	48	B			2	D			T		D						T	T		
	48	M	40.905546°	-72.744256°	2	D			T		D						T	T		
	49	A			2.5	S					S	T		S		T	T	S		T
	49	B			2.5	S					T	S		T						
	49	M	40.905717°	-72.743714°	2.5	S					S	S		S		T	T	T		T
	50	A			2.5	D			T		D							T		
	50	B			2.5	D			T		D							T		
	50	M	40.905312°	-72.743495°	2.5	D			T		D							T		

Peconic River
Section 3
Aquatic Macrophyte Abundance Distribution
May 19, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	8									
OVERALL	8	100%	1	13%	3	38%	4	50%	0	0%
Bur-reed sp.	6	75%	4	67%	1	17%	1	17%	0	0%
Small Duckweed	6	75%	3	50%	2	33%	1	17%	0	0%
European Frogbit	5	63%	3	60%	2	40%	0	0%	0	0%
Spatterdock	3	38%	2	67%	1	33%	0	0%	0	0%
Common Bladderwort	2	25%	2	100%	0	0%	0	0%	0	0%
Smartweed sp.	2	25%	2	100%	0	0%	0	0%	0	0%
Fanwort	2	25%	2	100%	0	0%	0	0%	0	0%
Parrot Feather	2	25%	2	100%	0	0%	0	0%	0	0%
Benthic Filamentous Algae	2	25%	0	0%	1	50%	1	50%	0	0%
Muskgrass	1	13%	1	100%	0	0%	0	0%	0	0%
Water Primrose	1	13%	1	100%	0	0%	0	0%	0	0%
Leafy Pondweed	1	13%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
May 19, 2021

SECTION 3	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	European Frogbit	Fanwort	Leafy Pondweed	Muskgrass	Parrot Feather	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose
	1	A			2	T		T		T								
	1	B			2	T				T								
	1	M	40.905519°	-72.742764°	2	T		T		T								
	2	A			0.5	S		S		T								
	2	B			0.5	M		M										
	2	M	40.905923°	-72.742087°	0.5	M		M		T								
	3	A			1	S			T	S	T				T			
	3	B			0.5	T		T	T	T	T							
	3	M	40.906496°	-72.741618°	0.75	S		T	T	S	T				T			
	4	A			1	S		S		S		T			T			
	4	B			1	S		S		T		T			T			
	4	M	40.907061°	-72.741156°	1	S		S		S		T			T			
	5	A			0.5	T					T							
	5	B			0.5	S			T	T	T			S	T			
	5	M	40.907242°	-72.740304°	0.5	S			T	T	T			T	T			
	6	A			1.5	T	T	T					T		T		T	
	6	B			1.5	D	D							S	S	S		S
	6	M	40.907642°	-72.739587°	1.5	M	M	T					T	T	S	T	T	T
	7	A			2.5	S	T								T	S	T	
	7	B			2.5	M	M								S			
	7	M	40.907419°	-72.7393°	2.5	M	S								S	T	T	
	8	A			2	S		T							T		S	
	8	B			2	D									D		T	
	8	M	40.907674°	-72.738616°	2	M		T							M		S	

Peconic River
Section 4
Aquatic Macrophyte Abundance Distribution
May 19, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	17									
OVERALL	17	100%	1	6%	5	29%	9	53%	2	12%
Small Duckweed	17	100%	6	35%	10	59%	1	6%	0	0%
Benthic Filamentous Algae	16	94%	5	31%	8	50%	3	19%	0	0%
Smartweed sp.	15	88%	8	53%	6	40%	1	7%	0	0%
Spatterdock	14	82%	6	43%	7	50%	1	7%	0	0%
European Frogbit	13	76%	9	69%	4	31%	0	0%	0	0%
Fanwort	8	47%	2	25%	2	25%	3	38%	1	13%
Parrot Feather	7	41%	6	86%	0	0%	1	14%	0	0%
Great Duckweed	7	41%	4	57%	3	43%	0	0%	0	0%
Floating Filamentous Algae	4	24%	2	50%	2	50%	0	0%	0	0%
Water Primrose	4	24%	4	100%	0	0%	0	0%	0	0%
Common Bladderwort	3	18%	2	67%	1	33%	0	0%	0	0%
Leafy Pondweed	3	18%	2	67%	1	33%	0	0%	0	0%
Bur-reed sp.	1	6%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
May 19, 2021

SECTION 4	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Commnon Bladderwort	European Frogbit	Fanwort	Floating Filamentous Algae	Great Duckweed	Leafy Pondweed	Parrot Feather	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose
	1	A			2.5	T							T			T			
	1	B			0.5	T							T			T			
	1	M	40.90737°	-72.737556°	1.5	T							T			T			
	2	A			2	M	T								T	S		M	
	2	B			1.5	T	T									T	T		
	2	M	40.906978°	-72.736908°	1.75	S	T								T	S	T	S	
	3	A			3	T	T			T						T	T		T
	3	B			3	M	T			T			T		T	M	T	T	
	3	M	40.906678°	-72.736139°	3	S	T			T			T		T	S	T	T	T
	4	A			3.5	T				T						T	T	T	
	4	B			2	D	D				T		T			T	T	T	
	4	M	40.906244°	-72.73562°	2.75	M	S			T	T		T			T	T	T	
	5	A			2	M	S						S		M	S	T	M	
	5	B			2	M	S						T		M	T		S	
	5	M	40.905846°	-72.736654°	2	M	S						S		M	S	T	M	
	6	A			2.5	S	T			S	T		S			S	T	T	
	6	B			2	S	T			S			T			S	T	S	
	6	M	40.906328°	-72.734959°	2.25	S	T			S	T		S			S	T	S	
	7	A			2.5	S				T						T	S	T	
	7	B			2	S	T									T	T	S	
	7	M	40.906069°	-72.734343°	2.25	S	T			T						T	S	S	
	8	A			2	T	T									T	T	T	
	8	B			2	S	S			T						S	T	T	
	8	M	40.906626°	-72.734196°	2	S	S			T						S	T	T	
	9	A			2	M					M					T	S	S	
	9	B			2.5	D	D				T					T	T	S	
	9	M	40.906964°	-72.733454°	2.25	D	S				S					T	S	S	
	10																		
	10																		
	10		40.907011°	-72.73289°	Not Surveyed														
	11	A			2.5	S	T			T				T		S	S	T	T
	11	B			2.5	M	S			S			T	S	T	M	S	S	
	11	M	40.907395°	-72.73277°	2.5	M	S			S			T	S	T	M	S	S	T
	12	A			2	S	T			T			T			T	T	S	
	12	B			2.5	M	M	S		T			S			S	T	T	
	12	M	40.907865°	-72.732133°	2.25	M	S	T		T			S			S	T	S	
	13	A			3	S	T			T	S					T	S		
	13	B			2	D	D			T	T	M				T	M		
	13	M	40.908451°	-72.731806°	2.5	M	M			T	S	S				T	M		
	14	A			2	S	T			T						T	S	T	T
	14	B			2	D	D			M		M			S	M	S	T	T
	14	M	40.909109°	-72.731836°	2	M	M			S		S			T	S	S	T	T
	15	A			2	M	T		T	T	M					T	S	S	
	15	B			2	M	T				M	T			S	S		T	
	15	M	40.909663°	-72.731343°	2	M	T		T	T	M	T			T	S	T	S	
	16	A			2	S			S	T	S				T	T		S	
	16	B			2	D	D		T	T	D			T		S			
	16	M	40.910306°	-72.731086°	2	M	S		S	T	M			T	T	S		T	
	17	A			2	M	T		T		M					T	S		
	17	B			2.5	D	M			T	D			S		T	S		T
	17	M	40.910893°	-72.730669°	2.25	D	S		T	T	D			T		T	S		T
	18	A			1	S	S			T	S					T	S		
	18	B			1.5	D	D			S	M	T				S	S	S	
	18	M	40.911433°	-72.730134°	1.25	M	M			S	M	T				S	S	T	

Peconic River
Section 5
Aquatic Macrophyte Abundance Distribution
May 20, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	79									
OVERALL	75	95%	16	21%	24	32%	27	36%	8	11%
Fanwort	59	75%	32	54%	16	27%	9	15%	2	3%
Water Primrose	30	38%	12	40%	14	47%	4	13%	0	0%
Floating Filamentous Algae	27	34%	7	26%	12	44%	6	22%	2	7%
Benthic Filamentous Algae	27	34%	14	52%	7	26%	3	11%	3	11%
Spatterdock	24	30%	16	67%	5	21%	3	13%	0	0%
Small Duckweed	17	22%	7	41%	10	59%	0	0%	0	0%
Common Bladderwort	15	19%	11	73%	3	20%	1	7%	0	0%
Smartweed sp.	15	19%	9	60%	6	40%	0	0%	0	0%
European Frogbit	13	16%	13	100%	0	0%	0	0%	0	0%
White Water Lily	8	10%	4	50%	2	25%	2	25%	0	0%
Ribbon-leaf Pondweed	7	9%	6	86%	1	14%	0	0%	0	0%
Leafy Pondweed	7	9%	4	57%	2	29%	1	14%	0	0%
Watershield	6	8%	5	83%	1	17%	0	0%	0	0%
Parrot Feather	6	8%	5	83%	0	0%	0	0%	1	17%
Coontail	6	8%	5	83%	0	0%	1	17%	0	0%
Watermeal	5	6%	4	80%	1	20%	0	0%	0	0%
Wild Celery	5	6%	4	80%	1	20%	0	0%	0	0%
Bassweed	3	4%	3	100%	0	0%	0	0%	0	0%
Common Waterweed	3	4%	3	100%	0	0%	0	0%	0	0%
Brazilean Elodea	2	3%	2	100%	0	0%	0	0%	0	0%
Arrowhead	2	3%	1	50%	1	50%	0	0%	0	0%
Curly-leaf Pondweed	2	3%	2	100%	0	0%	0	0%	0	0%
Sago Pondweed	1	1%	1	100%	0	0%	0	0%	0	0%
Muskgrass	1	1%	0	0%	1	100%	0	0%	0	0%

Peconic River
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SECTION 5	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Arrowhead	Bassweed	Benthic Filamentous Algae	Brazilean Elodea	Common Bladderwort	Common Waterweed	Coontail	Curly-leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Muskgrass	Parrot Feather	Ribbon-leaf Pondweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermeal	Watershield	White Water Lily	Wild Celery
	1	A			0.5	M	M		M	T					T	T	S						S		M					
	1	B			0.5	S									T		S				S		T		T					
	1	M	40.912046°	-72.729187°	0.5	M	S		S	T					T	T	S				T		S		S					
	2	A			0.5	M										T	T						T			M				
	2	B			0.5	T										S	S				S		S		S	T				
	2	M	40.911883°	-72.729737°	0.5	S										S	S				T		S		T	S				
	3	A			0.5	D									S	T	D			S			T			M				
	3	B			0.5	D										T	D						M							
	3	M	40.912483°	-72.729628°	0.5	D									T	T	D			T			S			S				
	4	A			0.5	S											S				T		S			T				
	4	B			0.5	D									T		D						S			S				
	4	M	40.913147°	-72.729622°	0.5	M									T		M				T		S			S				
	5	A			0.5	D									T		D			S			S				S			
	5	B			0.5	D									T	T	D						S				T			
	5	M	40.913645°	-72.729206°	0.5	D									T	T	D			T			S				S			
	6	A			0.5	S									T	T	S						S			S	T			
	6	B			0.5	T										T	M						T			T	T			
	6	M	40.913154°	-72.728731°	0.5	S									T	T	M						S			S	T			
	7	A			0.5	S					S					T					S					S		T		
	7	B			0.5	S										S										T				
	7	M	40.912478°	-72.728754°	0.5	S					T					S					T					S		T		
	8	A			0.5	S	S									T	T								S	T				
	8	B			0.5	S											S				S					T				
	8	M	40.911896°	-72.728562°	0.5	S	T									T	S				T				T	T				
	9	A			0.5	T										T				T	T		T		T	T				T
	9	B			0.5	S									T						S									
	9	M	40.912011°	-72.727818°	0.5	S									T	T				T	S		T		T	T				T
	10	A			0.5	S										S				T										
	10	B			0.5	M										M														
	10	M	40.912448°	-72.727864°	0.5	M										M				T										
	11	A			0.5	M					S				T		M			T			M			S	T			
	11	B			0.5	S					T					T	S									T				
	11	M	40.913112°	-72.727841°	0.5	M					S				T	T	M			T			S			S	T			
	12	A			0.5	M									S	S	M				T		T			S				
	12	B			0.5	M										T	M						S							
	12	M	40.913558°	-72.727466°	0.5	M									T	S	M				T		S			T				
	13	A			0.5	S										S	S								S	T				
	13	B			0.5	S				T							T								T	S				
	13	M	40.913795°	-72.726926°	0.5	S				T						T	S								S	S				
	14	A			4	M										M										T				
	14	B			4	M										M														
	14	M	40.913119°	-72.726966°	4	M										M										T				
	15	A			4	T					T					T	T						T							
	15	B			4	T										T														
	15	M	40.912431°	-72.726989°	4	T					T					T	T						T							
	16	A			4	S		T								T	S								S	S				
	16	B			4	T										T	T													
	16	M	40.91253°	-72.726127°	4	S		T								T	S								T	T				
	17	A			4	S										S	T													
	17	B			4	M										M														
	17	M	40.913114°	-72.726075°	4	M										M	T													
	18	A			5	M										M														
	18	B			5	D										D														
	18	M	40.913764°	-72.72602°	5	D										D														
	19	A			4	S										T	S						S			T				
	19	B			4	S										T	S													
	19	M	40.91444°	-72.726013°	4	S										T	S						T			T				
	20	A			2	S											S									T				
	20	B			2																									
	20	M	40.914895°	-72.725145°	2	T											T									T				
	21	A			2	M										M	S													
	21	B			2	M										M	S													
	21	M	40.914423°	-72.725122°	2	M										M	S													
	22	A			2	S										S														
	22	B			2																									
	22	M	40.913747°	-72.725146°	2	T										T														
	23	A			2	M										M	S													
	23	B			2																									
	23	M	40.913072°	-72.725202°	2	S										S	T													
	24	A			2	S									T			S					T		S	S				T
	24	B			2	T												T												T
	24	M	40.91312°	-72.724301°	2	S									T			S					T		T	T				T
	25	A			6	S										S														
	25	B			6	S										S														
	25	M	40.913729°	-72.724255°	6	S										S														

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SECTION 5	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Arrowhead	Bassweed	Benthic Filamentous Algae	Brazilean Elodea	Common Bladderwort	Common Waterweed	Coontail	Curly-leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Muskgrass	Parrot Feather	Ribbon-leaf Pondweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermeal	Watershield	White Water Lily	Wild Celery
	26	A			6	M										M														
	26	B			6	M										M														
	26	M	40.914417°	-72.724215°	6	M										M														
	27	A			6	S										T	S										S			
	27	B			6																									
	27	M	40.91494°	-72.724089°	6	T										T	T										T			
	28	A			2	S										S														
	28	B			2	S										S														
	28	M	40.914388°	-72.723358°	2	S										S														
	29	A			2	M			M							T														
	29	B			2	T							T																	
	29	M	40.913725°	-72.72338°	2	S			S				T			T														
	30	A			2	M										M	M													
	30	B			2	M										T	S													
	30	M	40.913694°	-72.722457°	2	M										S	M													
	31	A			2	S							S			S														
	31	B			2	M							M										M							
	31	M	40.91437°	-72.722451°	2	M							M			T							S							
	32	A			2	M						T	S		T	T	S						T			M				
	32	B			2	M										T	S						M							
	32	M	40.915025°	-72.722118°	2	M						T	T		T	T	S						S			S				
	33	A			2	M							S													M				
	33	B			2	S									T	S	S										T			
	33	M	40.915015°	-72.721521°	2	M							T		T	T	T									S	T			
	34	A			2	M										M														
	34	B			2	S										S														
	34	M	40.914365°	-72.72156°	2	M										M														
	35	A			2	M										M	S													
	35	B			2	M										M	T													
	35	M	40.913689°	-72.721599°	2	M										M	S													
	36	A			2	S						T			T	S								S	S	T				
	36	B			2	S																				S				
	36	M	40.913162°	-72.721223°	2	S						T			T	T								T	T	S				
	37	A			2	M			T		T					T								M	S	M		T		
	37	B			2	S			T			T				S	S									S				
	37	M	40.912313°	-72.721614°	2	M			T		T	T				S	T							S	T	M		T		
	38	A			2	M										T								T	S	M			M	
	38	B			2	M										T									S	M				
	38	M	40.912339°	-72.722518°	2	M										T								T	S	M			S	
	39	A			2	M					T					S	M								M	M			S	
	39	B			2	S										S										S				
	39	M	40.912736°	-72.723414°	2	M					T					S	S								S	M			T	
	40	A			2	M					T														S	M		S	M	M
	40	B			2	D										T	D													
	40	M	40.912666°	-72.724275°	2	D					T					T	S								T	S		T	S	S
	41	A			2	M										T	M	T						T	M	M			M	
	41	B			2	M										T	M	S						T	M	M			M	
	41	M	40.911667°	-72.722527°	2	M										T	M	S						T	M	M			M	
	42	A			2	D														D					T	M			S	
	42	B			2	M					T					T	M			M				T						
	42	M	40.911384°	-72.723428°	2	D					T					T	S			D				T	T	S			T	
	43	A			2	M					S					S		T						S	M	S			M	
	43	B			2	M												T						T	M	T			M	
	43	M	40.911675°	-72.721652°	2	M					T					T		T						S	M	S			M	
	44	A			5.5	T																		T	T			T	T	
	44	B			5.5	T																		T						
	44	M	40.910957°	-72.720786°	5.5	T																		T	T			T	T	
	45	A			2.5	S			S		S		T																T	
	45	B			2.5	M			S		M																			
	45	M	40.911644°	-72.720745°	2.5	M			S		M		T																T	
	46	A			4	S			T							S														
	46	B			4	T										T														
	46	M	40.912308°	-72.720756°	4	S			T							S														
	47	A			3	S			S																	T				
	47	B			3	S			S																					
	47	M	40.913008°	-72.720699°	3	S			S																	T				
	48	A			5																									
	48	B			5																									
	48	M	40.913646°	-72.720693°	5																									
	49	A			4	M			M							S														
	49	B			4	S			S							S														
	49	M	40.914335°	-72.720686°	4	M			M							S														
	50	A			4	M			M							S														
	50	B			4	D			D							T														
	50	M	40.91501°	-72.720646°	4	D			D							S														

Peconic River
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SECTION 5	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Arrowhead	Bassweed	Benthic Filamentous Algae	Brazilean Elodea	Common Bladderwort	Common Waterweed	Coontail	Curly-leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Muskgrass	Parrot Feather	Ribbon-leaf Pondweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermeal	Watershield	White Water Lily	Wild Celery
	51	A			4	M			M							M														
	51	B			4	M			M							M														
	51	M	40.915005°	-72.719755°	4	M			M							M														
	52	A			6	S			S							S														
	52	B			6	S			S							T														
	52	M	40.91433°	-72.719795°	6	S			S							S														
	53	A			5	T			T																					
	53	B			5																									
	53	M	40.913667°	-72.719818°	5	T			T																					
	54	A			3.5	M			T							M														
	54	B			3.5	M			T							M														
	54	M	40.912978°	-72.719808°	3.5	M			T							M														
	55	A			3.5	S							T			S														
	55	B			3.5	S										S														
	55	M	40.91229°	-72.719832°	3.5	S							T			S														
	56	A			3	S			T							T									S					
	56	B			3	T			T							T														
	56	M	40.911627°	-72.719855°	3	S			T							T									T					
	57	A			2	S			T		S					T							T		S			S		
	57	B			2	S			T		T					T									S			S		
	57	M	40.910964°	-72.719911°	2	S			T		S					T							T		S			S		
	58	A			3	S					T					S									S					
	58	B			3	T					T					T														
	58	M	40.911597°	-72.718981°	3	S					T					S									T					
	59	A			3	T			T																T					
	59	B			3																									
	59	M	40.91231°	-72.718957°	3	T			T																T					
	60	A			3.5	T																		T	T					
	60	B			3.5																									
	60	M	40.912936°	-72.718935°	3.5	T																		T	T					
	61	A			4																									
	61	B			4																									
	61	M	40.913637°	-72.718928°	4																									
	62	A			5.5	M			M							S														
	62	B			5.5	S			S																					
	62	M	40.914299°	-72.718872°	5.5	M			M							T														
	63	A			4.5	D			D							D														
	63	B			4.5	M			M							M														
	63	M	40.914975°	-72.718882°	4.5	D			D							D														
	64	A			0.5	T												T						T						
	64	B			0.5	T										T														
	64	M	40.914957°	-72.717974°	0.5	T										T		T						T						
	65	A			4	S			T									S												
	65	B			4	T			T																					
	65	M	40.914282°	-72.717998°	4	S			T									T												
	66	A			2	T					T					T														
	66	B			2	T					T														T					
	66	M	40.913606°	-72.718021°	2	T					T					T									T					
	67	A			2	M			T							T								M						
	67	B			2	T			T							T														
	67	M	40.913613°	-72.717113°	2	S			T							T								S						
	68	A			4	T												T												
	68	B			4																									
	68	M	40.914277°	-72.717107°	4	T												T												
	69	A			2	D			D						T	T								T						
	69	B			2	D		S	D							S								S		T				
	69	M	40.914927°	-72.717084°	2	D		T	D						T	S								S		T				
	70	A			1	T			T		T					T								T						T
	70	B			1	S					S													S						
	70	M	40.914246°	-72.716217°	1	S			T		S					T								S						T
	71	A			2	T		T	T															T		T				T
	71	B			2	T			T							T						T								T
	71	M	40.913559°	-72.716257°	2	T		T	T							T						T		T		T				T
	72	A			2	T			T					T																
	72	B			2	T			T					T																
	72	M	40.912878°	-72.715389°	2	T			T					T																	
	73	A			5																									
	73	B			5																									
	73	M	40.913565°	-72.715332°	5																									
	74	A			1	S			S		T								S				T	T	S	S		T		
	74	B			1	M			S		T								S				T	S	M	T		T		
	74	M	40.914203°	-72.71531°	1	M			S		T								S				T	S	M	S		T		
	75	A			2	S			S									S						T	T	T				
	75	B			2	M			T									M							T	T				
	75	M	40.914224°	-72.714451°	2	M			S									M						T	T	T				

