



PROPOSAL

SUBMITTED TO: Scott Gurney
Park Ranger - Interpretation & Natural Resources
Sagamore Hill National Historic Site / National Park Service

August 25, 2022

DATE:
Vernal Pool Survey – March 21, 2022

RE:

On March 21, 2022, Seatuck staff (Enrico Nardone and John Turner) visited Sagamore Hill's two freshwater ponds to assess the presence and abundance of breeding amphibians. One pond (Parking Lot Pond") is located just off the northeast corner of the parking lot; the second ("Heron Pond") is located in the woodlands in the southeastern portion of the property, just off the southern side of the nature trail loop. Air temperatures ranged from the mid-50s at the beginning of the visit (approx. 7:30 pm) and dropped to 51 degrees at the end. Skies were clear and there was no precipitation.

Parking Lot Pond –

As in the past, the pond near the parking lot was very productive. Seven wood frogs were observed in breeding behavior, including a pair in amplexus. Three dead frogs were also found – something that is not uncommon during breeding season; it happens during an explosive breeding episode when a group of animals forms an amplexus cluster, resulting in one or more animals drowning (often a female). A total of 161 wood frog egg masses were counted, most of which were concentrated in the northwestern portion of the pond. In addition to the evidence of robust wood frog breeding, there were also three adult spotted salamanders observed and 30 salamander egg masses. One spring peeper was calling during the survey.

Heron Pond –

For the second consecutive year Heron Pond has produced disappointing results despite being embedded in a largely undisturbed and healthy woodland. No adult frogs were observed or heard, and there were no egg masses or other evidence of reproductive activity. This paucity of reproductive activity of wood frogs and spotted salamanders may be due to the abundance of leaves, branches and other organic debris filling the pond, which has created conditions that seem to be too shallow for successful breeding. Both species require an unobstructed water column just below the surface where they can lay their egg masses. We did have spring peepers last year and that makes some sense in that they lay their small eggs individually and are less dependent on an unobstructed water column.

Recommendations

After surveying the Sagamore Hill ponds for two breeding seasons, we have the following management recommendations:

- Consider planting additional shrubs and trees on the southern side of the parking lot pond in an effort to enlarge the forested envelope around the wetland. Doing so would both create more upland habitat for the salamander and frog species (wood frogs and spring peepers), which are terrestrial throughout the year (except for the few weeks that they're breeding in the pond) and rely on trees (spring peepers) and robust leaf litter (spotted salamanders and wood frogs). It would also improve the vegetated buffer between the pond and the roadway and parking lot, which would help reduce sedimentation and filter pollutants.
- Consider conducting water quality testing of the parking lot pond and the storm drain leading into it from the parking lot. While we've reached the conclusion that this water source is important to maintain the pond's water levels, we remain concerned that, over time, the input of pollutants and sediments might impact the health of the pond (and its amphibian populations).

Thank you for the opportunity to conduct the pond surveys – we're grateful to learn more about Sagamore Hill's extensive natural resources. Please let us know if you have any questions.

Submitted by:

John Turner
Sr. Conservation Policy Advocate
Seatuck Environmental Association