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SECTION 5	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Arrowhead	Bassweed	Benthic Filamentous Algae	Brazilean Elodea	Common Bladderwort	Common Waterweed	Coontail	Curly-leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Muskgrass	Parrot Feather	Ribbon-leaf Pondweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermeal	Watershield	White Water Lily	Wild Celery
	76	A			4	T			T																					
	76	B			4																									
	76	M	40.913548°	-72.714458°	4	T			T																					
	77	A			2	T			T					T									T							
	77	B			2	T			T					T																
	77	M	40.912873°	-72.714498°	2	T			T					T									T							
	78	A			6	T					T					T														
	78	B			6	T					T																			
	78	M	40.912868°	-72.713607°	6	T					T					T														
	79	A			4																									
	79	B			4																									
	79	M	40.91353°	-72.713568°	4																									

Peconic River
Section 6
Aquatic Macrophyte Abundance Distribution
May 20, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	64									
OVERALL	63	98%	2	3%	18	29%	28	44%	15	24%
Benthic Filamentous Algae	61	95%	6	10%	23	38%	20	33%	12	20%
Water Primrose	50	78%	21	42%	24	48%	5	10%	0	0%
Small Duckweed	49	77%	25	51%	21	43%	3	6%	0	0%
Floating Filamentous Algae	48	75%	19	40%	24	50%	4	8%	1	2%
Fanwort	45	70%	38	84%	7	16%	0	0%	0	0%
Parrot Feather	36	56%	24	67%	12	33%	0	0%	0	0%
Curly-leaf Pondweed	29	45%	21	72%	8	28%	0	0%	0	0%
Smartweed sp.	22	34%	16	73%	5	23%	1	5%	0	0%
Spatterdock	20	31%	11	55%	5	25%	4	20%	0	0%
European Frogbit	20	31%	19	95%	1	5%	0	0%	0	0%
Coontail	20	31%	16	80%	4	20%	0	0%	0	0%
Water Starwort	14	22%	7	50%	6	43%	1	7%	0	0%
Brazilian Elodea	10	16%	10	100%	0	0%	0	0%	0	0%
Wild Celery	6	9%	5	83%	1	17%	0	0%	0	0%
Common Bladderwort	2	3%	2	100%	0	0%	0	0%	0	0%
Watershield	1	2%	1	100%	0	0%	0	0%	0	0%
Leafy Pondweed	1	2%	1	100%	0	0%	0	0%	0	0%

Peconic River
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SECTION 6	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Common Bladderwort	Coontail	Curly-leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Parrot Feather	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Water Starwort	Watershield	Wild Celery
	1	A			1	S	S	T		T		T	T			T							
	1	B			1	S	S			T			T										
	1	M	40.912636°	-72.712934°	1	S	S	T		T		T	T			T							
	2	A			1	M	M					T				S	M	M			T		
	2	B			1	S	S										T	S					
	2	M	40.912771°	-72.712089°	1	M	M					T				T	S	M			T		
	3	A			0.5	M	M	S				T		T	S	T	T			T			
	3	B			1	S	T				T		T			T		T	S	S			T
	3	M	40.91306°	-72.711292°	0.8	M	S	T			T	T	T	T	T	T	T	T	T	S			T
	4	A			2.5	M	M			T		S		T		T	T		T	T			
	4	B			1	T										T			T				T
	4	M	40.91289°	-72.710448°	1.8	S	S			T		T		T		T	T		T	T			T
	5	A			2.5	D	D						T	M		T		S	S	T			
	5	B			3	M	T									S					M		
	5	M	40.912756°	-72.709593°	2.8	D	M						T	S		S		T	T	T	S		
	6	A			2.5	D	D						S	M		M				S			
	6	B			3	M	T						T			T					M		S
	6	M	40.912746°	-72.708703°	2.8	D	M						S	S		S				T	S		T
	7	A			2	D	D	S		T				M		M	S	S		T			
	7	B			3	M	S		S				T	T		T	T				M		
	7	M	40.912725°	-72.707814°	2.5	D	M	T	T	T			T	S		S	S	T		T	S		
	8	A			3	S	S							T			T				S		T
	8	B			3	S	T							T							S		S
	8	M	40.912679°	-72.706474°	3	S	S							T			T				S		S
	9	A			2.5	D	D				T			S			T			S			
	9	B			2.5	D	D				T			T			M			T			
	9	M	40.913166°	-72.706457°	2.5	D	D				T			S			S			S			
	10	A			3	S	S				T									T			
	10	B			3	S	S													S			
	10	M	40.913139°	-72.705878°	3	S	S				T									S			
	11	A			3	M					T		S	T			T				M		T
	11	B			3	S	S				T			T			T				S		T
	11	M	40.913127°	-72.705276°	3	M	T				T		T	T			T				M		T
	12	A			1	M	T				S		T	S			M				T		
	12	B			1	S	T				S									T	T		
	12	M	40.913115°	-72.704702°	1	M	T				S		T	T			S			T	T		
	13	A			3																		
	13	B			3																		
	13	M	40.913565°	-72.704667°	3																		
	14	A			4	S	T			T	S												
	14	B			4	T	T																
	14	M	40.913591°	-72.705251°	4	S	T			T	T												
	15	A			2	T	T										T			T	T		
	15	B			2	S	T														S		
	15	M	40.914034°	-72.705245°	2	S	T										T			T	S		
	16	A			4.5	D	D	T		T	T					T	S			T			
	16	B			4.5	D	D	T															
	16	M	40.914022°	-72.704652°	4.5	D	D	T		T	T					T	T			T			
	17	A			1.5	D	D	S		S				T		T	M	T	T	T			
	17	B			3	S	S				S		S	T		T		T		T			T
	17	M	40.913996°	-72.704059°	2.3	M	M	T		T	T		T	T		T	S	T	T	T			T
	18	A			2	T	T						T	T			T		T	T			
	18	B			2	T	T												T				
	18	M	40.913991°	-72.703466°	2	T	T						T	T			T		T	T			
	19	A			2	D	D				T		T	S		T	S	T		S			
	19	B			2	D	D						S	S		T	M	S		S			
	19	M	40.914448°	-72.703459°	2	D	D				T		S	S		T	M	S		S			
	20	A			3.5	D	D	T		T			T	T		T	S			T			
	20	B			3.5	D	D			S			S	S		T	T			T			
	20	M	40.914436°	-72.702866°	3.5	D	D	T		S			S	S		T	S			T			
	21	A			3	S	T				S		T	T				T		S			
	21	B			3	S	S				S		T							T			
	21	M	40.913979°	-72.702873°	3	S	S				S		T	T				T		S			
	22	A			1	D	D				S		S	M		T	M	S		T	T		
	22	B			3	S	T				S		T							S	T		
	22	M	40.913968°	-72.702289°	2	M	M				S		S	S		T	S	T		S	T		
	23	A			2.5	D	D	S		T			M	M		T	S	S	T	S	S		
	23	B			3	T	T				T									T			
	23	M	40.913942°	-72.701705°	2.8	M	M	T		T	T		S	S		T	T	T	T	S	T		
	24	A			1.5	D	D	T			S		T	M		T	M	T		S	T	T	
	24	B			4	S	S				S			T			T						
	24	M	40.914387°	-72.701078°	2.8	M	M	T			S		T	S		T	S	T		T	T	T	
	25	A			2.5	D	D						T	M			M	T		M			
	25	B			2	S	S	T			T		T	S									
	25	M	40.914832°	-72.70046°	2.3	M	M	T			T		T	M			S	T		S			

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SECTION 6	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Common Bladderwort	Coontail	Curly-leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Parrot Feather	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Water Starwort	Watershield	Wild Celery
	26	A			1	M	M					T	T	T		S	T	T	S	T			
	26	B			3.5	D	D						T	S		S	T	T	S	T			
	26	M	40.91482°	-72.699858°	2.3	D	D					T	T	S		S	T	T	S	T			
	27	A			2	T	T				T		T	T		T							
	27	B			2	T	T							T									
	27	M	40.914808°	-72.699283°	2	T	T				T		T	T		T							
	28	A			1.5	D	D					T		T		S	S		S				
	28	B			1.5	D	D					T		S		T	T		S				
	28	M	40.915258°	-72.699258°	1.5	D	D					T		S		S	S		S				
	29	A			2	M	M			T			T	T			T						
	29	B			2	S	S							T			T						
	29	M	40.915239°	-72.698675°	2	M	M			T			T	T			T						
	30	A			1.5	M	M				T		T			T	T	T		T			
	30	B			1.5	M	M				S									T			
	30	M	40.915682°	-72.698668°	1.5	M	M				S		T			T	T	T		T			
	31	A			3	S	S			T			T	T			T		S				
	31	B			3	S	S						T	S			T						
	31	M	40.915684°	-72.698056°	3	S	S			T			T	S			T		T				
	32	A			2.5	M	M									T	S			T			
	32	B			2.5	S	S									S	T			S			
	32	M	40.916127°	-72.698041°	2.5	M	M									S	S			S			
	33	A			3	M	M						T			S	S						
	33	B			3	M	M									S	T						
	33	M	40.916108°	-72.697439°	3	M	M						T			S	S						
	34	A			4.5	T	T			T		T				T	T				T		
	34	B			4.5	S	S			T						T	T				S		
	34	M	40.916103°	-72.696855°	4.5	S	S			T		T				T	T				S		
	35	A			1	M	S							T			T	T	M				
	35	B			1	S	S							S			S	T	S				
	35	M	40.915661°	-72.696889°	1	M	S							S			S	T	M				
	36	A			3	D	D			T			T	T		T	T			T			
	36	B			3	M	M							S		T	S			T			
	36	M	40.915642°	-72.696287°	3	D	D			T			T	S		T	S			T			
	37	A			1	S	S						T	S		T	T		S	T			
	37	B			1	S	S							T			T		S	T			
	37	M	40.915199°	-72.696302°	1	S	S						T	S		T	T		S	T			
	38	A			2	M	M	T		S	T		S	S			T		T	S			
	38	B			2	S	S			T	T		T	S			T		T	S			
	38	M	40.91518°	-72.695718°	2	M	M	T		S	T		S	S			T		T	S			
	39	A			1	D	D						T	T		S	T		T	T			
	39	B			1	M	M							S		S	S		T				
	39	M	40.915637°	-72.695693°	1	D	D						T	S		S	S		T	T			
	40	A			2	D	D						T	S		T	S	T		S			
	40	B			2	D	D							S			S	T		T			
	40	M	40.916068°	-72.695075°	2	D	D						T	S		T	S	T		S			
	41	A			4	M	S				T		T	T			T			M			
	41	B			4	M	S				T			T						M			
	41	M	40.915611°	-72.695101°	4	M	S				T		T	T			T			M			
	42	A			3	M	S			T	T		T	S						M			
	42	B			3	M	S				T			S						M			
	42	M	40.915189°	-72.695115°	3	M	S			T	T		T	S						M			
	43	A			2	S	S							T			T			S			
	43	B			2	S	S							T									
	43	M	40.915178°	-72.694531°	2	S	S							T			T			T			
	44	A			1	S	S				T		T	T						T			
	44	B			1	S	S				T												
	44	M	40.91562°	-72.694507°	1	S	S				T		T	T						T			
	45	A			2	D	D						T	M		S	T	S		S			
	45	B			2	D	D						T	S		T	T	T		S			
	45	M	40.916056°	-72.69451°	2	D	D						T	M		S	T	S		S			
	46	A			3	D	D						T	D		T	T			S			
	46	B			3	D	D						S	D		S	T			M			
	46	M	40.916044°	-72.693899°	3	D	D						S	D		S	T			M			
	47	A			2	M	S						T	M		T	T	T					
	47	B			2	S	S							T		T	T						
	47	M	40.915601°	-72.693914°	2	M	S						T	S		T	T	T					
	48	A			2	M	S							T			T	T	M	T			
	48	B			2	M	S							T			S	T	M				
	48	M	40.915582°	-72.693321°	2	M	S							T			S	T	M	T			
	49	A			2	S								T		T	S			S			
	49	B			2	M								T			M			T			
	49	M	40.916032°	-72.693315°	2	M								T		T	M			S			
	50	A			4	M	S			T		T		S			T			M	T		
	50	B			4	S	S			T				S						S			
	50	M	40.915571°	-72.692728°	4	M	S			T		T		S			T			M	T		

Peconic River
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SECTION 6	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Common Bladderwort	Coontail	Curly-leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Parrot Feather	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Water Starwort	Watershield	Wild Celery
	51	A			4	S	S			S	T	T	T	T						S			
	51	B			4	S	S			T										S			
	51	M	40.915566°	-72.692135°	4	S	S			S	T	T	T	T						S			
	52	A			3	S							T	S			T			S			
	52	B			3	M							T	M			T			S			
	52	M	40.915554°	-72.691551°	3	M							T	M			T			S			
	53	A			2	S	S						T	T		T			S	T	T		
	53	B			2	S	S						T						S				
	53	M	40.915104°	-72.691567°	2	S	S						T	T		T			S	T	T		
	54	A			3.5	S	S			S	T	T								S			
	54	B			3.5	S	S			T	S									T			
	54	M	40.915092°	-72.690955°	3.5	S	S			S	S	T								S			
	55	A			2	S	S			T	T	T	T	T		T	T			T			
	55	B			2	S	S			T				T		S	S			S			
	55	M	40.915094°	-72.690371°	2	S	S			T	T	T	T	T		S	S			S			
	56	A			2	M	S				T	T	T	S		T	T		M	S			
	56	B			2	M	M				T	T		S					S	T			
	56	M	40.91463°	-72.690368°	2	M	M				T	T	T	S		T	T		M	S			
	57	A			2	S	S			T	S	T	T	S		T				S			
	57	B			2	S	S				T	T		T						S			
	57	M	40.914619°	-72.689831°	2	S	S			T	S	T	T	S		T				S			
	58	A			3	S	S					T	T	T			S	S		S			
	58	B			3	S	T					T		T			T	S		S			
	58	M	40.914168°	-72.689809°	3	S	S					T	T	T			S	S		S			
	59	A			2	M	M			T	S	T		M			S		M	M			
	59	B			2	M	M				S	T		S			S		S	S			
	59	M	40.914157°	-72.689216°	2	M	M			T	S	T		M			S		M	M			
	60	A			2	S	S					T	T			T		S		S			
	60	B			2	M	M									S		S		S			
	60	M	40.9146°	-72.68921°	2	M	M					T	T			S		S		S			
	61	A			2	M	M				T	T	T				S	T		S			
	61	B			2	M	M				T	T	T				S	T		T			
	61	M	40.914581°	-72.688608°	2	M	M				T	T	T				S	T		S			
	62	A			2	M	M					T	T	S		T	T		T	S			
	62	B			2	M	M					T		S		T	T		T	T			
	62	M	40.914145°	-72.688633°	2	M	M					T	T	S		T	T		T	S			
	63	A			2	D	D		T		T	T	T			T	T	T	S	T			
	63	B			2	D	D		T		T	T	T				T	S	S				
	63	M	40.914126°	-72.68803°	2	D	D		T		T	T	T			T	T	S	S	T			
	64	A			2	M	M				T	S	T				S		T	T			
	64	B			2	M	M				T	S	T				M		T	S			
	64	M	40.914576°	-72.688024°	2	M	M				T	S	T				M		T	S			

Peconic River
Section 7
Aquatic Macrophyte Abundance Distribution
May 20, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	17									
OVERALL	17	100%	1	6%	4	24%	3	18%	9	53%
Benthic Filamentous Algae	15	88%	3	20%	1	7%	2	13%	9	60%
Watermoss	15	88%	11	73%	4	27%	0	0%	0	0%
Small Duckweed	15	88%	11	73%	4	27%	0	0%	0	0%
Floating Filamentous Algae	8	47%	7	88%	1	13%	0	0%	0	0%
European Frogbit	7	41%	7	100%	0	0%	0	0%	0	0%
Leafy Pondweed	7	41%	7	100%	0	0%	0	0%	0	0%
Wild Celery	5	29%	3	60%	2	40%	0	0%	0	0%
Fanwort	5	29%	5	100%	0	0%	0	0%	0	0%
Bur-reed sp.	5	29%	3	60%	2	40%	0	0%	0	0%
Water Starwort	4	24%	4	100%	0	0%	0	0%	0	0%
Spatterdock	3	18%	3	100%	0	0%	0	0%	0	0%
Smartweed sp.	3	18%	3	100%	0	0%	0	0%	0	0%
Brazilian Elodea	2	12%	1	50%	1	50%	0	0%	0	0%
Sago Pondweed	2	12%	2	100%	0	0%	0	0%	0	0%
Water Primrose	2	12%	2	100%	0	0%	0	0%	0	0%
Curly-Leaf Pondweed	2	12%	2	100%	0	0%	0	0%	0	0%
Parrot Feather	2	12%	2	100%	0	0%	0	0%	0	0%
Common Bladderwort	1	6%	1	100%	0	0%	0	0%	0	0%
Muskgrass	1	6%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
May 20, 2021

SECTION 7	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Bladderwort	Curly-Leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Muskgrass	Parrot Feather	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Water Starwort	Watermoss	Wild Celery
	1	A			4.5	S	T		T				T						S						
	1	B			0.5	S	S		S			T	T											T	
	1	M	40.913903°	-72.687531°	2.5	S	S		S			T	T						T					T	
	2	A			2	T						T							T					T	
	2	B			1	S	T						T						T					S	
	2	M	40.913809°	-72.686697°	1.5	S	T					T	T						T					S	
	3	A			1	T																		T	
	3	B			0.5	T	T												T	T				T	
	3	M	40.914115°	-72.68593°	0.75	T	T												T	T				T	
	4	A			1	S	T								T				T					S	
	4	B			1	D	D							T											
	4	M	40.913832°	-72.685153°	1	M	M							T	T				T					T	
	5	A			0.5	S																	T	S	
	5	B			0.5	T																		T	
	5	M	40.913409°	-72.685173°	0.5	S																	T	S	
	6	A			1	S	T											T					S	S	
	6	B			0.5	S	T																	S	
	6	M	40.913563°	-72.684741°	0.75	S	T											T					T	S	
	7	A			2	D	D												T				S	S	
	7	B			0.5	M	M					T		M	T				T			T		T	
	7	M	40.913623°	-72.684375°	1.25	D	D					T		S	T				T			T	T	S	
	8	A			1.5	D	D												T					T	
	8	B			3	M	M												T					T	
	8	M	40.914253°	-72.684387°	2.25	D	D												T					T	
	9	A			1	D	D						T		T				T						
	9	B			1	M	M							S					S	T				T	
	9	M	40.914757°	-72.683945°	1	D	D						T	T	T				S	T				T	
	10	A			1	D	D												T					T	
	10	B			1.5	D	D							S					T						
	10	M	40.915039°	-72.68314°	2.25	D	D							T					T					T	
	11	A			1	D	D												T						
	11	B			1	M	M		S			T			T				S					T	T
	11	M	40.915127°	-72.682315°	1	D	D		T			T			T				S					T	T
	12	A			1	D	D												T					T	
	12	B			1	D	D		S					S					T						T
	12	M	40.915629°	-72.681723°	1	D	D		T					T					T					T	T
	13	A			2	S			T				T						T					S	T
	13	B			1.5	M			M						T				T						S
	13	M	40.916159°	-72.681172°	1.75	M			S				T		T				T					T	S
	14	A			3	S	S												T					S	
	14	B			3.5	M	M					T		T					T						
	14	M	40.916653°	-72.680573°	3.25	M	M					T		T					T					T	
	15	A			2	D	D									S			S		T				S
	15	B			1.5	M	M	M	T		T				T				S				T		T
	15	M	40.916749°	-72.679751°	1.75	D	D	S	T		T				T	T			S		T		T		S
	16	A			2	D	D												T						T
	16	B			1	D	D	T		T		T		T	S		T		M		S	T			
	16	M	40.916718°	-72.678865°	1.5	D	D	T		T		T		T	T		T		S		T	T			T
	17	A			2	D	D											T		T	T			T	
	17	B			1	D	D				T	T	T	S			T		S						
	17	M	40.916727°	-72.677975°	1.5	D	D				T	T	T	T			T	T	T	T	T			T	

Peconic River
Section 8
Aquatic Macrophyte Abundance Distribution
May 20, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	12									
OVERALL	12	100%	0	0%	1	8%	11	92%	0	0%
Benthic Filamentous Algae	12	100%	0	0%	4	33%	8	67%	0	0%
Small Duckweed	12	100%	9	75%	3	25%	0	0%	0	0%
Parrot Feather	12	100%	12	100%	0	0%	0	0%	0	0%
Wild Celery	9	75%	9	100%	0	0%	0	0%	0	0%
European Frogbit	9	75%	9	100%	0	0%	0	0%	0	0%
Floating Filamentous Algae	8	67%	2	25%	6	75%	0	0%	0	0%
Muskgrass	6	50%	6	100%	0	0%	0	0%	0	0%
Leafy Pondweed	6	50%	6	100%	0	0%	0	0%	0	0%
Spatterdock	6	50%	6	100%	0	0%	0	0%	0	0%
Bur-reed	3	25%	3	100%	0	0%	0	0%	0	0%
Smartweed sp.	3	25%	3	100%	0	0%	0	0%	0	0%
Curly-Leaf Pondweed	2	17%	2	100%	0	0%	0	0%	0	0%
Brazilian Elodea	1	8%	1	100%	0	0%	0	0%	0	0%
Watermoss	1	8%	1	100%	0	0%	0	0%	0	0%
Sago Pondweed	1	8%	1	100%	0	0%	0	0%	0	0%
Fanwort	1	8%	1	100%	0	0%	0	0%	0	0%

Peconic River
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SECTION 8	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed	Curly-leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Muskgrass	Parrot Feather	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Watermoss	Wild Celery
	1	A			2	S	S					T						T				T
	1	B			2	D	D									T		T				
	1	M	40.917072°	-72.677255°	2	M	M					T				T		T				T
	2	A			1	D	T								S			T		T		
	2	B			1	T	M									T		T				T
	2	M	40.91756°	-72.676668°	1	M	S								T	T		T		T		T
	3	A			2	T									S			T		T		T
	3	B			1.5	D	D		T		T		M			T		T				T
	3	M	40.917378°	-72.675824°	1.75	M	S		T		T		S		T	T		T		T		T
	4	A			2	S									S			T				T
	4	B			0.5	D	D		T		T		T			S		T				
	4	M	40.917029°	-72.675063°	1.25	M	S		T		T		T		T	T		T				T
	5	A			2	T	T															T
	5	B			1.5	D	D				T		M	T		S		T	S			
	5	M	40.916855°	-72.674208°	1.75	M	M				T		S	T		T		T	T			T
	6	A			1	T	T										T	T				T
	6	B			1	D	D				T		S	T		T		T	S	S		
	6	M	40.916912°	-72.673356°	1	M	M				T		T	T		T	T	T	T	T		T
	7	A			2	S	S								S	T		T				T
	7	B			2	D	D				T		M			T		M				
	7	M	40.917396°	-72.67275°	2	M	M				T		S		T	T		S				T
	8	A			2	S	S				T				S			T		T		
	8	B			3	D	D				T		M			T		S		T		
	8	M	40.917642°	-72.671964°	2.5	M	M				T		S		T	T		S		T		
	9	A			1	S	S				T			T	S					T		T
	9	B			1	D	D				T		M			S		T			S	
	9	M	40.917574°	-72.671078°	1	M	M				T		S	T	T	T		T		T	T	T
	10	A			0.5	T	T	T		T				T		T		T		T		
	10	B			0.5	S	S			T				T		T		T				
	10	M	40.917135°	-72.670333°	0.5	S	S	T		T				T		T		T		T		
	11	A			2	T	T				T			T								
	11	B			1	D	D						D			T		M	T			
	11	M	40.917622°	-72.670192°	1.5	M	M				T		S	T		T		S	T			
	12	A			1	S	S			T	T			T				T				T
	12	B			1	M	M		T		T					T		T				T
	12	M	40.917622°	-72.669324°	1	M	M		T	T	T			T		T		T				T

Peconic River
Section 9
Aquatic Macrophyte Abundance Distribution
May 20, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	17									
OVERALL	17	100%	1	6%	3	18%	2	12%	11	65%
Benthic Filamentous Algae	16	94%	0	0%	3	19%	2	13%	11	69%
Small Duckweed	10	59%	7	70%	3	30%	0	0%	0	0%
European Frogbit	6	35%	6	100%	0	0%	0	0%	0	0%
Leafy Pondweed	5	29%	4	80%	1	20%	0	0%	0	0%
Common Bladderwort	4	24%	4	100%	0	0%	0	0%	0	0%
Curly-Leaf Pondweed	4	24%	4	100%	0	0%	0	0%	0	0%
Parrot Feather	3	18%	2	67%	1	33%	0	0%	0	0%
Floating Filamentous Algae	3	18%	3	100%	0	0%	0	0%	0	0%
Spatterdock	3	18%	1	33%	2	67%	0	0%	0	0%
Brazilian Elodea	2	12%	2	100%	0	0%	0	0%	0	0%
Smartweed sp.	2	12%	1	50%	1	50%	0	0%	0	0%
Fanwort	1	6%	1	100%	0	0%	0	0%	0	0%
Water Starwort	1	6%	1	100%	0	0%	0	0%	0	0%
Coontail	1	6%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
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SECTION 9	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	DEPTH (FT)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Commnon Bladderwort	Coontail	Curly-Leaf Pondweed	European Frogbit	Fanwort	Floating Filamentous Algae	Leafy Pondweed	Parrot Feather	Small Duckweed	Smartweed sp.	Spatterdock	Water Stanwort
	1	A			2	S	S													
	1	B			2	M	M													
	1	M	40.917352°	-72.668332°	2	M	M													
	2	A			0.5	D	D										T			
	2	B			0.5	D	D										T			
	2	M	40.916902°	-72.668366°	0.5	D	D										T			
	3	A			2	D	D					T	T				S			
	3	B			2	D	D					T	T				T			
	3	M	40.916882°	-72.667727°	2	D	D					T	T				S			
	4	A			3	S	S							T						
	4	B			3	S	S													
	4	M	40.916428°	-72.667168°	3	S	S							T						
	5	A			1	D	D		T		T				T		T		S	
	5	B			1	M	M				T				S		T		T	
	5	M	40.915971°	-72.667189°	1	D	D		T		T				S		T		S	
	6	A			1	S	S								T					
	6	B			1	T	T	T							T					
	6	M	40.915952°	-72.666582°	1	S	S	T							T					
	7	A			2	D	D					T			T	S				
	7	B			3	D	D									T				
	7	M	40.916416°	-72.666566°	2.5	D	D					T			T	S				
	8	A			2.5	D	D					T					T			
	8	B			2.5	D	D					T					T			
	8	M	40.91639°	-72.665983°	2.5	D	D					T					T			
	9	A			1	T									T		T		T	
	9	B			1	T									T					
	9	M	40.915947°	-72.665998°	1	T									T		T		T	
	10	A			1	D	D					T		T			T	T		
	10	B			1	D	D										T	S		
	10	M	40.915928°	-72.665415°	1	D	D					T		T			T	S		
	11	A			0.5	D	D				T					T	T			
	11	B			0.5	D	D									T	T			
	11	M	40.916392°	-72.665398°	0.5	D	D				T					T	T			
	12	A			1	D	D	T	T	T	T	T					S		S	T
	12	B			1	D	D	T		T	T						S		T	
	12	M	40.916373°	-72.664796°	1	D	D	T	T	T	T	T					S		S	T
	13	A			3	S	S													
	13	B			3	S	S													
	13	M	40.915916°	-72.664822°	3	S	S													
	14	A			1	D	D													
	14	B			1	D	D													
	14	M	40.916361°	-72.664194°	1	D	D													
	15	A			1	M	M													
	15	B			1.5	S	S													
	15	M	40.916348°	-72.663601°	1.25	M	M													
	16	A			1	M	M		T			T			T		T			
	16	B			1	D	D								T			T		
	16	M	40.915468°	-72.664244°	1	D	D		T			T			T		T	T		
	17	A			2	D	D		T		T			T		T	S			
	17	B			1	D	D				T			T			T			
	17	M	40.915523°	-72.663765°	1.5	D	D		T		T			T		T	S			

Appendix E: September Survey Plant Maps

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 1

SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 1
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 27

Sample Station

Note: Station #8 not surveyed in September

0 325 650 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 1

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*)) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 1
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 26 out of 27
Station not surveyed:

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	5	19%
Trace	5	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 325 650 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 2
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 2
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 50

Sample Station

Note: Station #19 was not surveyed in September.

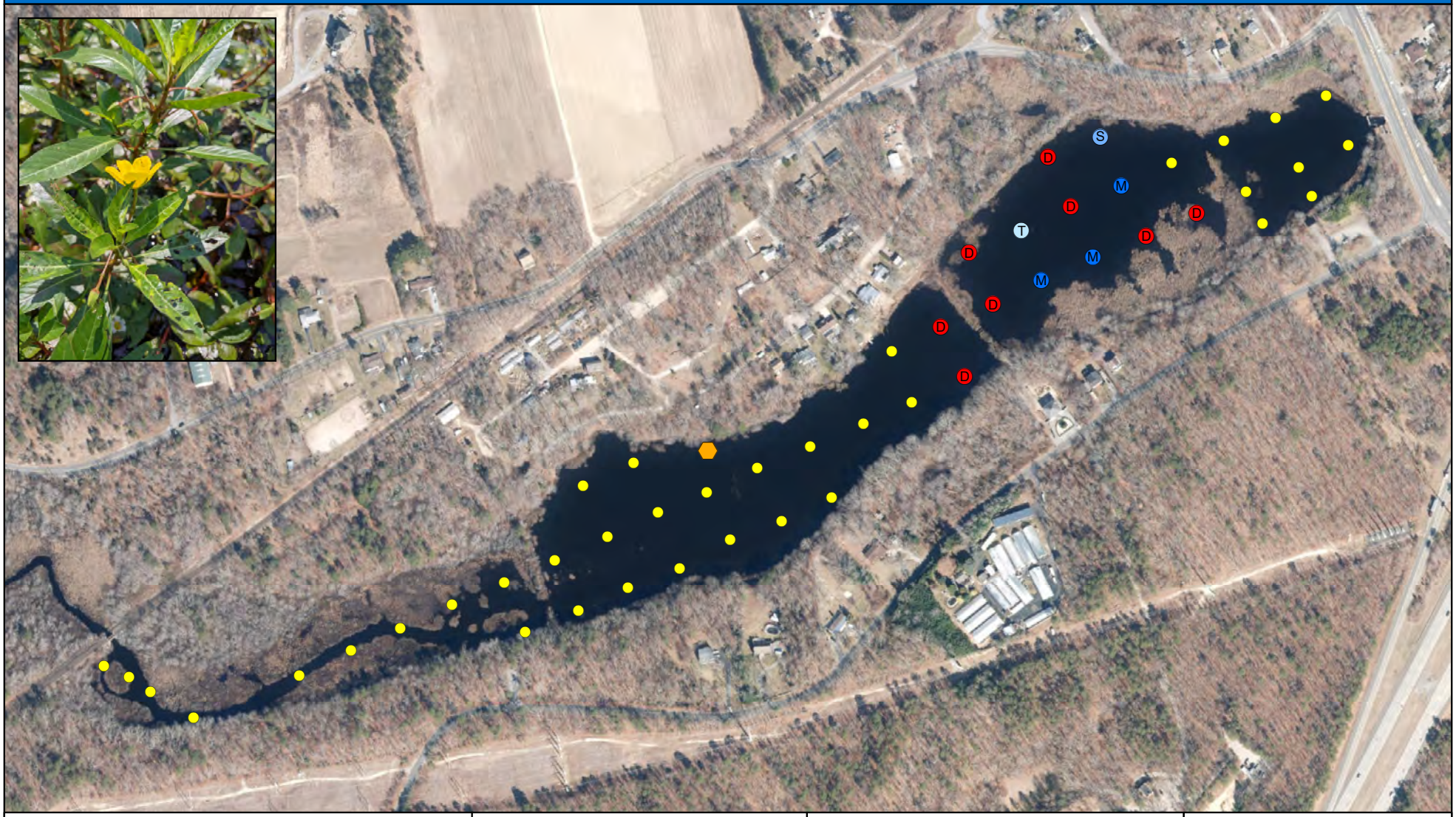
0 255 510 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 2

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 2
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 49 out of 50
Station not surveyed:

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	13	27%
Trace	1	8%
Sparse	1	8%
Medium	3	23%
Dense	8	62%

N

0 265 530 Feet

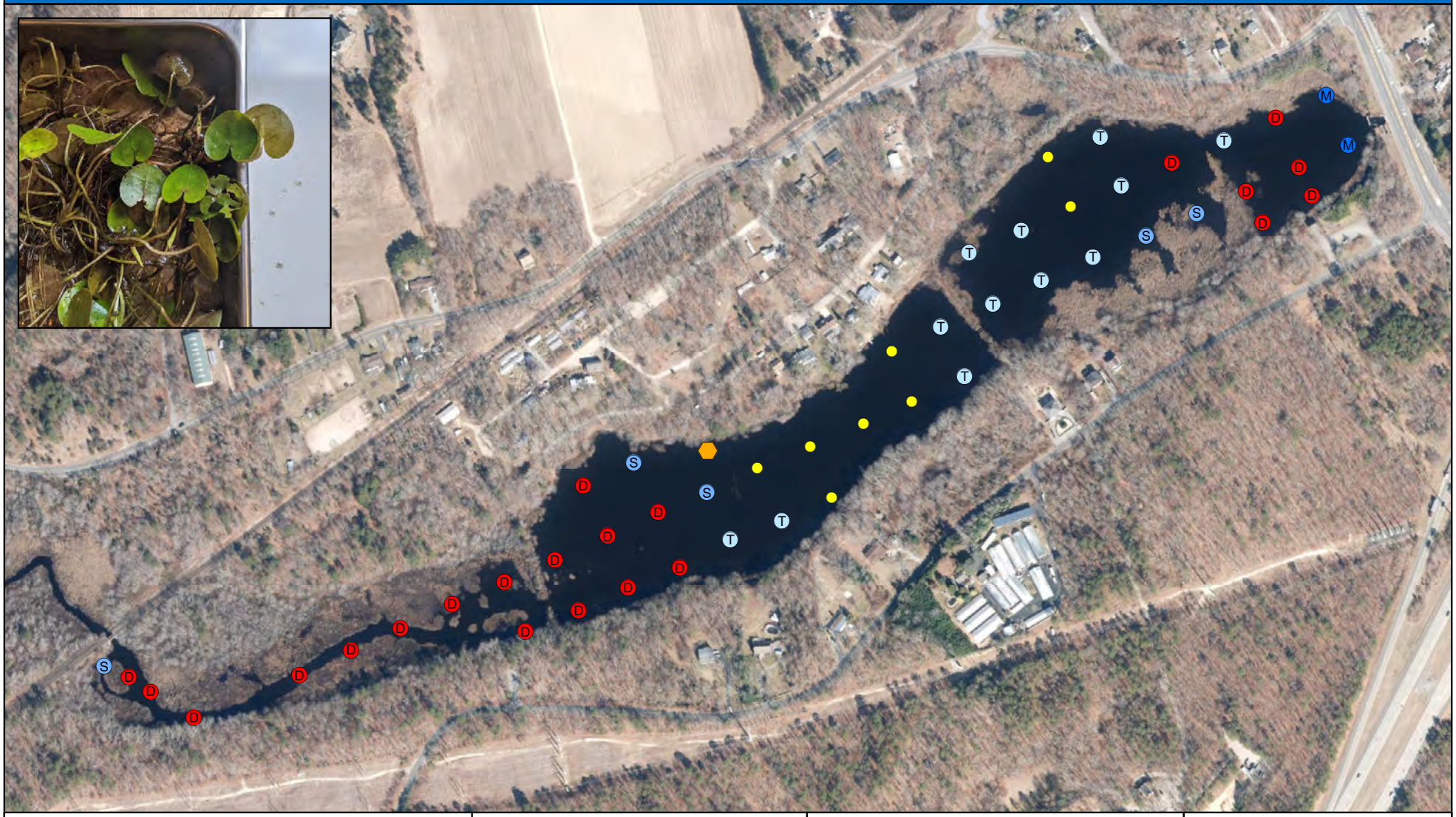
Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 2

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 2
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 49 out of 50
Station not surveyed:

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	41	84%
Trace	12	29%
Sparse	5	12%
Medium	2	5%
Dense	22	54%

N

0 265 530 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 3
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 3
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 8

Sample Station

0 130 260 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 3

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 3
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 8

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	1	13%
Trace	0	0%
Sparse	1	100%
Medium	0	0%
Dense	0	0%

N

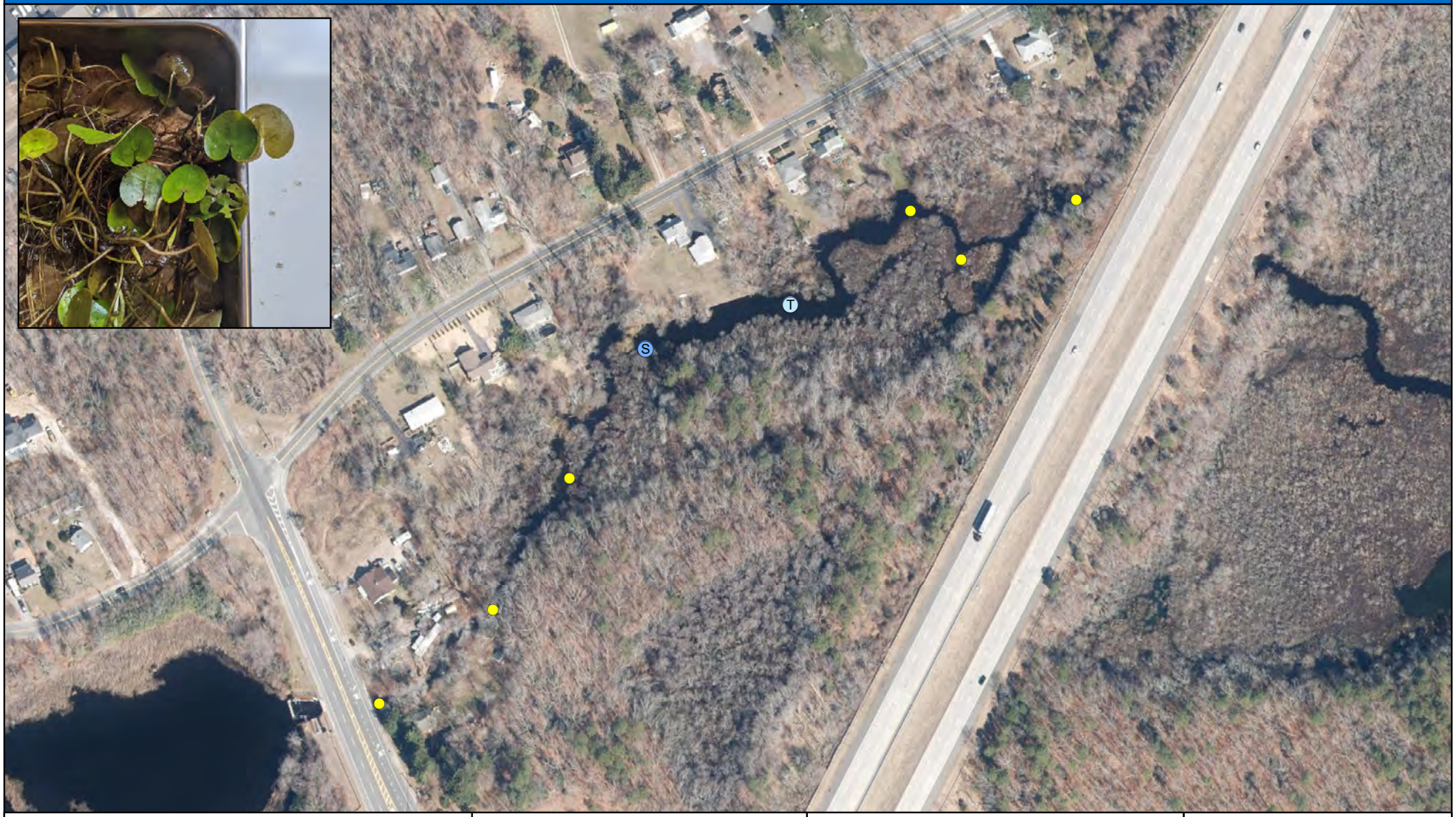
0 145 290 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 3

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 3
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 8

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	2	25%
Trace	1	50%
Sparse	1	50%
Medium	0	0%
Dense	0	0%

0 145 290 Feet

Prepared by: KM

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 4
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 4
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 18

Sample Station

Note: Station #10 not surveyed in May.

0 295 590 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 4

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 4
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 18

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	8	44%
Trace	3	38%
Sparse	5	63%
Medium	0	0%
Dense	0	0%

N

0 340 680 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 4

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 4
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 18

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	15	83%
Trace	7	47%
Sparse	6	40%
Medium	2	13%
Dense	0	0%

0 340 680 Feet

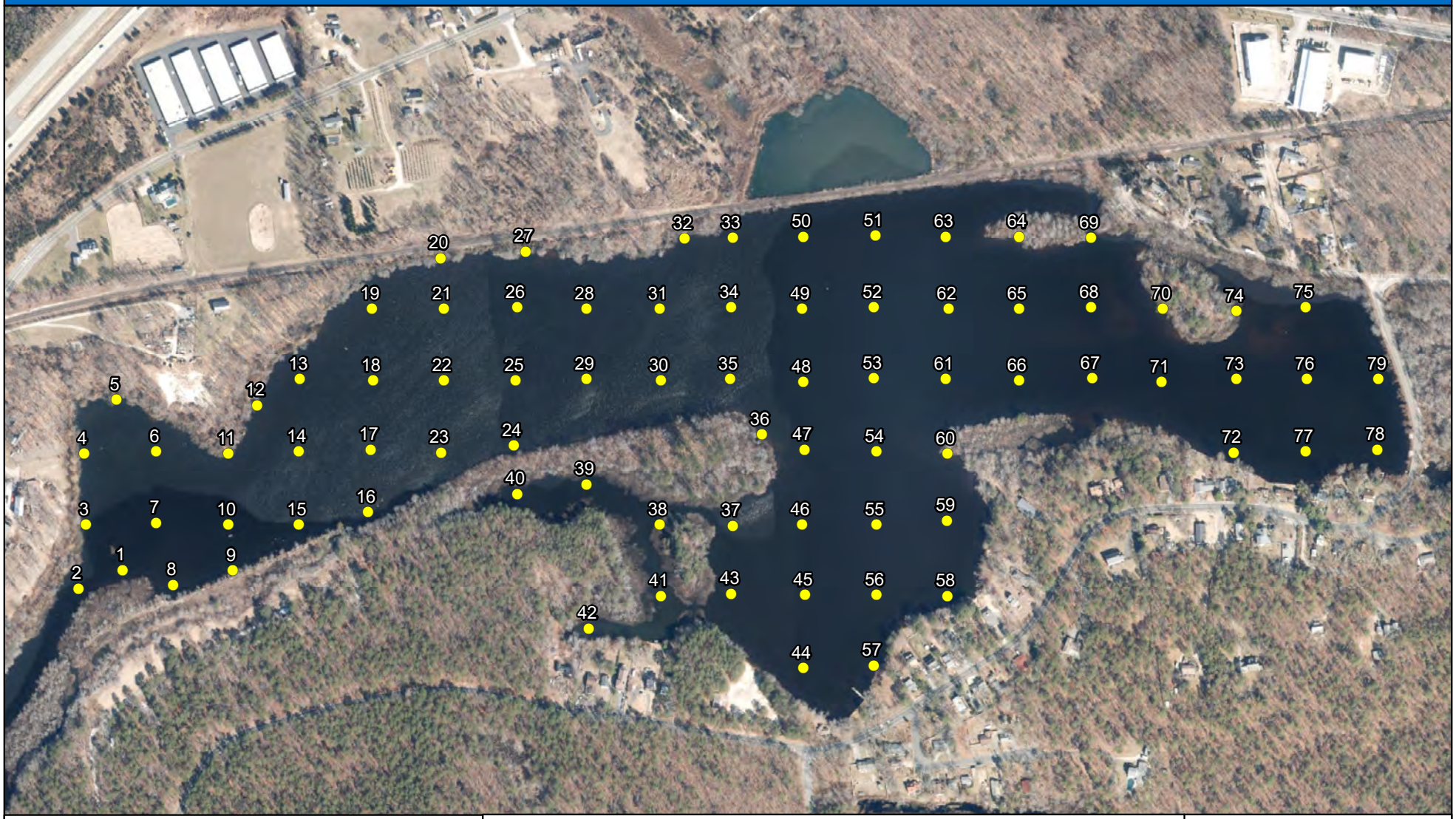
Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 5

SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 5

Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 79

Sample Station

0 310 620 Feet

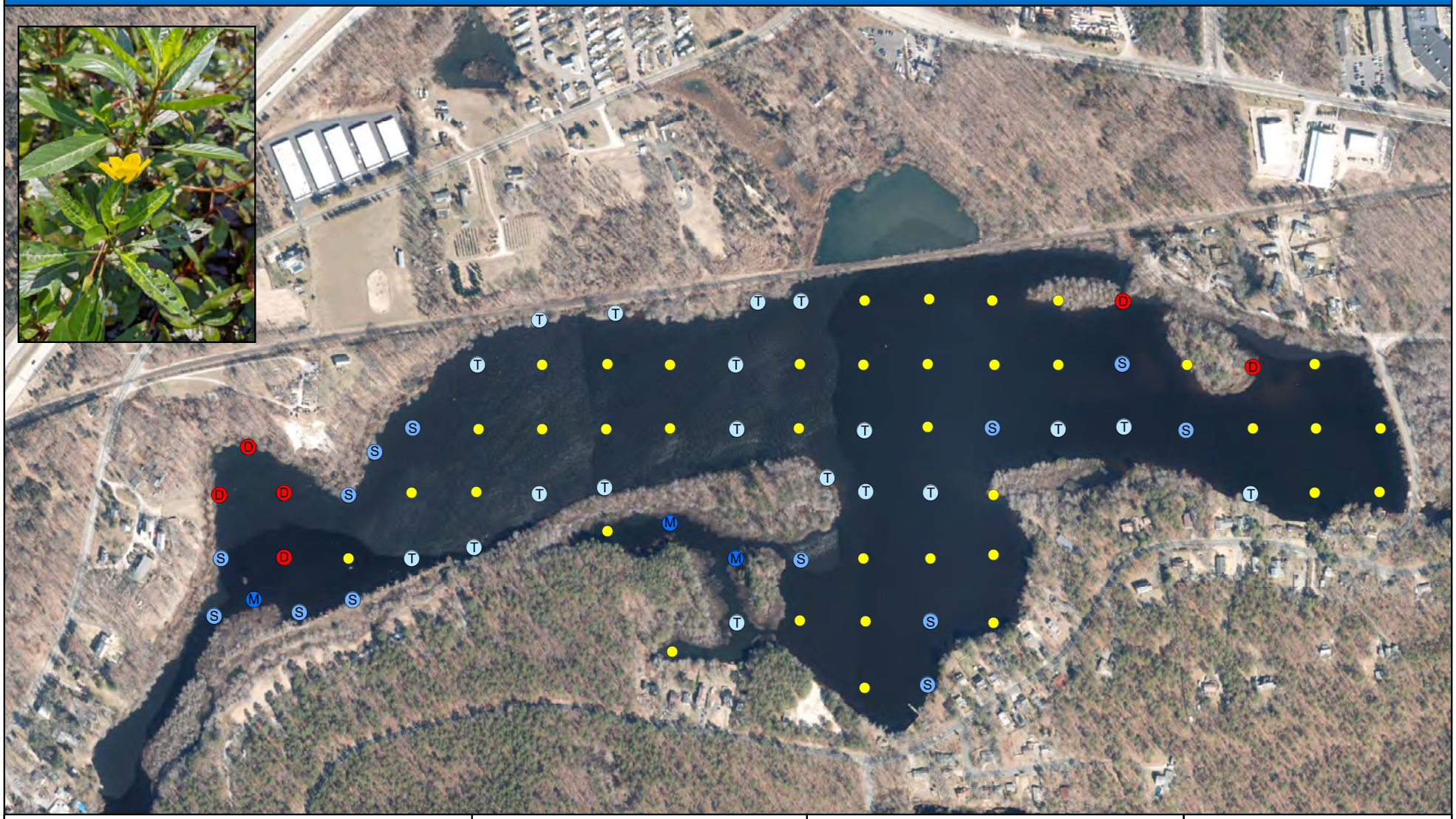
Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 5

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 5
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 8, 2021
Sample Stations: 79

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	41	52%
Trace	19	46%
Sparse	13	32%
Medium	3	7%
Dense	6	15%

N

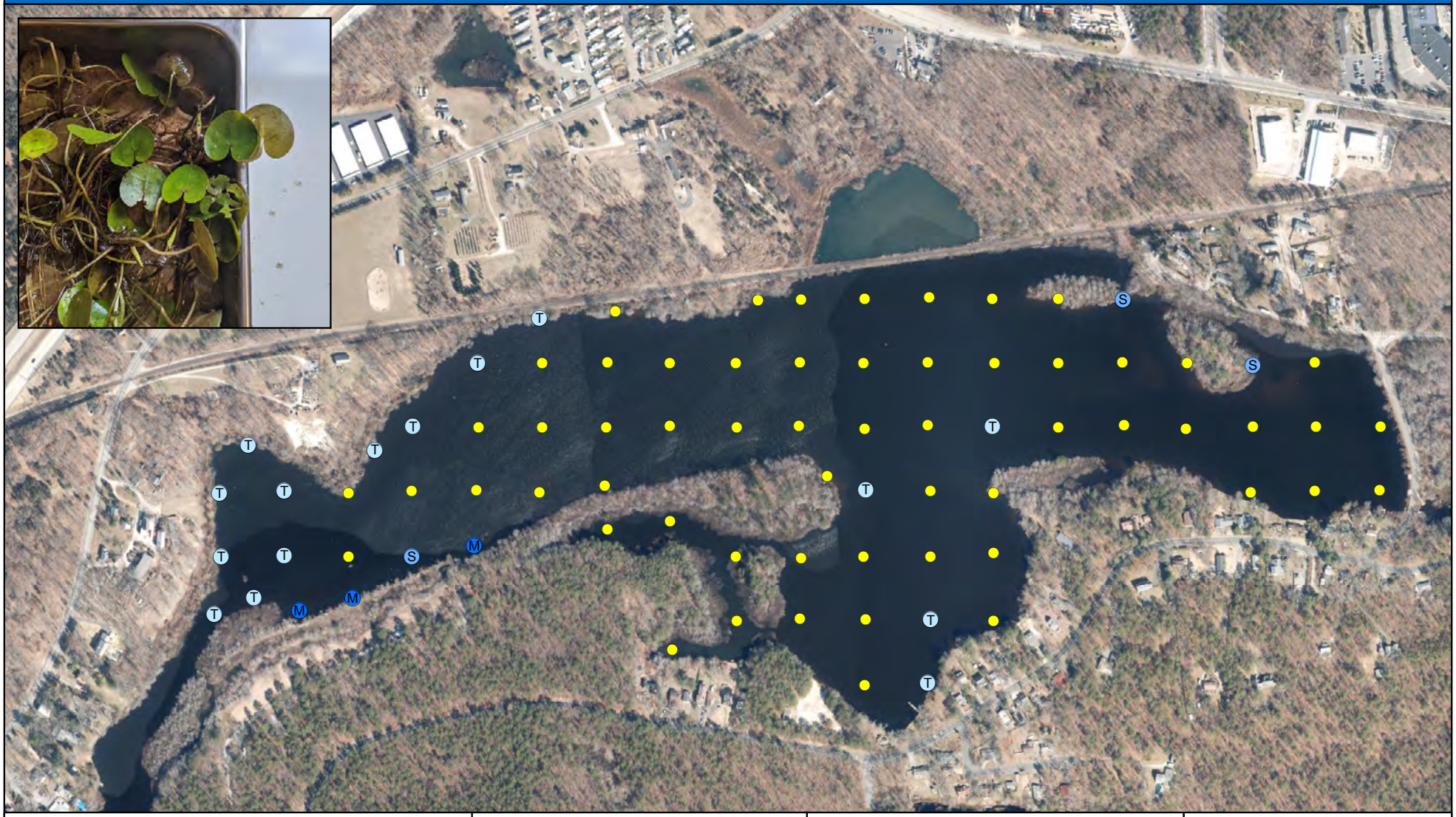
0 345 690 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 5

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 5
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 8, 2021
Sample Stations: 79

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	21	27%
Trace	15	71%
Sparse	3	14%
Medium	3	14%
Dense	0	0%

N

0 345 690 Feet

Prepared by: KM

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 6

SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 6
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 64

Sample Station

0 475 950 Feet

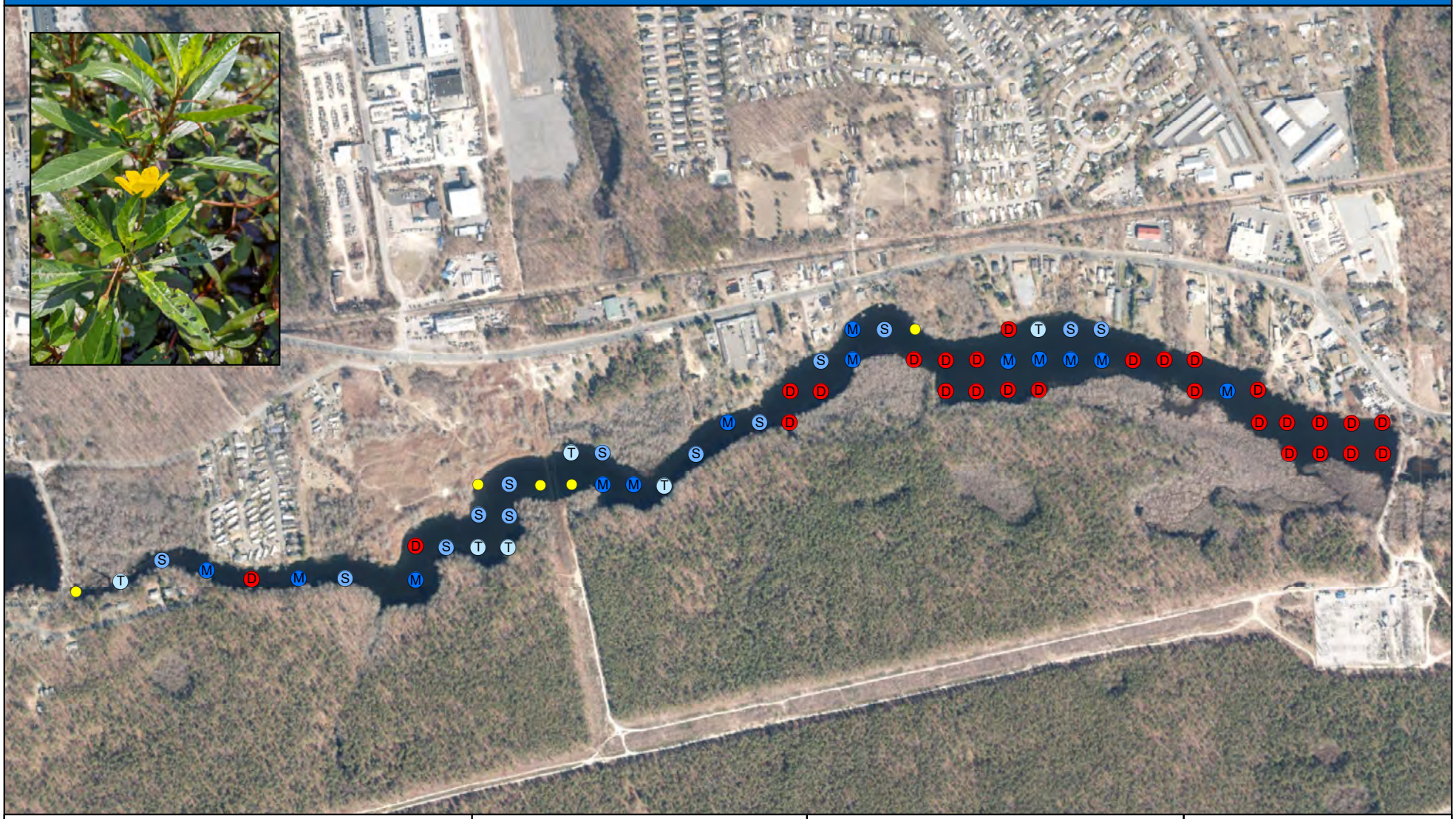
Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 6

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 6
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 8, 2021
Sample Stations: 64

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	59	92%
Trace	6	10%
Sparse	13	22%
Medium	13	22%
Dense	27	46%

0 475 950 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 7
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 7
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 17

Sample Station

0 212.5 425 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 7

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 7
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 17

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	2	12%
Trace	2	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 240 480 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 8
SAMPLING STATIONS

SOLITUDE
LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 8
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 12

Sample Station

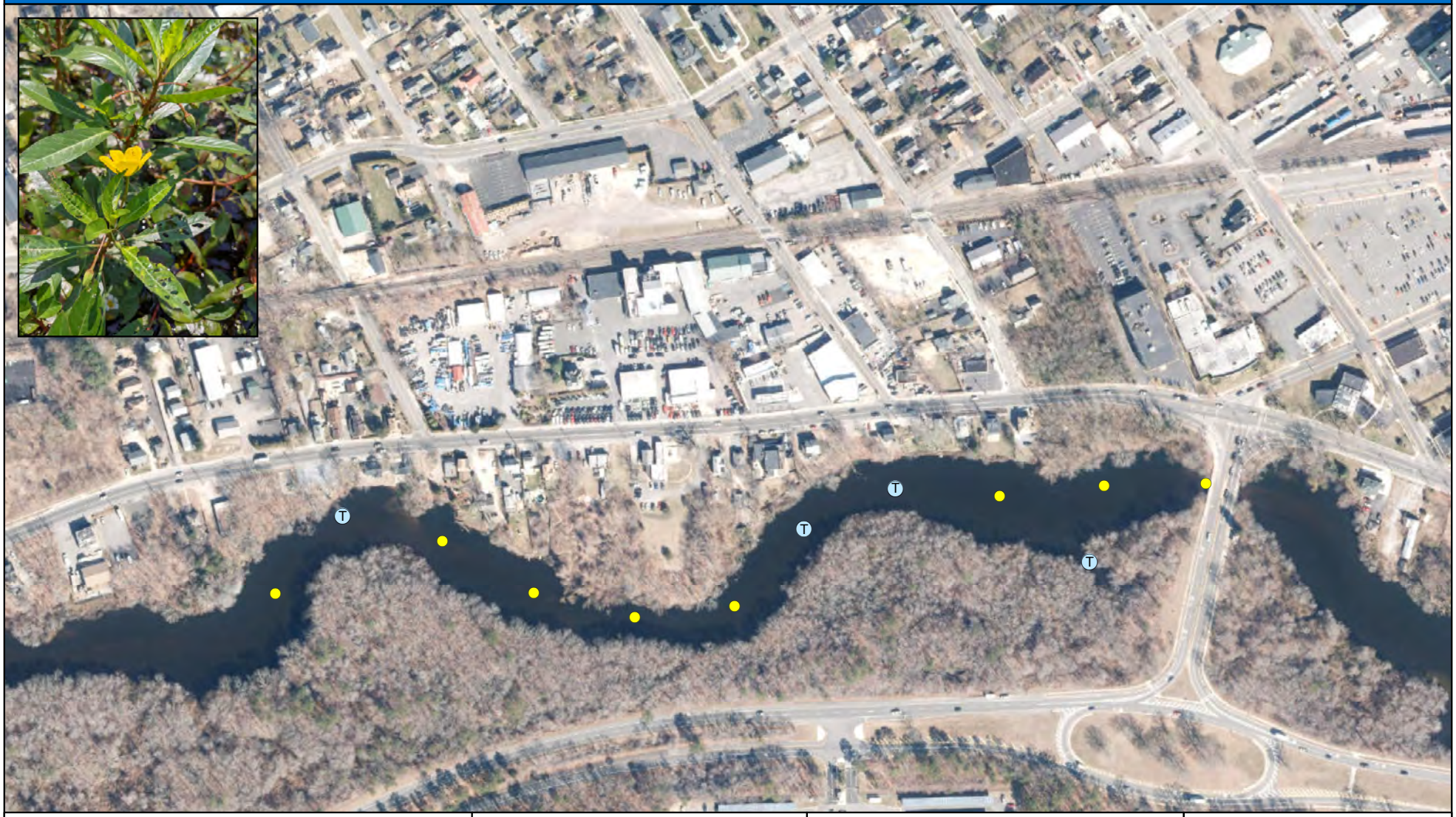
0 190 380 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 8

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 8
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 12

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	4	33%
Trace	4	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 212.5 425 Feet

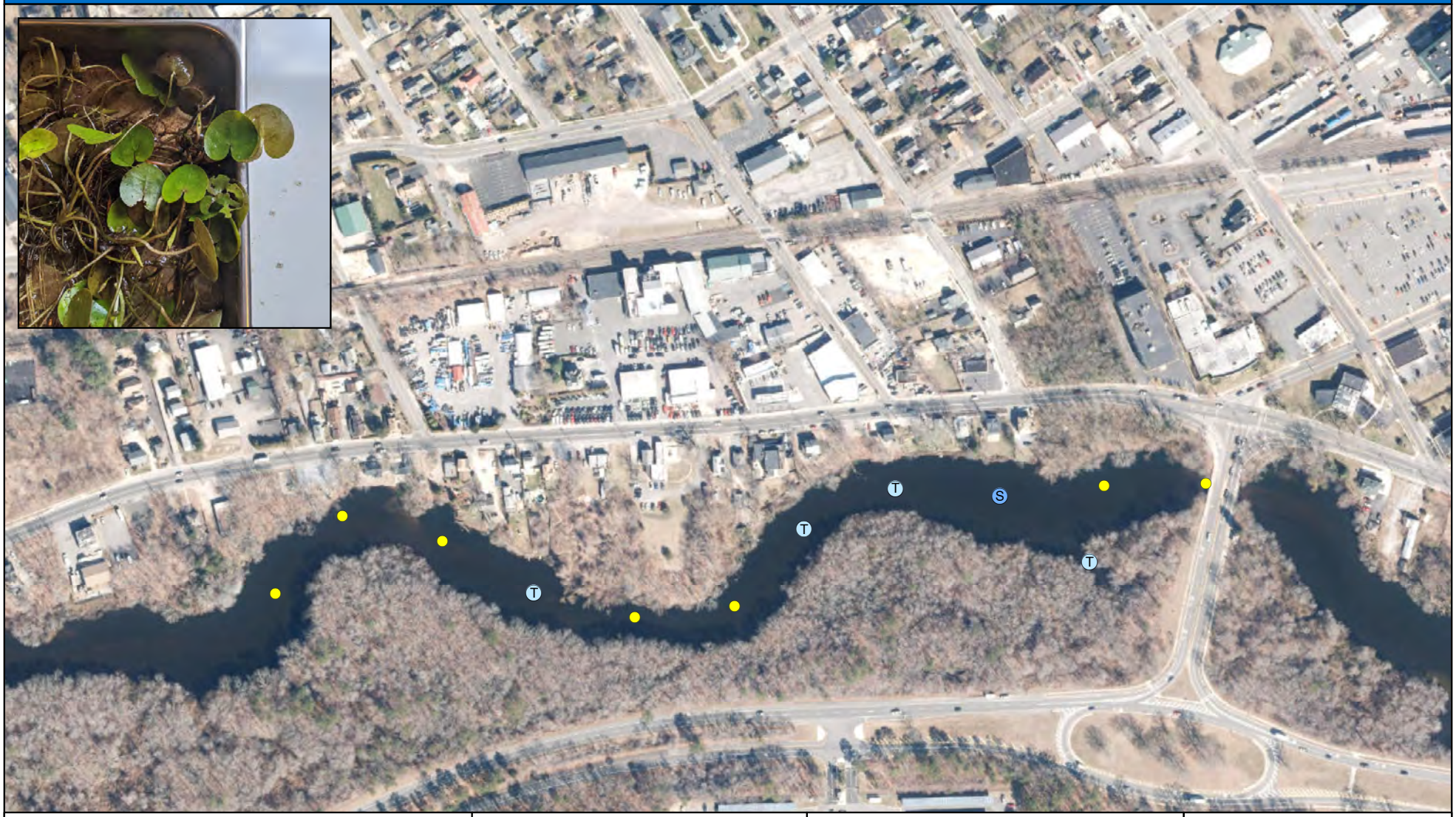
Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 8

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 8
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 12

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	5	42%
Trace	4	80%
Sparse	1	20%
Medium	0	0%
Dense	0	0%

N

0 212.5 425 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

AQUATIC VEGETATION SURVEY - PECONIC RIVER SECTION 9
SAMPLING STATIONS

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 9
Ludwigia Control Project
Aquatic Vegetation Surveys
May and September 2021
Sample Stations: 17

Sample Station

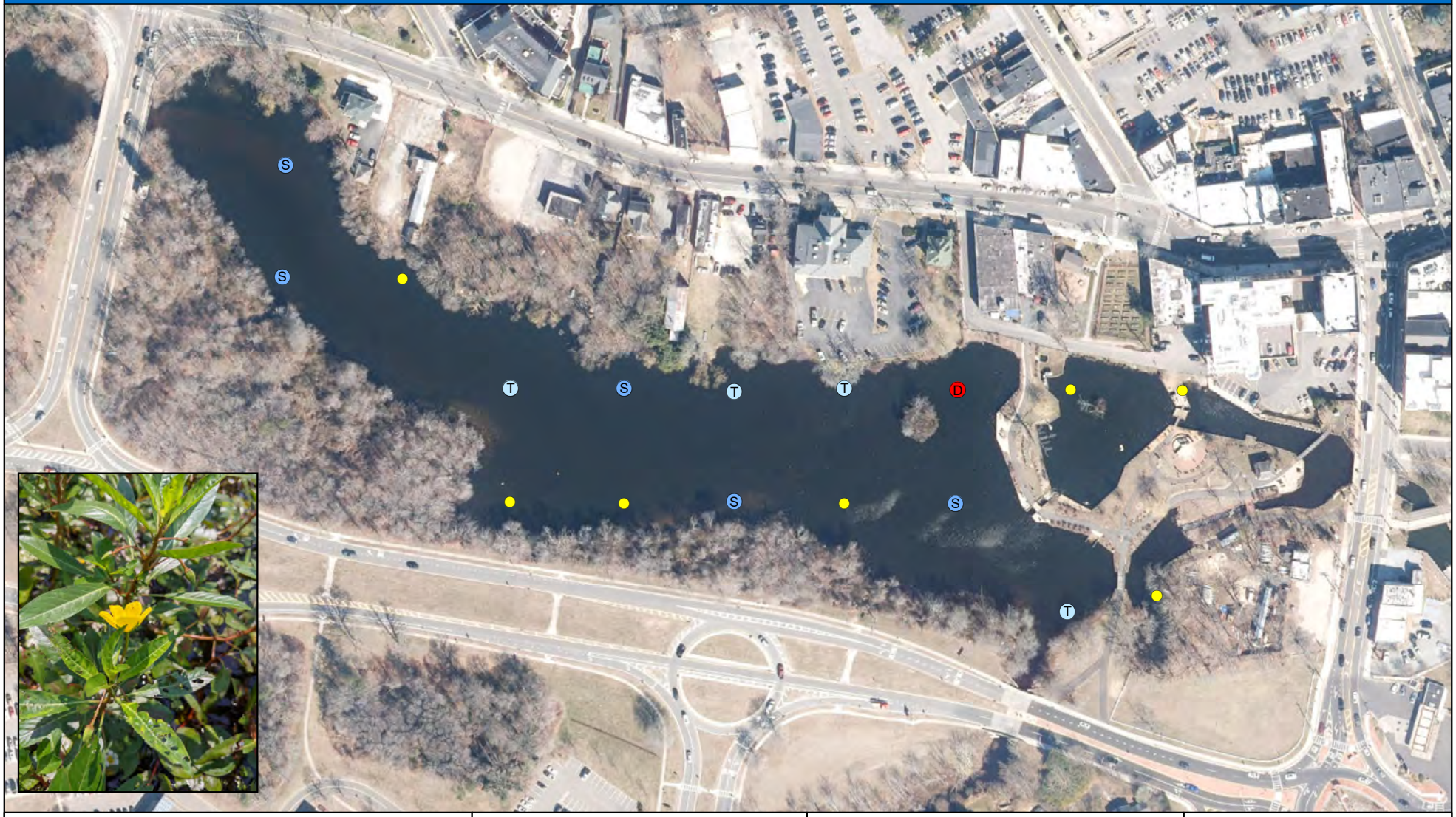
0 130 260 Feet

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 9

WATER PRIMROSE (*Ludwigia peploides*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 9
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 17

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	10	59%
Trace	4	40%
Sparse	5	50%
Medium	0	0%
Dense	1	10%

N

0 130 260 Feet

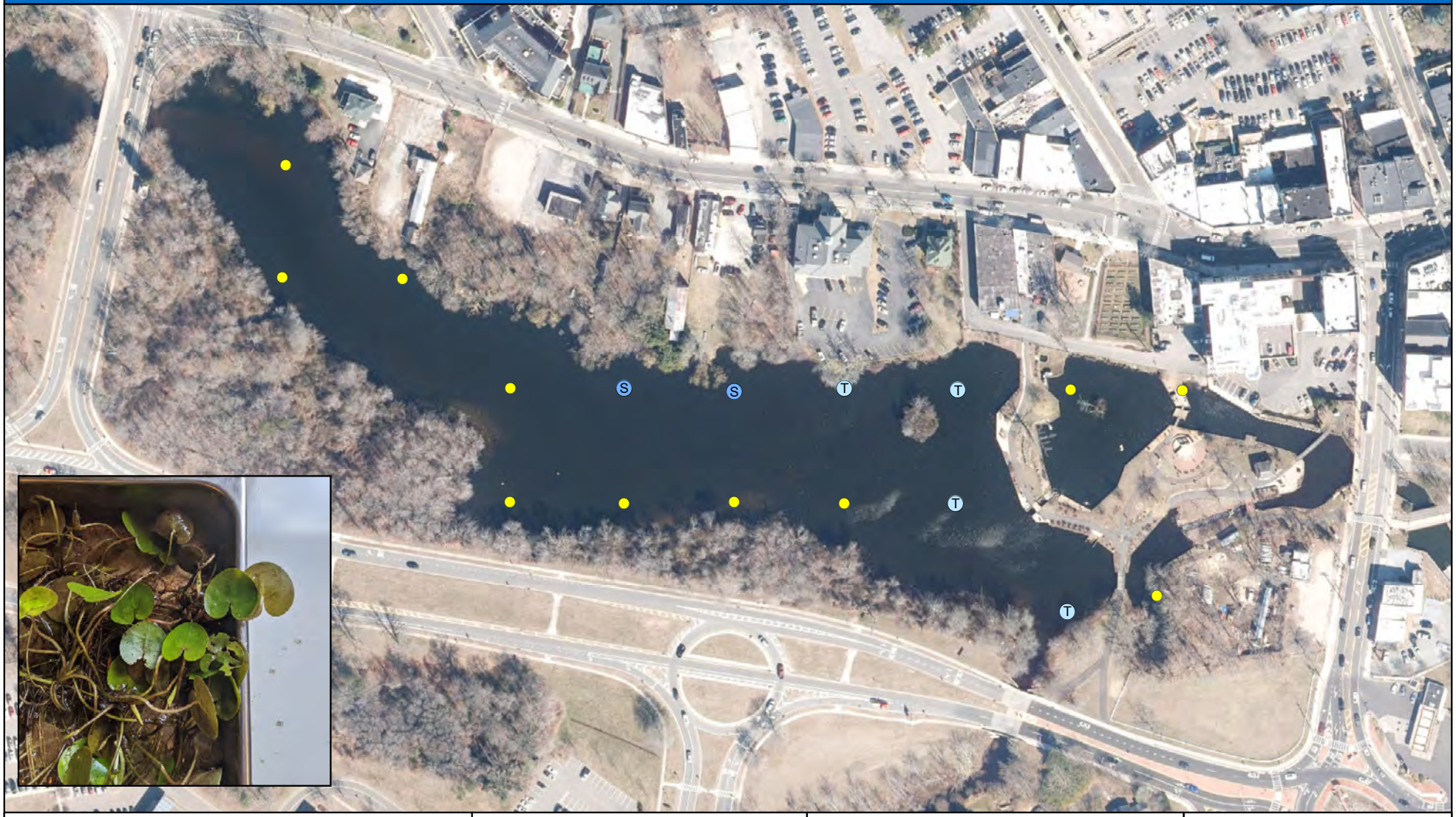
Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 9

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



PECONIC RIVER - SECTION 9
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 7, 2021
Sample Stations: 17

Plant Density

- = No Plants
- T = Trace Plants
- S = Sparse Plants
- M = Medium Plants
- D = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	6	35%
Trace	4	67%
Sparse	2	33%
Medium	0	0%
Dense	0	0%

N

0 130 260 Feet

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Prepared by: KM

POST-TREATMENT SURVEY - PECONIC RIVER SECTION 6

EUROPEAN FROGBIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

PECONIC RIVER - SECTION 6
Ludwigia Control Project
Post-Treatment Aquatic Vegetation Survey
September 8, 2021
Sample Stations: 64

Plant Density

- = No Plants
- (T) = Trace Plants
- (S) = Sparse Plants
- (M) = Medium Plants
- (D) = Dense Plants

Percent Distribution

Abundance	Sites	Percent
Total	14	22%
Trace	14	100%
Sparse	0	0%
Medium	0	0%
Dense	0	0%

N

0 475 950 Feet

Prepared by: KM

Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Appendix F: September Survey Abundance and Distribution Tables

Peconic River
Section 1
Aquatic Macrophyte Abundance Distribution
September 7, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	26									
OVERALL	25	96%	9	36%	9	36%	4	16%	3	12%
Watermoss	19	73%	19	100%	0	0%	0	0%	0	0%
Smartweed sp.	16	62%	7	44%	7	44%	0	0%	2	13%
Sago Pondweed	13	50%	4	31%	5	38%	3	23%	1	8%
Bur-reed sp.	12	46%	9	75%	3	25%	0	0%	0	0%
Common Bladderwort	11	42%	11	100%	0	0%	0	0%	0	0%
Leafy Pondweed	10	38%	6	60%	2	20%	1	10%	1	10%
Spatterdock	6	23%	6	100%	0	0%	0	0%	0	0%
European Frogbit	5	19%	5	100%	0	0%	0	0%	0	0%
Small Duckweed	4	15%	3	75%	1	25%	0	0%	0	0%
Wild Celery	3	12%	2	67%	1	33%	0	0%	0	0%
Benthic Filamentous Algae	3	12%	3	100%	0	0%	0	0%	0	0%
Pickerelweed	2	8%	2	100%	0	0%	0	0%	0	0%
Fanwort	2	8%	2	100%	0	0%	0	0%	0	0%

Peconic River
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SECTION 1	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	European Frogbit	Fanwort	Leafy Pondweed	Pickerelweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Watermoss	Wild Celery
	1	A																
	1	B																
	1	M	40.900534°	-72.774013°														
	2	A			T												T	
	2	B			T												T	
	2	M	40.900669°	-72.773651°	T												T	
	3	A			T						T		T					T
	3	B			S								S				T	T
	3	M	40.901026°	-72.772953°	S						T		S				T	T
	4	A			M										M		T	
	4	B																
	4	M	40.901231°	-72.772319°	S										S		T	
	5	A			D	T							T		D		T	S
	5	B			M										M		T	S
	5	M	40.901621°	-72.771752°	D	T							T		D		T	S
	6	A			M		S						S		M		T	
	6	B			T		T										T	
	6	M	40.902175°	-72.771304°	S		S						T		S		T	
	7	A			M		S						M		M		S	
	7	B			M								M		T			S
	7	M	40.90258°	-72.77064°	M		T						M		S		T	T
	8	A																
	8	B																
	8	M	40.902674°	-72.770351°	not surveyed													
	9	A			D		S				T		S		D		T	
	9	B			D		S						S		D		T	
	9	M	40.902659°	-72.76994°	D		S				T		S		D		T	
	10	A			D		T				S		D		D		T	
	10	B			S		T				S		S				T	
	10	M	40.902998°	-72.769197°	M		T				S		M		S		T	
	11	A			D						D		D	T		T		
	11	B			D						D		D	T		T		
	11	M	40.903328°	-72.7689°	D						D		D	T		T		
	12	A			M	T					M		M		T			
	12	B			M	T				T	S		M		T			
	12	M	40.903289°	-72.768391°	M	T				T	M		M		T			
	13	A			S	T	T		T		S		S		T	S	T	
	13	B			S		T						S		T		T	
	13	M	40.903292°	-72.767504°	S	T	T		T		T		S		T	T	T	
	14	A			S			T		T	T		S				T	
	14	B			S						S		S				T	
	14	M	40.903091°	-72.766709°	S			T		T	S		S				T	
	15	A			T			T			T							
	15	B			T			T			T							
	15	M	40.903103°	-72.765889°	T			T			T							
	16	A			T		T						T				T	
	16	B																
	16	M	40.903366°	-72.765111°	T		T						T				T	
	17	A			S		T				T		S		T		T	
	17	B			S		T						S		S			
	17	M	40.903648°	-72.764376°	S		T				T		S		S		T	
	18	A			T			T	T				T	T			T	
	18	B			T		T							T				
	18	M	40.903643°	-72.763582°	T		T	T	T				T	T			T	
	19	A			S			T	T						S	S	T	
	19	B			S				T						S			
	19	M	40.903702°	-72.762705°	S			T	T						S	T	T	
	20	A			S		T	T			T				S	T	T	
	20	B			S		S								T			
	20	M	40.903414°	-72.761935°	S		S	T			T				S	T	T	
	21	A			S		T	S				T				T	T	
	21	B																
	21	M	40.903265°	-72.761144°	T		T	T				T				T	T	
	22	A			T		T							T				
	22	B			T									T				
	22	M	40.90325°	-72.760335°	T		T							T				
	23	A			S			T				S			T	T		
	23	B			T			T	T									
	23	M	40.90282°	-72.75966°	S			T	T			T			T	T		
	24	A			T			T										
	24	B			T										T		T	
	24	M	40.902313°	-72.759074°	T			T							T		T	
	25	A			T			T							T		T	

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SECTION 1	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	European Frogbit	Fanwort	Leafy Pondweed	Pickerelweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Watermoss	Wild Celery
	25	B			T			T	T						T			
	25	M	40.901891°	-72.758393°	T			T	T						T		T	
	26	A			T										T		T	
	26	B			D			T						D	T			
	26	M	40.902194°	-72.757629°	M			T						S	T		T	
	27	A			T		T	T							T			
	27	B			T		T	T							T			
	27	M	40.901795°	-72.757089°	T		T	T							T			

Peconic River
Section 2
Aquatic Macrophyte Abundance Distribution
September 7, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	49									
OVERALL	49	100%	0	0%	0	0%	1	2%	48	98%
Small Duckweed	44	90%	19	43%	15	34%	7	16%	3	7%
European Frogbit	41	84%	12	29%	5	12%	2	5%	22	54%
Fanwort	41	84%	2	5%	0	0%	3	7%	36	88%
Smartweed sp.	26	53%	9	35%	2	8%	9	35%	6	23%
Spatterdock	25	51%	16	64%	5	20%	4	16%	0	0%
Common Bladderwort	24	49%	18	75%	1	4%	5	21%	0	0%
Water Primose	13	27%	1	8%	1	8%	3	23%	8	62%
Benthic Filamentous Algae	7	14%	1	14%	6	86%	0	0%	0	0%
Watershield	4	8%	3	75%	1	25%	0	0%	0	0%
Bur-reed sp.	3	6%	1	33%	0	0%	2	67%	0	0%
Long-leaf Pondweed	2	4%	0	0%	2	100%	0	0%	0	0%
Sago Pondweed	1	2%	0	0%	0	0%	1	100%	0	0%
Leafy Pondweed	1	2%	0	0%	0	0%	1	100%	0	0%
Pickerelweed	1	2%	0	0%	0	0%	1	100%	0	0%

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Aquatic Vegetation Survey
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SECTION 2	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Bassweed	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	European Frogbit	Fanwort	Leafy Pondweed	Long-leaf Pondweed	Pickerelweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primose	Watershield
	1	A			M		T	M	M	M		M			M	M	M	S		
	1	B			M		T	M	M	T		S			M	M	S	S		
	1	M	40.901369°	-72.756849°	M		T	M	M	S		M			M	M	M	S		
	2	A			D			M	M	D			S			T		M		
	2	B			D			S	M	D			S			T		M		
	2	M	40.901278°	-72.756584°	D			M	M	D			S			T		M		
	3	A			M				M	M						T	M			
	3	B			D				M	D						T	S	T		
	3	M	40.901157°	-72.756359°	D				M	D						T	M	T		
	4	A			D				M	D						T	D			
	4	B			M				S	M						T	M			
	4	M	40.900936°	-72.755906°	D				M	D						T	D			
	5	A			D			T	M	D						S	D	T		
	5	B			D			T	S	M							D			
	5	M	40.901256°	-72.754773°	D			T	M	D						T	D	T		
	6	A			D				T	D							S	T		
	6	B			D					D	T						S	T		
	6	M	40.901448°	-72.75422°	D				T	D	T						S	T		
	7	A			D					D	D		S				S	T		
	7	B			D					D	D		S				S	T		
	7	M	40.901614°	-72.75369°	D					D	D		S				S	T		
	8	A			D					D	D						D			
	8	B			D					D	D						D			
	8	M	40.901798°	-72.753137°	D					D	D						D			
	9	A			D					D	D						D			
	9	B			D					D	D						D			
	9	M	40.901964°	-72.752573°	D					D	D						D			
	10	A			D				T	D	D						D			
	10	B			D				T	D	D						D			
	10	M	40.901562°	-72.752365°	D				T	D	D						D			
	11	A			D		S		T	D	D					S	D			
	11	B			D		S		T	D	D						T			
	11	M	40.901719°	-72.75179°	D		S		T	D	D					T	M			
	12	A			D		S		T	D	D					S	D			
	12	B			D		S		T	D	D						T			
	12	M	40.90213°	-72.752032°	D		S		T	D	D					T	M			
	13	A			D		S		T	D	D					S	D			
	13	B			D		S		T	D	D						T			
	13	M	40.902724°	-72.751709°	D		S		T	D	D					T	M			
	14	A			D		S		T	D	D					D	M	T		
	14	B			D		S		T	D	D					D	M	T		
	14	M	40.902313°	-72.751467°	D		S		T	D	D					D	M	T		
	15	A			D		S		T	D	D					D	M	T		
	15	B			D		S		T	D	D					D	M	T		
	15	M	40.901894°	-72.75126°	D		S		T	D	D					D	M	T		
	16	A			D		S		T	D	D					D	M	T		
	16	B			D		S		T	D	D					D	M	T		
	16	M	40.902042°	-72.750708°	D		S		T	D	D					D	M	T		
	17	A			D					D	D					S				
	17	B			D				T	D	D					S				
	17	M	40.902497°	-72.750925°	D				T	D	D					S				
	18	A			D					S	D					S	T	S		
	18	B			D					S	D					S				
	18	M	40.902899°	-72.751168°	D					S	D					S	T	T		
	19																			
	19																			
	19		40.902977°	-72.750356°	Not surveyed															
	20	A			D					S	D					T		S		
	20	B			D					S	D					T				
	20	M	40.902645°	-72.750396°	D					S	D					T		T		
	21	A			D					T	D					M	T	T		
	21	B			D						D					M	T	T		
	21	M	40.902261°	-72.750165°	D					T	D					M	T	T		
	22	A			D					T	D					M	T	T		
	22	B			D						D					M	T			
	22	M	40.9024°	-72.749613°	D					T	D					M	T	T		
	23	A			D						D					M				
	23	B			D						D					M		T		
	23	M	40.902829°	-72.749855°	D						D					M		T		
	24	A			D						D					M				
	24	B			D						D					M	T			
	24	M	40.902995°	-72.74929°	D						D					M	T			
	25	A			D						D					M		T		

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SECTION 2	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Bassweed	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	European Frogbit	Fanwort	Leafy Pondweed	Long-leaf Pondweed	Pickerelweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primose	Watershield
	25	B			D						D					M				
	25	M	40.902584°	-72.749071°	D						D					M		T		
	26	A			D				T		D					T				
	26	B			D						D					S				
	26	M	40.903169°	-72.748714°	D				T		D					S				
	27	A			D				T		D					T				
	27	B			D						D					S				
	27	M	40.903335°	-72.748196°	D				T		D					S				
	28	A			D						D					S	M			
	28	B			D						D					S	M			
	28	M	40.903746°	-72.748392°	D						D					S	M			
	29	A			D					T	T					T			D	
	29	B			D					T	T					T			D	
	29	M	40.90393°	-72.747873°	D					T	T					T			D	
	30	A			D					T						T			D	
	30	B			D					T						T			D	
	30	M	40.903528°	-72.747631°	D					T						T			D	
	31	A			D					T						T			D	
	31	B			D					T						T			D	
	31	M	40.904104°	-72.747309°	D					T						T			D	
	32	A			D					T						T			D	
	32	B			D					T						T			D	
	32	M	40.904524°	-72.747551°	D					T						T			D	
	33	A			D					T	D					T			T	
	33	B			D					T	D					T				
	33	M	40.90469°	-72.746986°	D					T	D					T			T	
	34	A			D					T	D					S			M	
	34	B			D						D					S			M	
	34	M	40.904288°	-72.74679°	D					T	D					S			M	
	35	A			D					T	D					M			M	
	35	B			D						D					S			M	
	35	M	40.904463°	-72.746237°	D					T	D					M			M	
	36	A			D				T		D					T			D	
	36	B			D						D					T			D	
	36	M	40.904873°	-72.746456°	D				T		D					T			D	
	37	A			D						D					T			D	
	37	B			D						D					T			D	
	37	M	40.905275°	-72.746687°	D						D					T			D	
	38	A			D					T	D					T			M	
	38	B			D					T	D					T				
	38	M	40.905432°	-72.746123°	D					T	D					T			S	
	39	A			D				T	T	D					S			S	
	39	B			D					T	S					S			D	
	39	M	40.905031°	-72.745915°	D				T	T	M					S			M	
	40	A			M				T	T	S					S			M	
	40	B			D					S	D								D	
	40	M	40.904619°	-72.745662°	D				T	S	M					T			D	
	41	A			D					T	D					S		T	M	
	41	B			D					S	S							T	D	
	41	M	40.904794°	-72.74512°	D					S	M					T		T	D	
	42	A			D				S	D	D					S	T	T		
	42	B			D				S	D	D					S				
	42	M	40.905206°	-72.745374°	D				S	D	D					S	T	T		
	43	A			D				T	T	D					S	D	M		T
	43	B			D				T	T	D					S	D	M		T
	43	M	40.905371°	-72.74481°	D				T	T	D					S	D	M		T
	44	A			D					D	D					S	S	M		S
	44	B			D				T	D	D					S		T		
	44	M	40.904961°	-72.744591°	D				T	D	D					S	T	S		T
	45	A			D				T	D	D					S		M		
	45	B			D					D	D					S		T		
	45	M	40.904701°	-72.744426°	D				T	D	D					S		S		
	46	A			D					D	D					S		M		T
	46	B			D					D	D					S		M		S
	46	M	40.904912°	-72.743894°	D					D	D					S		M		S
	47	A			D					D	D					S		M		S
	47	B			D					D	D					S	S	T		
	47	M	40.905144°	-72.744026°	D					D	D					S	T	S		T
	48	A			D					D	D					S	S	M		
	48	B			D					D	D					S		T		
	48	M	40.905546°	-72.744256°	D					D	D					S	T	S		
	49	A			D					M	D			M		T		M		
	49	B			D					M	D			M		T		M		

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SECTION 2	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Bassweed	Benthic Filamentous Algae	Bur-reed sp.	Commnon Bladderwort	European Frogbit	Fanwort	Leafy Pondweed	Long-leaf Pondweed	Pickerelweed	Sago Pondweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primose	Watershield
	49	M	40.905717°	-72.743714°	D					M	D			M		T		M		
	50	A			D				T	M	D					S	S	T		
	50	B			D				T	M	D					S				
	50	M	40.905312°	-72.743495°	D				T	M	D					S	T	T		

Peconic River
Section 3
Aquatic Macrophyte Abundance Distribution
September 7, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	8									
OVERALL	8	100%	1	13%	3	38%	1	13%	3	38%
Watermoss	8	100%	4	50%	4	50%	0	0%	0	0%
Smartweed sp.	4	50%	0	0%	1	25%	1	25%	2	50%
Wild Celery	3	38%	2	67%	1	33%	0	0%	0	0%
Bur-reed sp.	3	38%	0	0%	2	67%	1	33%	0	0%
Parrot Feather	2	25%	1	50%	1	50%	0	0%	0	0%
European Frogbit	2	25%	1	50%	1	50%	0	0%	0	0%
Fanwort	2	25%	0	0%	2	100%	0	0%	0	0%
Pickerelweed	1	13%	1	100%	0	0%	0	0%	0	0%
Water Primrose	1	13%	0	0%	1	100%	0	0%	0	0%
Sago Pondweed	1	13%	1	100%	0	0%	0	0%	0	0%
Floating-leaf Pondweed	1	13%	1	100%	0	0%	0	0%	0	0%
Leafy Pondweed	1	13%	1	100%	0	0%	0	0%	0	0%

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SECTION 3	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Bur-reed sp.	European Frogbit	Fanwort	Floating-leaf Pondweed	Leafy Pondweed	Parrot Feather	Pickerelweed	Sago Pondweed	Smartweed sp.	Water Primrose	Watermoss	Wild Celery
	1	A			S				T				T			T	S
	1	B			S											T	S
	1	M	40.905519°	-72.742764°	S				T				T			T	S
	2	A			T											T	
	2	B															
	2	M	40.905923°	-72.742087°	T											T	
	3	A			S	S						T				S	T
	3	B			T	T										T	T
	3	M	40.906496°	-72.741618°	S	S						T				S	T
	4	A			D	S	S	D		T	M					S	
	4	B			S	M	S									S	
	4	M	40.907061°	-72.741156°	M	M	S	S		T	S					S	
	5	A			D	M	T	D						D		T	
	5	B			M						T			S	M	S	S
	5	M	40.907242°	-72.740304°	D	S	T	S			T			M	S	S	T
	6	A			D									D		T	
	6	B			M									M			
	6	M	40.907642°	-72.739587°	D									D		T	
	7	A			D									D		T	
	7	B			M									M			
	7	M	40.907419°	-72.7393°	D									D		T	
	8	A			M									M		S	
	8	B			T									T		T	
	8	M	40.907674°	-72.738616°	S									S		S	

Peconic River
Section 4
Aquatic Macrophyte Abundance Distribution
September 7, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	18									
OVERALL	18	100%	2	11%	0	0%	6	33%	10	56%
Small Duckweed	16	89%	8	50%	6	38%	2	13%	0	0%
Smartweed sp.	16	89%	5	31%	4	25%	7	44%	0	0%
European Frogbit	15	83%	7	47%	6	40%	2	13%	0	0%
Benthic Filamentous Algae	12	67%	8	67%	4	33%	0	0%	0	0%
Fanwort	11	61%	0	0%	2	18%	0	0%	9	82%
Water Primrose	8	44%	3	38%	5	63%	0	0%	0	0%
Parrot Feather	6	33%	6	100%	0	0%	0	0%	0	0%
Bur-reed sp.	6	33%	6	100%	0	0%	0	0%	0	0%
Pickerelweed	5	28%	5	100%	0	0%	0	0%	0	0%
Spatterdock	5	28%	4	80%	1	20%	0	0%	0	0%
Long-leaf Pondweed	4	22%	2	50%	1	25%	1	25%	0	0%
Watermoss	4	22%	3	75%	1	25%	0	0%	0	0%
Coontail	3	17%	1	33%	2	67%	0	0%	0	0%
Common Bladderwort	1	6%	1	100%	0	0%	0	0%	0	0%
Muskgrass	1	6%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
September 7, 2021

SECTION 4	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Bur-reed sp.	Common Bladderwort	Coontail	European Frogbit	Fanwort	Long-leaf Pondweed	Muskgrass	Parrot Feather	Pickerelweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermoss
	1	A			T							T	T			T	T			
	1	B			T											T	T			
	1	M	40.90737°	-72.737556°	T							T	T			T	T			
	2	A			T															T
	2	B																		
	2	M	40.906978°	-72.736908°	T															T
	3	A			M					T					T	T	M	T		
	3	B			M					T				T		M	T			
	3	M	40.906678°	-72.736139°	M					T				T	T	S	S	T		
	4	A			M	T	T			M						T	M			
	4	B			M					M						S	M			
	4	M	40.906244°	-72.73562°	M	T	T			M						S	M			
	5	A			M	S				T						T	M			
	5	B			M	T										S	M			
	5	M	40.905846°	-72.736654°	M	S				T						S	M			
	6	A			D	T				T				T		S	D			
	6	B			D					S	D					S	S			T
	6	M	40.906328°	-72.734959°	D	T				S	S			T		S	M			T
	7	A			M	S				T						S	M			S
	7	B			S	T				S					T	S	S			S
	7	M	40.906069°	-72.734343°	M	S				S					T	S	M			S
	8	A			M	T				S					S	T	M			
	8	B			M					S		T				T	M			
	8	M	40.906626°	-72.734196°	M	T				S		T			T	T	M			
	9	A			M	T				T	M						S			T
	9	B			M		S			S						T	M			T
	9	M	40.906964°	-72.733454°	M	T	T			S	S					T	M			T
	10	A			D	T				M	D			T	T	T	S	T	S	
	10	B			D				T	M	D					T	S	S	S	
	10	M	40.907011°	-72.73289°	D	T			T	M	D			T	T	T	S	S	S	
	11	A			D						D	S		T		M	S		T	
	11	B			D						D	T				M	S	S	T	
	11	M	40.907395°	-72.73277°	D						D	S		T		M	S	T	T	
	12	A			D					D	D	D			T		T	T		
	12	B			D		T		D		D	S					D			
	12	M	40.907865°	-72.732133°	D		T		S	S	D	M			T		M	T		
	13	A			D		S		T	T	D					S	S		S	
	13	B			D				S	M	D					S			S	
	13	M	40.908451°	-72.731806°	D		T		S	S	D					S	T		S	
	14	A			D	S					D			S		S	T		S	
	14	B			D	S				T	D						S		S	
	14	M	40.909109°	-72.731836°	D	S				T	D			T		T	S		S	
	15	A			D	T				T	D			T		M	T	T	S	
	15	B			D	M				T	D			T		S	T	T	T	
	15	M	40.909663°	-72.731343°	D	S				T	D			T		M	T	T	S	
	16	A			D	T				T	D					T			S	
	16	B			D	T				T	D					T			S	
	16	M	40.910306°	-72.731086°	D	T				T	D					T			S	
	17	A			D	T	T			T	D									
	17	B			D	T		T		T	D					S	T		S	
	17	M	40.910893°	-72.730669°	D	T	T	T		T	D					T	T		T	
	18	A			D	T	T			T	D								S	
	18	B			D	T				T	D					S	T			
	18	M	40.911433°	-72.730134°	D	T	T			T	D					T	T		T	

Peconic River
Section 5
Aquatic Macrophyte Abundance Distribution
September 8, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	79									
OVERALL	76	96%	0	0%	4	5%	7	9%	65	86%
Fanwort	73	92%	1	1%	6	8%	6	8%	60	82%
Benthic Filamentous Algae	45	57%	29	64%	11	24%	2	4%	3	7%
Water Primrose	41	52%	19	46%	13	32%	3	7%	6	15%
European Frogbit	21	27%	15	71%	3	14%	3	14%	0	0%
Parrot Feather	20	25%	19	95%	1	5%	0	0%	0	0%
Spatterdock	20	25%	12	60%	3	15%	1	5%	4	20%
Bur-reed sp.	12	15%	12	100%	0	0%	0	0%	0	0%
Coontail	11	14%	5	45%	6	55%	0	0%	0	0%
White Water Lily	11	14%	1	9%	4	36%	1	9%	5	45%
Small Duckweed	9	11%	8	89%	1	11%	0	0%	0	0%
Watershield	9	11%	6	67%	0	0%	2	22%	1	11%
Smartweed sp.	9	11%	4	44%	2	22%	0	0%	3	33%
Pickerelweed	9	11%	8	89%	0	0%	1	11%	0	0%
Common Bladderwort	8	10%	8	100%	0	0%	0	0%	0	0%
Wild Celery	7	9%	2	29%	2	29%	2	29%	1	14%
Brazilian Elodea	5	6%	5	100%	0	0%	0	0%	0	0%
Bassweed	2	3%	1	50%	1	50%	0	0%	0	0%
Watermoss	1	1%	1	100%	0	0%	0	0%	0	0%

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Aquatic Vegetation Survey
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SECTION 5	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Bassweed	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Bladderwort	Coontail	European Frogbit	Fanwort	Parrot Feather	Pickerelweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermoss	Watershield	White Water Lily	Wild Celery
	1	A			D							T	D						M				
	1	B			D								D						M				
	1	M	40.912046	-72.729187	D							T	D						M				
	2	A			D					T		T	D						S				
	2	B			D					T			D						S				
	2	M	40.911883°	-72.729737°	D					T		T	D						S				
	3	A			D					T		T	D						S				
	3	B			D					T			D						S				
	3	M	40.912483°	-72.729628°	D					T		T	D						S				
	4	A			D					T		T	S						D				
	4	B			D								S						D				
	4	M	40.913147	-72.729622	D					T		T	S						D				
	5	A			D		T					T	S						D				
	5	B			D		T						S						D				
	5	M	40.913645°	-72.729206°	D		T					T	S						D				
	6	A			D		T					T	S						D				
	6	B			D								M						D				
	6	M	40.913154°	-72.728731°	D		T					T	M						D				
	7	A			D		T					T	D	T					D		T		
	7	B			D								D						D		T		
	7	M	40.912478	-72.728754	D		T					T	D	T					D		T		
	8	A			D		T		S	S		M	D	S				S	M				
	8	B			D		T					M	D										
	8	M	40.911896°	-72.728562°	D		T		T	T		M	D	T				T	S				
	9	A			D		T		S	S		M	D	S				S	M				
	9	B			D		T					M	D										
	9	M	40.912011°	-72.727818°	D		T		T	T		M	D	T				T	S				
	10	A			D								D										
	10	B			D								D										
	10	M	40.912448	-72.727864	D								D										
	11	A			D		T						D						D				
	11	B			D								D										
	11	M	40.913112°	-72.727841°	D		T						D						S				
	12	A			D		T		T			T	D					S	D				
	12	B			D							T	D										
	12	M	40.913558°	-72.727466°	D		T		T			T	D					T	S				
	13	A			D				T			T	D					S	D				
	13	B			D							T	D										
	13	M	40.913795	-72.726926	D				T			T	D					T	S				
	14	A			D		D						D	T									
	14	B			D		S						D										
	14	M	40.913119°	-72.726966°	D		M						D	T									
	15	A			D	T	T		S			M	D	T				M	S				
	15	B			D								D					T					
	15	M	40.912431°	-72.726989°	D	T	T		T			S	D	T				S	T				
	16	A			D		T		S			S	D	T				T	S				
	16	B			M							M	M					T					
	16	M	40.91253	-72.726127	D		T		T			M	D	T				T	T				
	17	A			D		T						D										
	17	B			D		T						D										
	17	M	40.913114°	-72.726075°	D		T						D										
	18	A			D		T						D										
	18	B			D		T						D										
	18	M	40.913764°	-72.72602°	D		T						D										
	19	A			D		T					T	D	T		T			S				
	19	B			D		T						D			T							
	19	M	40.91444	-72.726013	D		T					T	D	T		T			T				
	20	A			D		T					T	D	T		T			S				
	20	B			D		T						D			T							
	20	M	40.914895°	-72.725145°	D		T					T	D	T		T			T				
	21	A			D		S			T			D										
	21	B			D		T						D										
	21	M	40.914423°	-72.725122°	D		S			T			D										
	22	A			D		M			T			D										
	22	B			D		T						D										
	22	M	40.913747	-72.725146	D		S			T			D										
	23	A			D		T		T				D	T	T			S	T				
	23	B			D								D						T				
	23	M	40.913072°	-72.725202°	D		T		T				D	T	T			T	T				
	24	A			D		T		T				D	T	T			S	T				
	24	B			D								D						T				
	24	M	40.91312°	-72.724301°	D		T		T				D	T	T			T	T				
	25	A			D								D										
	25	B			D								D										
	25	M	40.913729	-72.724255	D								D										

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SECTION 5	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Bassweed	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Bladderwort	Coontail	European Frogbit	Fanwort	Parrot Feather	Pickerelweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermoss	Watershield	White Water Lily	Wild Celery
	26	A			D								D										
	26	B			D								D										
	26	M	40.914417°	-72.724215°	D								D										
	27	A			D		M						D			S		S	S				
	27	B			D		M						D			S							
	27	M	40.91494°	-72.724089°	D		M						D			S		T	T				
	28	A			D								D										
	28	B			D								D										
	28	M	40.914388	-72.723358	D								D										
	29	A			D								D										
	29	B			D								D										
	29	M	40.913725°	-72.72338°	D								D										
	30	A			D		T		T				D		S				T				
	30	B			D		T						D										
	30	M	40.913694°	-72.722457°	D		T		T				D		T				T				
	31	A			D		T		T				D		S				T				
	31	B			D		T						D										
	31	M	40.91437	-72.722451	D		T		T				D		T				T				
	32	A			D		D						D	S	T	S			S				
	32	B			D		D						D										
	32	M	40.915025°	-72.722118°	D		D						D	T	T	T			T				
	33	A			D		D						D	S	T	S			S				
	33	B			D		D						D										
	33	M	40.915015°	-72.721521°	D		D						D	T	T	T			T				
	34	A			D								D										
	34	B			D								D										
	34	M	40.914365	-72.72156	D								D										
	35	A			D		D																D
	35	B			D		D																D
	35	M	40.913689°	-72.721599°	D		D																D
	36	A			D		D						D	T									
	36	B			D								D		T			S	S				T
	36	M	40.913162°	-72.721223°	D		S						D	T	T			T	T				T
	37	A			D		T	T			S		D			T	D	S	S		S	D	T
	37	B			D			T					D						S				
	37	M	40.912313	-72.721614	D		T	T			T		D			T	S	T	S		T	S	T
	38	A			D			T			S		D			T	D	S	D		S	D	
	38	B			D			T			S		D				D		T			D	
	38	M	40.912339°	-72.722518°	D			T			S		D			T	D	T	M		T	D	
	39	A			D			T			S		D			T	D	S	D		S	D	
	39	B			D			T			S		D				D		T			D	
	39	M	40.912736°	-72.723414°	D			T			S		D			T	D	T	M		T	D	
	40	A			D						S		D				D	S			T	D	
	40	B			D						S		D				D	S				D	
	40	M	40.912666	-72.724275	D						S		D				D	S			T	D	
	41	A			D		S	T	T		S		D					D	S		M	M	
	41	B			D		T						D					D			S		
	41	M	40.911667°	-72.722527°	D		S	T	T		T		D					D	T		M	S	
	42	A			D		S	T			S		D	T				D			M	M	
	42	B			D		T						D					D			S		
	42	M	40.911384°	-72.723428°	D		S	T			T		D	T				D			M	S	
	43	A			D								D										
	43	B			D								D										
	43	M	40.911675	-72.721652	D								D										
	44	A			D								D										
	44	B			D								D										
	44	M	40.910957°	-72.720786°	D								D										
	45	A			D								D										
	45	B			D								D										
	45	M	40.911644°	-72.720745°	D								D										
	46	A			D								D										
	46	B			D		T						D	M									
	46	M	40.912308	-72.720756	D		T						D	S									
	47	A			D		T					T	D										
	47	B			D		T						D	T					S				
	47	M	40.913008°	-72.720699°	D		T					T	D	T					T				
	48	A			D								D						S				
	48	B			D								D										
	48	M	40.913646°	-72.720693°	D								D						T				
	49	A			D								D										
	49	B			D								D										
	49	M	40.914335	-72.720686	D								D										
	50	A			M								M										
	50	B			M								M										
	50	M	40.91501°	-72.720646°	M								M										

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SECTION 5	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Bassweed	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Bladderwort	Coontail	European Frogbit	Fanwort	Parrot Feather	Pickerelweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermoss	Watershield	White Water Lily	Wild Celery
	51	A			D								D										
	51	B			D								D										
	51	M	40.915005°	-72.719755°	D								D										
	52	A			D								D	T									
	52	B			D								D	T									
	52	M	40.91433	-72.719795	D								D	T									
	53	A			D		T						D	T				D					
	53	B			D		T						D					M					
	53	M	40.913667°	-72.719818°	D		T						D	T				D					
	54	A			D		T						D	T			T	S	T		D	D	
	54	B			D		T						D	T			T	T			D	D	
	54	M	40.912978°	-72.719808°	D		T						D	T			T	S	T		D	D	
	55	A			D		T						D					D			T	D	
	55	B			D		T						D					S				T	
	55	M	40.91229	-72.719832	D		T						D					M			T	M	
	56	A			D		S					T	D						S			S	
	56	B			D		T						D						T			T	
	56	M	40.911627°	-72.719855°	D		S					T	D						S			S	
	57	A			D		M					T	D						S			T	
	57	B			D		T						D						T				
	57	M	40.910964°	-72.719911°	D		S					T	D						S			T	
	58	A			M								M										
	58	B			M								M										
	58	M	40.911597	-72.718981	M								M										
	59	A			D								D										
	59	B			D								D										
	59	M	40.91231°	-72.718957°	D								D										
	60	A			D								D	T									
	60	B			D								D										
	60	M	40.912936°	-72.718935°	D								D	T									
	61	A			D		T					T	D						M				
	61	B			D								D										
	61	M	40.913637	-72.718928	D		T					T	D						S				
	62	A			D								D										
	62	B			D								D										
	62	M	40.914299°	-72.718872°	D								D										
	63	A			D								D										
	63	B			D								D										
	63	M	40.914975°	-72.718882°	D								D										
	64	A			D		T		S				D		S		S	D					
	64	B			D								D					M					
	64	M	40.914957	-72.717974	D		T		T				D		T		T	D					
	65	A			S								S										
	65	B			S								S										
	65	M	40.914282°	-72.717998°	S								S										
	66	A			D		T						D						T				
	66	B			S		T						S										
	66	M	40.913606°	-72.718021°	M		T						M						T				
	67	A			M		S						T						S				M
	67	B			M		S																M
	67	M	40.913613	-72.717113	M		S						T						T				M
	68	A			D		T						D				T		D				
	68	B			D								D										
	68	M	40.914277°	-72.717107°	D		T						D				T		S				
	69	A			D	S	S					T	D		M	T	S		D			D	M
	69	B			D	T	S					S	D		M	T	S		M			D	T
	69	M	40.914927°	-72.717084°	D	S	S					S	D		M	T	S		D			D	S
	70	A			M		T						S										M
	70	B			M		M						S										M
	70	M	40.914246	-72.716217	M		S						S										M
	71	A			M								M						M				
	71	B			M								M										
	71	M	40.913559°	-72.716257°	M								M						S				
	72	A			M						T		M				T		T	T			
	72	B			S								S										
	72	M	40.912878°	-72.715389°	M						T		M				T		T	T			
	73	A			S		S				S												
	73	B			S		T				S												
	73	M	40.913565	-72.715332	S		S				S												
	74	A			D		T				S	S	D						D				
	74	B			D		T					S							D				
	74	M	40.914203°	-72.71531°	D		T				T	S	S						D				
	75	A			S		T				S												
	75	B			S		T				S												
	75	M	40.914224°	-72.714451°	S		T				S												

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SECTION 5	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Bassweed	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Bladderwort	Coontail	European Frogbit	Fanwort	Parrot Feather	Pickerelweed	Small Duckweed	Smartweed sp.	Spatterdock	Water Primrose	Watermoss	Watershield	White Water Lily	Wild Celery
	76	A			S					T	S		S										S
	76	B			T						T		T										T
	76	M	40.913548	-72.714458	S					T	S		S										S
	77	A																					
	77	B																					
	77	M	40.912873°	-72.714498°																			
	78	A																					
	78	B																					
	78	M	40.912868°	-72.713607°																			
	79	A																					
	79	B																					
	79	M	40.91353°	-72.713568°																			

Peconic River
Section 6
Aquatic Macrophyte Abundance Distribution
September 8, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	64									
OVERALL	64	100%	1	2%	3	5%	7	11%	53	83%
Fanwort	61	95%	1	2%	2	3%	6	10%	52	85%
Small Duckweed	60	94%	12	20%	25	42%	12	20%	11	18%
Water Primrose	59	92%	6	10%	13	22%	13	22%	27	46%
Benthic Filamentous Algae	36	56%	17	47%	18	50%	1	3%	0	0%
Coontail	24	38%	18	75%	6	25%	0	0%	0	0%
Brazilian Elodea	19	30%	14	74%	4	21%	1	5%	0	0%
European Frogbit	14	22%	14	100%	0	0%	0	0%	0	0%
Parrot Feather	7	11%	7	100%	0	0%	0	0%	0	0%
Long-Leaf Pondweed	6	9%	6	100%	0	0%	0	0%	0	0%
Common Bladderwort	4	6%	4	100%	0	0%	0	0%	0	0%
Sago Pondweed	3	5%	1	33%	2	67%	0	0%	0	0%
Spatterdock	2	3%	2	100%	0	0%	0	0%	0	0%
Pickerelweed	2	3%	2	100%	0	0%	0	0%	0	0%
Bur-reed sp.	2	3%	2	100%	0	0%	0	0%	0	0%
Water Stargrass	1	2%	1	100%	0	0%	0	0%	0	0%
Watermoss	1	2%	1	100%	0	0%	0	0%	0	0%
Wild Celery	1	2%	0	0%	1	100%	0	0%	0	0%

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SECTION 6	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Bladderwort	Coontail	European Frogbit	Fanwort	Long-Leaf Pondweed	Parrot Feather	Pickerelweed	Sago Pondweed	Small Duckweed	Spatterdock	Water Primrose	Water Stargrass	Watermoss	Wild Celery
	1	A			T					T	T										T	
	1	B																				
	1	M	40.912636°	-72.712934°	T					T	T										T	
	2	A			S					T	S		S						S			S
	2	B			T																	T
	2	M	40.912771°	-72.712089°	S					T	T		T						T			S
	3	A			S								T	T		S			S			
	3	B			S			S								S			S			
	3	M	40.91306°	-72.711292°	S			T					T	T		S			S			
	4	A			M				S	S		M		T		S		S	M			
	4	B			M					S		M				S			M			
	4	M	40.91289°	-72.710448°	M				T	S		M		T		S		T	M			
	5	A			D	S						D		T		T	S	T	D			
	5	B			D	S						D					T		D			
	5	M	40.912756°	-72.709593°	D	S						D		T		T	S	T	D			
	6	A			D	T						D	T				S		D			
	6	B			D							D					S		T			
	6	M	40.912746°	-72.708703°	D	T						D	T				S		M			
	7	A			D	S						D					D		M			
	7	B			T						T	T										
	7	M	40.912725°	-72.707814°	M	T					T	M					S		S			
	8	A			D							D					S		M			
	8	B			D					S		D							S			
	8	M	40.912679°	-72.706474°	D					T		D					T		M			
	9	A			D		T					D					D		D			
	9	B			D							D					T		D			
	9	M	40.913166°	-72.706457°	D		T					D					M		D			
	10	A			D	S	M					D					M		D	T		
	10	B			D	S	S					D					M					
	10	M	40.913139°	-72.705878°	D	S	M					D					M		S	T		
	11	A			D	T	S			T		D					S		S			
	11	B			D	T	T			T		D					S					
	11	M	40.913127°	-72.705276°	D	T	S			T		D					S		T			
	12	A			D					T		T	T				D		T			
	12	B			T	T				T		T					T					
	12	M	40.913115°	-72.704702°	M	T				T		T	T				M		T			
	13	A			S	T	S			T		S	T				T		S			
	13	B			M							M					T		T			
	13	M	40.913565°	-72.704667°	M	T	T			T		M	T				T		S			
	14	A			S	T	S			T		S	T				T		S			
	14	B			M							M					T		T			
	14	M	40.913591°	-72.705251°	M	T	T			T		M	T				T		S			
	15	A			D	S	S			S		D					T					
	15	B			D	S						D					T					
	15	M	40.914034°	-72.705245°	D	S	T			T		D					T					
	16	A			D	S	T			T		D					T		M			
	16	B			D	S						D					S					
	16	M	40.914022°	-72.704652°	D	S	T			T		D					S		S			
	17	A			D	M	S			T		D					S					
	17	B			D	S						D					S					
	17	M	40.913996°	-72.704059°	D	M	T			T		D					S					
	18	A			D	T	S			S		D					T					
	18	B			D		S			T		D					T					
	18	M	40.913991°	-72.703466°	D	T	S			S		D					T					
	19	A			D	T	T			S		D					T		T			
	19	B			D	T				S		D					T					
	19	M	40.914448°	-72.703459°	D	T	T			S		D					T		T			
	20	A			D	T	S			T		D					S		M			
	20	B			D	S	T					D					S		T			
	20	M	40.914436°	-72.702866°	D	S	S			T		D					S		S			
	21	A			D	S	T					D		T			D		D			
	21	B			D	S						D		T			D		T			
	21	M	40.913979°	-72.702873°	D	S	T					D		T			D		M			
	22	A			D	S	T					D					S		D			
	22	B			D	S	T					D					S		S			
	22	M	40.913968°	-72.702289°	D	S	T					D					S		M			
	23	A			D		S					D					S		S			
	23	B			D		T					D					T					
	23	M	40.913942°	-72.701705°	D		S					D					S		T			
	24	A			D	S			T			D					M		M			
	24	B			D	S						D					M					
	24	M	40.914387°	-72.701078°	D	S			T			D					M		S			
	25	A			D	S			S			D					S		D			
	25	B			S	S						T					S		T			
	25	M	40.914832°	-72.70046°	M	S			T			M					S		M			

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SECTION 6	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Bladderwort	Coontail	European Frogbit	Fanwort	Long-Leaf Pondweed	Parrot Feather	Pickerelweed	Sago Pondweed	Small Duckweed	Spatterdock	Water Primrose	Water Stargrass	Watermoss	Wild Celery
	26	A			D	S			S			D					S		S			
	26	B			D	S						D					S		S			
	26	M	40.91482°	-72.699858°	D	S			T			D					S		S			
	27	A			D	T						M		T			M		D			
	27	B			D	S						T					T		D			
	27	M	40.914808°	-72.699283°	D	S						S		T			S		D			
	28	A			D							D					S		D			
	28	B			D							D					T		D			
	28	M	40.915258°	-72.699258°	D							D					S		D			
	29	A			D						S	D		S			T		D			
	29	B			D							D					S		D			
	29	M	40.915239°	-72.698675°	D						T	D		T			S		D			
	30	A			D					T		D					S		D			
	30	B			D					T		D					S					
	30	M	40.915682°	-72.698668°	D					T		D					S		S			
	31	A			D	T						D		T			M		D			
	31	B			D	T					T	D		T			T		T			
	31	M	40.915684°	-72.698056°	D	T					T	D		T			S		M			
	32	A			D	T	T			T	T	D					T		M			
	32	B			D	T	T					D					T		M			
	32	M	40.916127°	-72.698041°	D	T	T			T	T	D					T		M			
	33	A			D							D					T		M			
	33	B			D							D							T			
	33	M	40.916108°	-72.697439°	D							D					T		S			
	34	A			D					T		D					T					
	34	B			D		T			S		D					T					
	34	M	40.916103°	-72.696855°	D		T			S		D					T					
	35	A			D							D					D		D			
	35	B			D							D					D		D			
	35	M	40.915661°	-72.696889°	D							D					D		D			
	36	A			D							D					D		D			
	36	B			D							D			T		D		D			
	36	M	40.915642°	-72.696287°	D							D			T		D		D			
	37	A			D							D					D		D			
	37	B			D							D			T		D		D			
	37	M	40.915199°	-72.696302°	D							D			T		D		D			
	38	A			D							D					S		D			
	38	B			D							D					S		D			
	38	M	40.91518°	-72.695718°	D							D					S		D			
	39	A			D							D					T		D			
	39	B			D							D							D			
	39	M	40.915637°	-72.695693°	D							D					T		D			
	40	A			D							D					T		D			
	40	B			D							D							D			
	40	M	40.916068°	-72.695075°	D							D					T		D			
	41	A			D						T	D					T		D			
	41	B			D							D					M		T			
	41	M	40.915611°	-72.695101°	D						T	D					S		M			
	42	A			D						T	D					M		D			
	42	B			D							D					M		D			
	42	M	40.915189°	-72.695115°	D						T	D					M		D			
	43	A			D						T	D					M		D			
	43	B			D							D					M		D			
	43	M	40.915178°	-72.694531°	D						T	D					M		D			
	44	A			D	T					T	D					S		D			
	44	B			D	T						D					S		S			
	44	M	40.91562°	-72.694507°	D	T					T	D					S		M			
	45	A			M	T		S			T	M					T		T			
	45	B			T	T											T		T			
	45	M	40.916056°	-72.69451°	S	T		T			T	S					T		T			
	46	A			D	T	T					D					M		M			
	46	B			D		T					D					T		T			
	46	M	40.916044°	-72.693899°	D	T	T					D					S		S			
	47	A			D	S					T	D					M		D			
	47	B			D	S						D					S		S			
	47	M	40.915601°	-72.693914°	D	S					T	D					M		M			
	48	A			D	S					T	D					M		D			
	48	B			D	S						D					S		S			
	48	M	40.915582°	-72.693321°	D	S					T	D					M		M			
	49	A			D						T	D					D		M			
	49	B			T							T					T					
	49	M	40.916032°	-72.693315°	M						T	M					M		S			
	50	A			D							D					D		D			
	50	B			D		T					D					T		D			
	50	M	40.915571°	-72.692728°	D		T					D					M		D			

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SECTION 6	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Bladderwort	Coontail	European Frogbit	Fanwort	Long-Leaf Pondweed	Parrot Feather	Pickerelweed	Sago Pondweed	Small Duckweed	Spatterdock	Water Primrose	Water Stargrass	Watermoss	Wild Celery
	51	A			D							D					M		D			
	51	B			D		T			S		D					D		D			
	51	M	40.915566°	-72.692135°	D		T			T		D					D		D			
	52	A			D	T						D					M		D			
	52	B			D							D					M		D			
	52	M	40.915554°	-72.691551°	D	T						D					M		D			
	53	A			D	S						D					D		D			
	53	B			D	S						M					M		D			
	53	M	40.915104°	-72.691567°	D	S						D					D		D			
	54	A			D					M		D					T		D			
	54	B			D					T		D					M		S			
	54	M	40.915092°	-72.690955°	D					S		D					S		M			
	55	A			D					T		D					M		D			
	55	B			D							D					M		D			
	55	M	40.915094°	-72.690371°	D					T		D					M		D			
	56	A			D					S		D					D		D			
	56	B			D					T		D					D		D			
	56	M	40.91463°	-72.690368°	D					S		D					D		D			
	57	A			D					T		D					D		D			
	57	B			D					T		D					D		D			
	57	M	40.914619°	-72.689831°	D					T		D					D		D			
	58	A			D	T						D					D		D			
	58	B			D					T		D					D		D			
	58	M	40.914168°	-72.689809°	D	T				T		D					D		D			
	59	A			D	T						D					D		D			
	59	B			D					S		D					D		D			
	59	M	40.914157°	-72.689216°	D	T				T		D					D		D			
	60	A			D	T						D					D		D			
	60	B			D	T						D					D		D			
	60	M	40.9146°	-72.68921°	D	T						D					D		D			
	61	A			D	S						D					S		D			
	61	B			D	S						D					S		D			
	61	M	40.914581°	-72.688608°	D	S						D					S		D			
	62	A			D	S						D					S		D			
	62	B			D	S						D					S		D			
	62	M	40.914145°	-72.688633°	D	S						D					S		D			
	63	A			D	S						D					S		D			
	63	B			D	S						D					S		D			
	63	M	40.914126°	-72.68803°	D	S						D					S		D			
	64	A			D	S						D					S		D			
	64	B			D	S						D					S		D			
	64	M	40.914576°	-72.688024°	D	S						D					S		D			

Peconic River
Section 7
Aquatic Macrophyte Abundance Distribution
September 7, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	17									
OVERALL	17	100%	1	6%	4	24%	7	41%	5	29%
Coontail	12	71%	6	50%	5	42%	0	0%	1	8%
Benthic Filamentous Algae	11	65%	7	64%	4	36%	0	0%	0	0%
Watermoss	9	53%	6	67%	3	33%	0	0%	0	0%
Long-leaf Pondweed	8	47%	3	38%	2	25%	2	25%	1	13%
Fanwort	8	47%	5	63%	3	38%	0	0%	0	0%
Muskgrass	8	47%	2	25%	3	38%	0	0%	3	38%
Small Duckweed	7	41%	4	57%	2	29%	1	14%	0	0%
Sago Pondweed	7	41%	5	71%	2	29%	0	0%	0	0%
Leafy Pondweed	4	24%	4	100%	0	0%	0	0%	0	0%
Floating-leaf Pondweed	3	18%	0	0%	1	33%	2	67%	0	0%
Naiad sp.	3	18%	3	100%	0	0%	0	0%	0	0%
Common Waterweed	2	12%	2	100%	0	0%	0	0%	0	0%
Wild Celery	2	12%	2	100%	0	0%	0	0%	0	0%
European Frogbit	2	12%	2	100%	0	0%	0	0%	0	0%
Bur-reed sp.	1	6%	0	0%	0	0%	1	100%	0	0%
Water Stargrass	1	6%	0	0%	1	100%	0	0%	0	0%
Smartweed sp.	1	6%	0	0%	1	100%	0	0%	0	0%
Brazilian Elodea	1	6%	0	0%	1	100%	0	0%	0	0%
Parrot Feather	1	6%	1	100%	0	0%	0	0%	0	0%

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SECTION 7	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Bur-reed sp.	Common Waterweed	Coontail	European Frogbit	Fanwort	Floating-leaf Pondweed	Leafy Pondweed	Long-leaf Pondweed	Muskgrass	Naiad sp.	Parrot Feather	Sago Pondweed	Small Duckweed	Smartweed	Water Stargrass	Watermoss	Wild Celery
	1	A			M										M								S	
	1	B			M										M								S	
	1	M	40.913903°	-72.687531°	M										M								S	
	2	A			T							T												T
	2	B																						
	2	M	40.913809°	-72.686697°	T							T												T
	3	A			D					D		S		T	T				S					T
	3	B			S							S												
	3	M	40.914115°	-72.68593°	M					S		S		T	T				T					T
	4	A			S					S				S					T				S	
	4	B			S					S													S	
	4	M	40.913832°	-72.685153°	S					S				T					T				S	
	5	A			D	T				D					S				T	T			T	
	5	B			D					D					M				T	T			T	
	5	M	40.913409°	-72.685173°	D	T				D					M				T	T			T	
	6	A			S				S	T				T		S			T		S	S	T	
	6	B			S					T		T		T					T		S	T	T	
	6	M	40.913563°	-72.684741°	S				T	T		T		T		T			T		S	S	T	
	7	A			D	T				D					D				S	S			S	
	7	B			D	T									D				S	S			S	
	7	M	40.913623°	-72.684375°	D	T				S					D				S	S			S	
	8	A			D	T				T		D				S			S	T			T	
	8	B			T														T					
	8	M	40.914253°	-72.684387°	M	T				T		S				T			S	T			T	
	9	A			S	S				T					T	S								
	9	B			S	S				T					T	S								
	9	M	40.914757°	-72.683945°	S	S				T					T	S								
	10	A			M	T			T				M		S	S	T						T	
	10	B			M	T							M		S	S	T						T	
	10	M	40.915039°	-72.68314°	M	T			T				M		S	S	T						T	
	11	A			D	S				D		S	S		S									
	11	B			S	T							S		S									
	11	M	40.915127°	-72.682315°	M	S				S		T	S		S									
	12	A			S	S		M					M				T			T				
	12	B			S	S		M					M				T			T				
	12	M	40.915629°	-72.681723°	S	S		M					M				T			T				
	13	A			M	T														M			T	
	13	B			M	T														M			T	
	13	M	40.916159°	-72.681172°	M	T														M			T	
	14	A			D	T	D			S		D				D	T			D			T	
	14	B			S	T				T				S					S					
	14	M	40.916653°	-72.680573°	M	T	S			S		S		T		S	T		T	S			T	
	15	A			D	T				T	S					D		S						
	15	B			D					T						D								
	15	M	40.916749°	-72.679751°	D	T				T	T					D		T						
	16	A			D	S				T	T					D				T				
	16	B			D	S						S				D				T				
	16	M	40.916718°	-72.678865°	D	S				T	T	T				D				T				
	17	A			D					T					T	D								
	17	B			D							S			T	D								
	17	M	40.916727°	-72.677975°	D					T		T			T	D								

Peconic River
Section 8
Aquatic Macrophyte Abundance Distribution
September 7, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	12									
OVERALL	12	100%	0	0%	3	25%	5	42%	4	33%
Fanwort	9	75%	3	33%	3	33%	2	22%	1	11%
Small Duckweed	8	67%	3	38%	3	38%	2	25%	0	0%
Muskgrass	8	67%	2	25%	2	25%	4	50%	0	0%
Long-leaf Pondweed	8	67%	5	63%	1	13%	0	0%	2	25%
Benthic Filamentous Algae	7	58%	3	43%	3	43%	0	0%	1	14%
Coontail	5	42%	4	80%	0	0%	1	20%	0	0%
European Frogbit	5	42%	4	80%	1	20%	0	0%	0	0%
Parrot Feather	4	33%	3	75%	1	25%	0	0%	0	0%
Water Primrose	4	33%	4	100%	0	0%	0	0%	0	0%
Leafy Pondweed	1	8%	1	100%	0	0%	0	0%	0	0%
Spatterdock	1	8%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
September 7, 2021

SECTION 8	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Coontail	European Frogbit	Fanwort	Leafy Pondweed	Long-leaf Pondweed	Muskgrass	Parrot Feather	Water Primrose	Small Duckweed	Spatterdock
	1	A			M		T					M				
	1	B			M				T		T	M				
	1	M	40.917072°	-72.677255°	M		T		T		T	M				
	2	A			S						S		S			
	2	B			T		T				T	T	T	T		
	2	M	40.91756°	-72.676668°	S		T				S	T	S	T		
	3	A			M		T					M	T		S	
	3	B			M		T					M			S	
	3	M	40.917378°	-72.675824°	M		T					M	T		S	
	4	A			D	D	T	S	M				S		S	
	4	B			D	D			M						S	
	4	M	40.917029°	-72.675063°	D	D	T	T	M				T		S	
	5	A			D	S	D								T	
	5	B			S	S	S				S					
	5	M	40.916855°	-72.674208°	M	S	M				T				T	
	6	A			S				S	T		S	S			
	6	B			S	S			S							
	6	M	40.916912°	-72.673356°	S	T			S	T		T	T			
	7	A			M			S				M		S	M	
	7	B			M	S			M			M			M	
	7	M	40.917396°	-72.67275°	M	T		T	S			M		T	M	
	8	A			M	T		T	M		T	M				T
	8	B			M	S			M		T	M		T		
	8	M	40.917642°	-72.671964°	M	S		T	M		T	M		T		T
	9	A			S	T		S	S		T	S			S	
	9	B			S	T		S	S		T	S			S	
	9	M	40.917574°	-72.671078°	S	T		S	S		T	S			S	
	10	A			D	S		T	D			S		S	M	
	10	B			M	S			M		T	S			S	
	10	M	40.917135°	-72.670333°	D	S		T	D		T	S		T	M	
	11	A			D				T		D				T	
	11	B			D				T		D				T	
	11	M	40.917622°	-72.670192°	D				T		D				T	
	12	A			D				T		D				T	
	12	B			D				T		D				T	
	12	M	40.917622°	-72.669324°	D				T		D				T	

Peconic River
Section 9
Aquatic Macrophyte Abundance Distribution
September 7, 2021

	Total		Trace		Sparse		Medium		Dense	
	Sites	%	Sites	%	Sites	%	Sites	%	Sites	%
TOTAL SITES	17									
OVERALL	14	82%	0	0%	5	36%	4	29%	5	36%
Benthic Filamentous Algae	13	76%	10	77%	1	8%	2	15%	0	0%
Duckweed	12	71%	8	67%	2	17%	2	17%	0	0%
Muskgrass	11	65%	4	36%	6	55%	1	9%	0	0%
Water Primrose	10	59%	4	40%	5	50%	0	0%	1	10%
Fanwort	9	53%	2	22%	1	11%	2	22%	4	44%
European Frogbit	6	35%	4	67%	2	33%	0	0%	0	0%
Coontail	2	12%	0	0%	2	100%	0	0%	0	0%
Sago Pondweed	2	12%	1	50%	1	50%	0	0%	0	0%
Brazilian Elodea	2	12%	2	100%	0	0%	0	0%	0	0%
Pickerelweed	2	12%	2	100%	0	0%	0	0%	0	0%
Curly-leaf Pondweed	1	6%	1	100%	0	0%	0	0%	0	0%
Naiad sp.	1	6%	1	100%	0	0%	0	0%	0	0%
Common Waterweed	1	6%	1	100%	0	0%	0	0%	0	0%
Parrot Feather	1	6%	1	100%	0	0%	0	0%	0	0%
Long-leaf pondweed	1	6%	1	100%	0	0%	0	0%	0	0%

Peconic River
Aquatic Vegetation Survey
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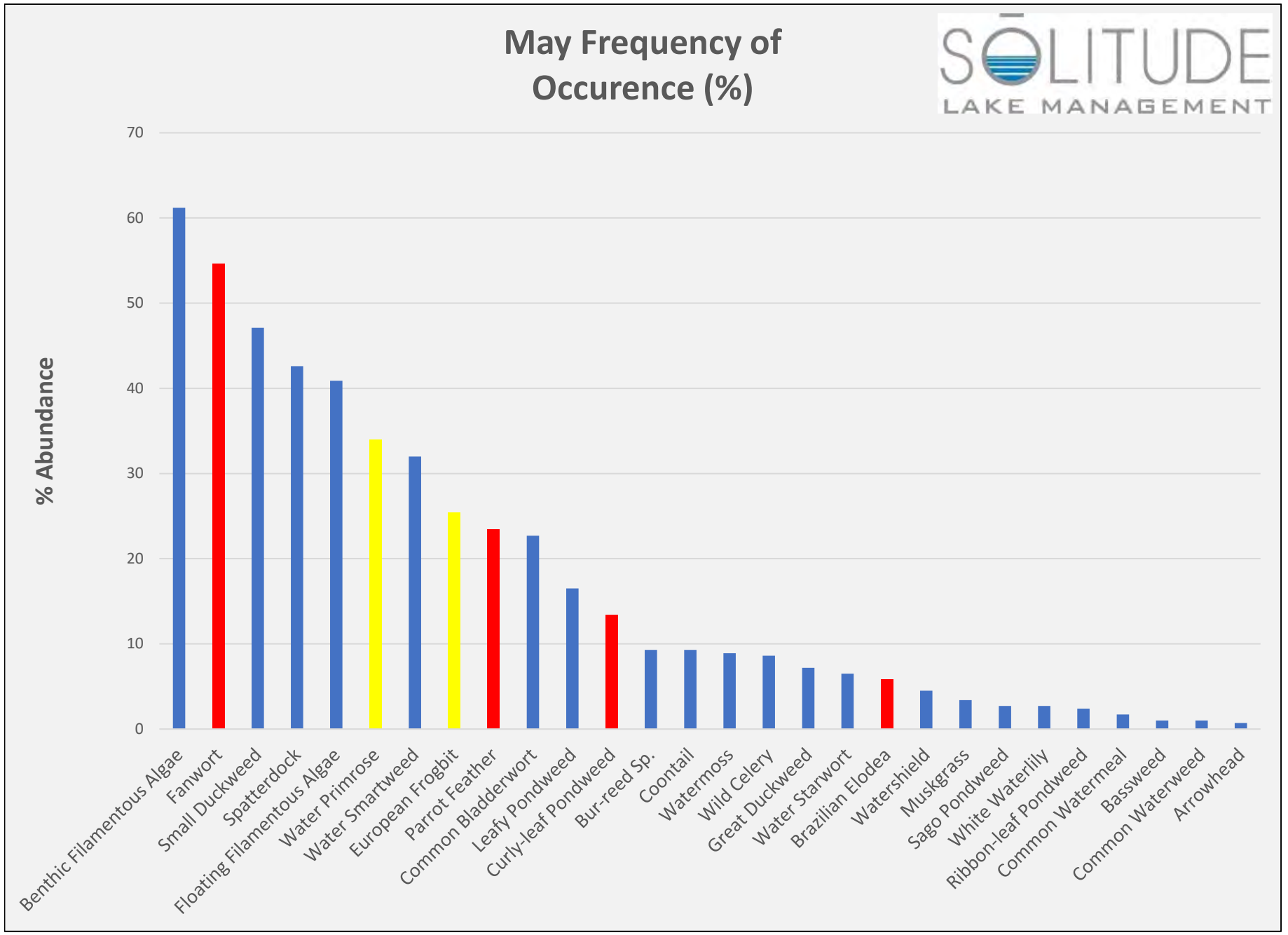
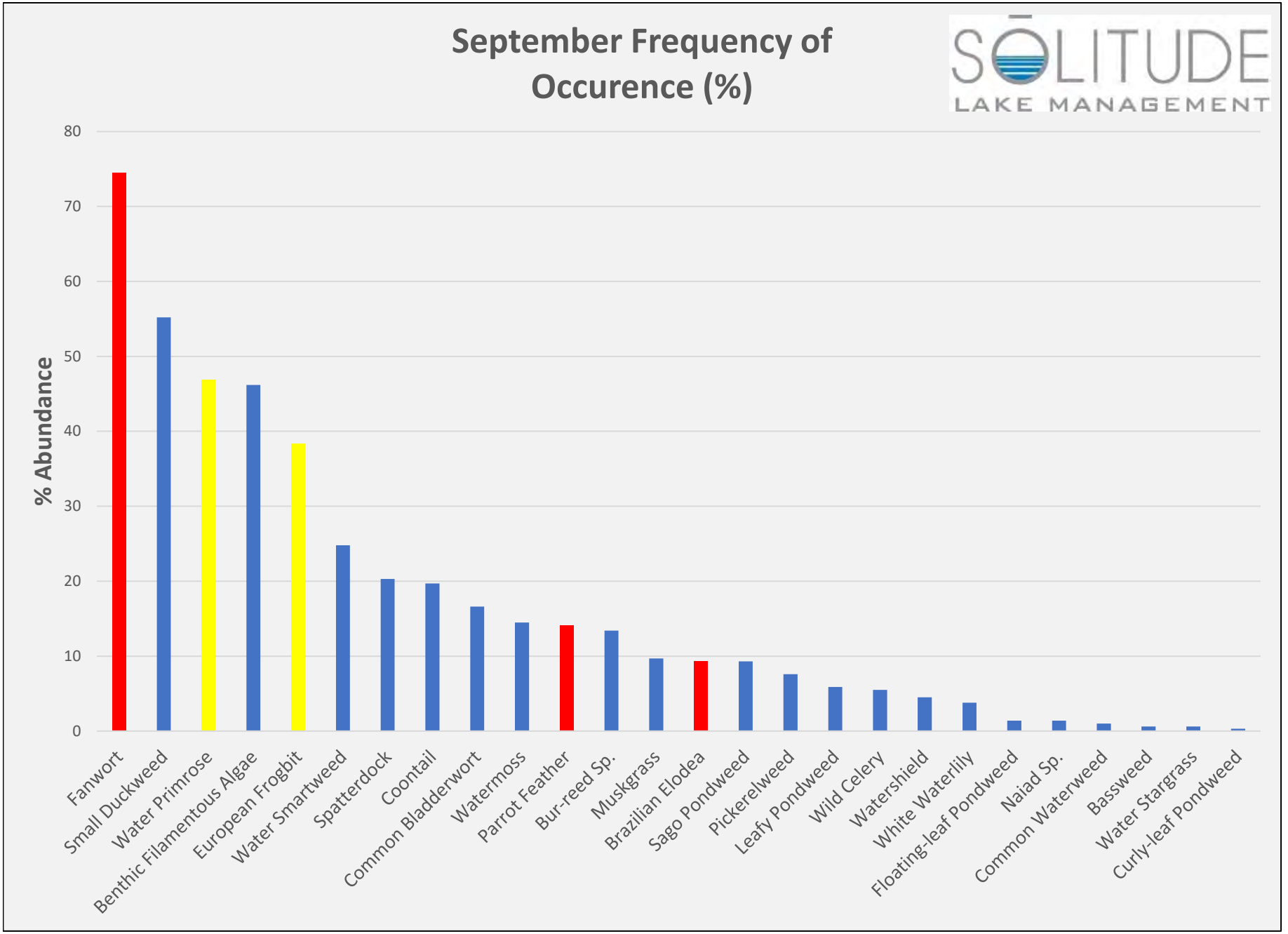
SECTION 9	STATION	SAMPLE#	LATITUDE (NAD83)	LONGITUDE (NAD83)	OVERALL	Benthic Filamentous Algae	Brazilian Elodea	Common Waterweed	Coontail	Curly-leaf Pondweed	Duckweed	European Frogbit	Fanwort	Long-leaf pondweed	Muskgrass	Naiad sp.	Parrot Feather	Pickerelweed	Sago Pondweed	Water Primrose
	1	A			M	T					T				S					M
	1	B			S	T									S					
	1	M	40.917352°	-72.668332°	M	T					T				S					S
	2	A			M	T					T				M					S
	2	B			T	T					T				T		T			T
	2	M	40.916902°	-72.668366°	S	T					T				S		T			S
	3	A			D	T					T		D						T	
	3	B			D	T					T		D							
	3	M	40.916882°	-72.667727°	D	T					T		D						T	
	4	A			D	T					T		D							T
	4	B			D	T					T		D							
	4	M	40.916428°	-72.667168°	D	T					T		D							T
	5	A			S	T		T	S						S					
	5	B			S	T		T	S						S					
	5	M	40.915971°	-72.667189°	S	T		T	S						S					
	6	A			M	S							D		M					
	6	B																		
	6	M	40.915952°	-72.666582°	S	T							S		S					
	7	A			D	T					T	M	D		T					M
	7	B			D	T					T		D							
	7	M	40.916416°	-72.666566°	D	T					T	S	D		T					S
	8	A			D	T					D	M	D		M					T
	8	B			S						T		T		S					T
	8	M	40.91639°	-72.665983°	M	T					M	S	M		M					T
	9	A			S				S		T			T						S
	9	B			S				S											S
	9	M	40.915947°	-72.665998°	S				S		T			T						S
	10	A			D	S					T		D		S					
	10	B			D	S					T		D		S					
	10	M	40.915928°	-72.665415°	D	S					T		D		S					
	11	A			D	D	T				S	S	T		T					S
	11	B			S	S					S		T		T					
	11	M	40.916392°	-72.665398°	M	M	T				S	T	T		T					T
	12	A			D	M	T				M	S	T		M					D
	12	B			M	M					M				T					M
	12	M	40.916373°	-72.664796°	D	M	T				M	T	T		S					D
	13	A			M	S				T	T	T	M		T	T		T		T
	13	B			M					T	T		M			T				S
	13	M	40.915916°	-72.664822°	M	T				T	T	T	M		T	T		T		S
	14	A																		
	14	B																		
	14	M	40.916361°	-72.664194°																
	15	A																		
	15	B																		
	15	M	40.916348°	-72.663601°																
	16	A			S	T					S	T			T			T	S	T
	16	B			S						S				T				T	
	16	M	40.915468°	-72.664244°	S	T					S	T			T			T	S	T
	17	A																		
	17	B																		
	17	M	40.915523°	-72.663765°																

Appendix G: Frequency of Occurrence Graphs


May Frequency of Occurence (%)
SOLITUDE LAKE MANAGEMENT
% Abundance
70
60
50
40
30
20
10
0
Benthic Filamentous Algae
Fanwort
Small Duckweed
Spatterdock
Floating Filamentous Algae
Water Primrose
Water Smartweed
European Frogbit
Parrot Feather
Common Bladderwort
Leafy Pondweed
Curly-leaf Pondweed
Bur-reed Sp.
Coontail
Watermoss
Wild Celery
Great Duckweed
Water Starwort
Brazilian Elodea
Watershield
Muskgrass
Sago Pondweed
White Waterlily
Ribbon-leaf Pondweed
Common Watermeal
Bassweed
Common Waterweed
Arrowhead


September Frequency of Occurence (%)
SOLITUDE LAKE MANAGEMENT
% Abundance
80
70
60
50
40
30
20
10
0
Fanwort
Small Duckweed
Water Primrose
Benthic Filamentous Algae
European Frogbit
Water Smartweed
Spatterdock
Coontail
Common Bladderwort
Watermoss
Parrot Feather
Bur-reed Sp.
Muskgrass
Brazilian Elodea
Sago Pondweed
Pickerelweed
Leafy Pondweed
Wild Celery
Watershield
White Waterlily
Floating-leaf Pondweed
Naiad Sp.
Common Waterweed
Bassweed
Water Stargrass
Curly-leaf Pondweed

Appendix H: Visual Surveys and Polygon Mapping (Sections 2, 5 and 6)

Peconic River Visual Survey					
Section 2	Date: 7/22/21				
Polygon Number	**LAT**	**LONG**	**Species**	**Observed Abundance**	**Mean**
1	40.900987	-72.755922	European Frogbit	Trace to Sparse	Sparse
2	40.901407	-72.754525	European Frogbit	Trace to Sparse	Sparse
3	40.90131	-72.754541	European Frogbit	Trace	Trace
4	40.90149	-72.753027	European Frogbit	Sparse to Moderate	Moderate
5	40.901681	-72.75299	European Frogbit	Sparse to Moderate	Moderate
6	40.901923	-72.752645	European Frogbit	Sparce to Dense	Moderate
7	40.902416	-72.750858	European Frogbit	Trace to Moderate	Sparse
8	40.903462	-72.74909	European Frogbit	Trace to Sparse	Sparse
9	40.903831	-72.748581	European Frogbit	Trace	Trace
10	40.903992	-72.748339	Water Primrose	Trace to Sparse	Sparse
11	40.904236	-72.747975	European Frogbit	Trace to Sparse	Sparse
11	40.904236	-72.747975	Water Primrose	Trace	Trace
12	40.903859	-72.747487	European Frogbit	Trace to Sparse	Sparse
13	40.903603	-72.747292	European Frogbit	Trace to Sparse	Sparse
13.5	40.903356	-72.747625	Water Primrose	Trace	Trace
14	40.904827	-72.746815	European Frogbit	Sparse to Dense	Moderate
14.5	40.905452	-72.745668	Water Primrose	Trace to Dense	Moderate
15	40.904594	-72.745974	European Frogbit	Sparse to Dense	Moderate
15	40.904594	-72.745974	Water Primrose	Trace to Dense	Moderate
16	40.905093	-72.744117	European Frogbit	Trace to Sparse	Sparse
16	40.905093	-72.744117	Water Primrose	Sparse to Moderate	Moderate
17	40.90557	-72.744075	European Frogbit	Trace to Sparse	Sparse
17	40.90557	-72.744075	Water Primrose	Trace	Trace

Peconic River Visual Survey				
Section 5	**Date: 8/31/21**			
Polygon Number	**LAT**	**LONG**	**Species**	**Observed Abundance**
1	40.914127	-72.714916	Water Primrose	Moderate
1	40.914127	-72.714916	European Frogbit	Trace
2	40.91491	-72.717189	Water Primrose	Sparse
3	40.915281	-72.717412	Water Primrose	Moderate
3	40.915281	-72.717412	European Frogbit	Trace
4	40.915244	-72.721343	Water Primrose	Trace
5	40.914914	-72.723557	Water Primrose	Trace
6	40.914935	-72.72467	Water Primrose	Trace
6	40.914935	-72.72467	European Frogbit	Trace
7	40.913296	-72.728535	Water Primrose	Dense
7	40.913296	-72.728535	European Frogbit	Moderate
8	40.912136	-72.728721	Water Primrose	Moderate
8	40.912136	-72.728721	European Frogbit	Dense
9	40.912386	-72.72652	Water Primrose	Trace
9	40.912386	-72.72652	European Frogbit	Dense
10	40.912873	-72.724966	Water Primrose	Trace
10	40.912873	-72.724966	European Frogbit	Moderate
11	40.912927	-72.721135	Water Primrose	Trace
11	40.912927	-72.721135	European Frogbit	Sparse
12	40.912643	-72.718588	Water Primrose	Trace
12	40.912643	-72.718588	European Frogbit	Sparse
13	40.913113	-72.717339	Water Primrose	Trace
14	40.91303	-72.71602	Water Primrose	Sparse
15	40.912558	-72.714308	Water Primrose	Trace

Peconic River Visual Survey					
Section 6	Date: 7/22/21				
Polygon Number	**LAT**	**LONG**	**Species**	**Observed Abundance**	**Mean**
1	40.914778	-72.689481	Water Primrose	Dense	Dense
1	40.914778	-72.689481	European Frogbit	Trace	Trace
2	40.915666	-72.693902	Water Primrose	Dense	Dense
2	40.915666	-72.693902	European Frogbit	Trace	Trace
3	40.916021	-72.696473	Water Primrose	Sparse to Moderate	Moderate
3	40.916021	-72.696473	European Frogbit	Trace	Trace
4	40.915949	-72.698271	Water Primrose	Sparse to Moderate	Moderate
4	40.915949	-72.698271	European Frogbit	Trace	Trace
5	40.915361	-72.699395	Water Primrose	Sparse to Moderate	Moderate
5	40.915361	-72.699395	European Frogbit	Trace	Trace
6	40.914769	-72.700664	Water Primrose	Trace to Sparse	Sparse
6	40.914769	-72.700664	European Frogbit	Trace to Sparse	Sparse
7	40.914163	-72.701858	Water Primrose	Trace to Sparse	Sparse
7	40.914163	-72.701858	European Frogbit	Trace	Trace
8	40.914486	-72.703532	Water Primrose	Trace	Trace
8	40.914486	-72.703532	European Frogbit	Trace	Trace
9	40.913961	-72.70515	Water Primrose	Trace	Trace
9	40.913961	-72.70515	European Frogbit	Trace	Trace
10	40.91321	-72.706515	Water Primrose	Trace to Sparse	Sparse
10	40.91321	-72.706515	European Frogbit	Trace	Trace
11	40.912923	-72.708745	Water Primrose	Trace to Sparse	Sparse
11	40.912923	-72.708745	European Frogbit	Trace to Sparse	Sparse
12	40.913175	-72.710958	Water Primrose	Trace	Trace
12	40.913175	-72.710958	European Frogbit	Trace to Sparse	Sparse
13	40.912878	-72.712087	Water Primrose	Trace	Trace
13	40.912878	-72.712087	European Frogbit	Trace to Sparse	Sparse
14	40.912662	-72.712097	Water Primrose	Trace	Trace
14	40.912662	-72.712097	European Frogbit	Trace	Trace
15	40.912932	-72.710914	Water Primrose	Trace to Sparse	Sparse
15	40.912932	-72.710914	European Frogbit	Trace	Trace
16	40.912595	-72.709071	Water Primrose	Trace	Trace
16	40.912595	-72.709071	European Frogbit	Trace to Sparse	Sparse
17	40.912402	-72.707203	Water Primrose	Trace to Sparse	Sparse
17	40.912402	-72.707203	European Frogbit	Trace	Trace
18	40.912525	-72.706209	Water Primrose	Trace	Trace
18	40.912525	-72.706209	European Frogbit	Trace	Trace
19	40.913014	-72.705842	Water Primrose	Trace to Sparse	Sparse
19	40.913014	-72.705842	European Frogbit	Trace	Trace
20	40.913801	-72.703377	Water Primrose	Trace	Trace
20	40.913801	-72.703377	European Frogbit	Trace	Trace
21	40.913911	-72.701614	Water Primrose	Trace	Trace
21	40.913911	-72.701614	European Frogbit	Trace	Trace
22	40.915294	-72.698521	Water Primrose	Sparse to Moderate	Moderate
22	40.915294	-72.698521	European Frogbit	Sparse	Sparse
23	40.915177	-72.696126	Water Primrose	Trace	Trace
23	40.915177	-72.696126	European Frogbit	Trace	Trace
24	40.915225	-72.692312	Water Primrose	Trace to Moderate	Sparse
24	40.915225	-72.692312	European Frogbit	Trace	Trace
25	40.914286	-72.689532	Water Primrose	Sparse to Dense	Moderate
25	40.914286	-72.689532	European Frogbit	Trace	Trace

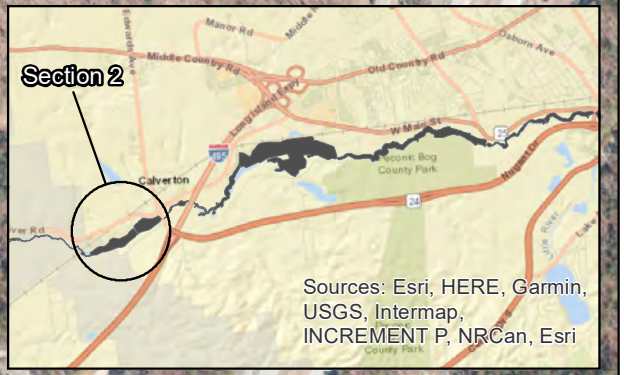
PECONIC RIVER VISUAL SURVEY - SECTION 2
WATER PRIMROSE(*Ludwigia* sp.) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

Survey Date: 7/22/21
Biologist: JP
Estimated area of Ludwigia growth: 5.3 acres

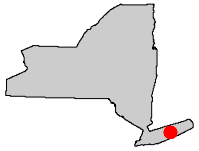
Plant Density

- Trace Plants
- Sparse Plants
- Moderate Plants
- Dense Plants



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Peconic River
Suffolk County, New York
40.914°, -74.724°



Ludwigia Control Project, Peconic River, New York

NYSDEC & Stony Brook Universtiy

0 60 120 Meters

File: Peconic_Sec2_VisSurvey_072221_Primrose

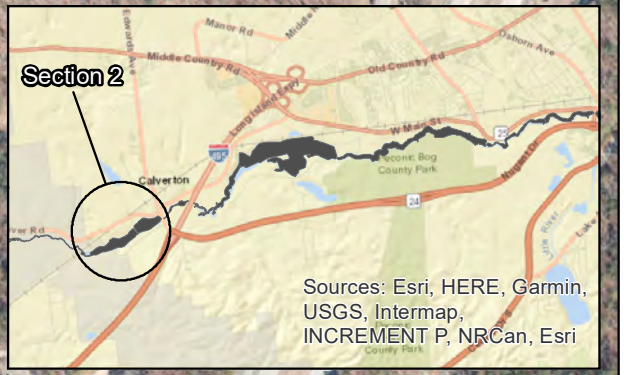
PECONIC RIVER VISUAL SURVEY - SECTION 2
EUROPEAN FROG-BIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

Survey Date: 7/22/21
Biologist: JP

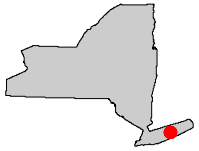
Plant Density

- Trace Plants
- Sparse Plants
- Moderate Plants
- Dense Plants



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Peconic River
Suffolk County, New York
40.914°, -74.724°



Ludwigia Control Project, Peconic River, New York

NYSDEC & Stony Brook Universtiy

0 60 120 Meters

File: Peconic_Sec2_VisSurvey_072221_Frogbit

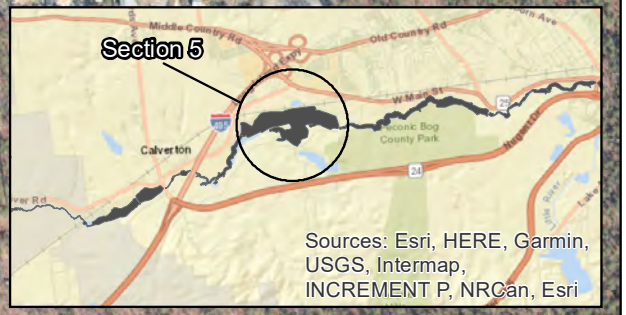
PECONIC RIVER VISUAL SURVEY - SECTION 5
WATER PRIMROSE (*Ludwigia* sp.) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

Survey Date: 8/31/21
Biologist: VT
Estimated area of Ludwigia growth: 8.7 acres

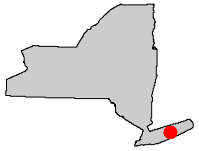
Plant Density

- Trace Plants
- Sparse Plants
- Moderate Plants
- Dense Plants



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Peconic River
Suffolk County, New York
40.914°, -74.724°



Ludwigia Control Project, Peconic River, New York

NYSDEC & Stony Brook Universtiy

0 75 150 Meters

File: Peconic_Sec5_VisSurvey_072221_Primrose

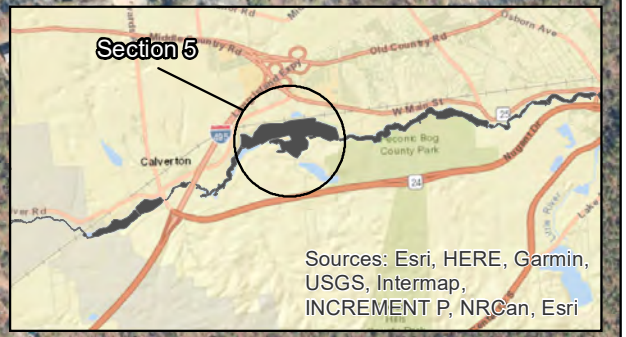
PECONIC RIVER VISUAL SURVEY - SECTION 5
EUROPEAN FROG-BIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

Survey Date: 8/31/21
Biologist: VT

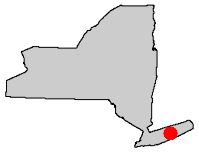
Plant Density

- Trace Plants
- Sparse Plants
- Moderate Plants
- Dense Plants



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Peconic River
Suffolk County, New York
40.914°, -74.724°



Ludwigia Control Project, Peconic River, New York

NYSDEC & Stony Brook Universtiy

0 80 160 Meters

File: Peconic_Sec5_VisSurvey_072221_Frogbit

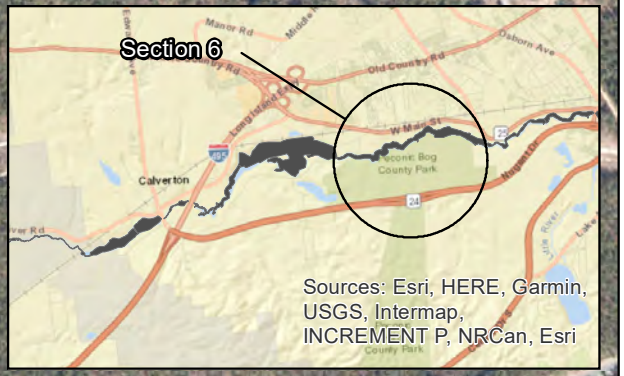
PECONIC RIVER VISUAL SURVEY - SECTION 6
WATER PRIMROSE (*Ludwigia* sp.) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

Survey Date: 7/22/21
Biologist: JP
Estimated area of Ludwigia growth: 25.4 acres

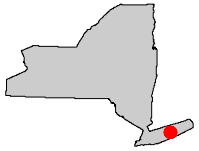
Plant Density

- Trace Plants
- Sparse Plants
- Moderate Plants
- Dense Plants



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Peconic River
Suffolk County, New York
40.914°, -74.724°



Ludwigia Control Project, Peconic River, New York

NYSDEC & Stony Brook Universtiy

0 105 210 Meters

File: Peconic_Sec6_VisSurvey_072221_Primrose

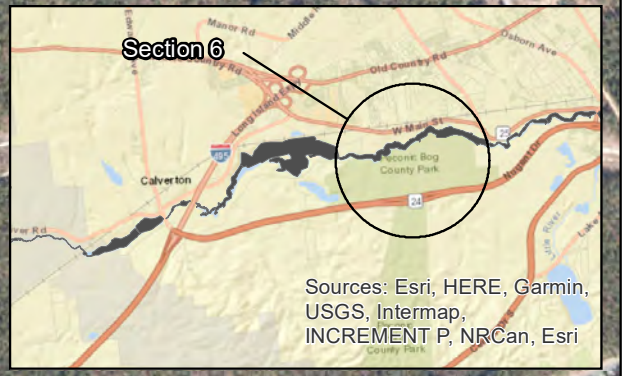
PECONIC RIVER VISUAL SURVEY - SECTION 6
EUROPEAN FROG-BIT (*Hydrocharis morsus-ranae*) DISTRIBUTION

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

Survey Date: 7/22/21
Biologist: JP

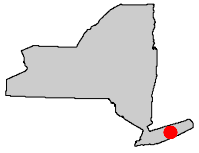
Plant Density

- Trace Plants
- Sparse Plants
- Moderate Plants
- Dense Plants



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Peconic River
Suffolk County, New York
40.914°, -74.724°



Ludwigia Control Project, Peconic River, New York

NYSDEC & Stony Brook Universtiy

0 105 210 Meters

File: Peconic_Sec6_VisSurvey_072221_Frogb

Appendix I: Treatment Area Pictures – August 26th 2021

Appendix J: Treatment Area Pictures – September 9th 2021