

Bristol Pond Boat and Monkton Pond Boat Launch Stewardship Summary June 12th – September 6th, 2021



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Boat Launch Steward Initiative)
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Introduction

Bristol Pond and Monkton Pond are popular destinations for anglers, recreational boaters, and wildlife enthusiasts. As of 2021, there are three known aquatic invasive species (AIS) in Bristol Pond: European Frogbit (*Hydrocharis morsus-ranae*), Eurasian Watermilfoil (*Myriophyllum spicatum*), and Brittle Naiad (*Najas minor*) (discovered by the boat launch stewards in 2021 at Bristol Pond) and there are three known AIS in Monkton Pond: Eurasian Watermilfoil, Curly-leaf Pondweed (*Potamogeton crispus*), and Banded Mystery Snails (*Viviparus georgianus*). Therefore, Bristol Pond and Monkton Pond could function as points of introduction for the spread of AIS in the Lewis Creek watershed and throughout the State. The purpose of establishing boat launch steward programs at Bristol Pond and Monkton Pond was to reduce the risk of spreading AIS from Bristol Pond and Monkton Pond to other waterbodies and to prevent the further introduction of AIS to Bristol Pond and Monkton Pond.

Lewis Creek Association (LCA) modeled its Boat Launch Steward Program after the Lake Champlain Basin Program's (LCBP) boat launch steward program and the Vermont Department of Environmental Conservation's Public Access Greeter Program. This was the second year the Boat Launch Steward Program occurred at Bristol Pond and the first year it occurred at Monkton Pond. Funding for the program was provided by the LCBP and NEIW PCC. The goal of the program was to prevent the spread of AIS by inspecting watercraft for AIS and biological materials, identifying and removing suspicious specimens, collecting data, and educating the public about AIS spread prevention.

The boat launch stewards were present at the boat launches at Bristol Pond and Monkton Pond from Friday-Sunday, typically from 9 AM until 3 PM on Fridays and from 9 AM until 4 PM on Saturday and Sundays. The boat launch stewards were asked to record: the watercraft type, group size, state of the watercraft registration, if applicable, if the visitor was launching or retrieving, the time of inspection, if the visitor had any previous contact with a boat launch steward, if the visitor accepted or refused the inspection, if the visitor took any AIS spread prevention steps, what species were found on the watercraft, the last waterbody visited in the two weeks prior to the inspection, and what waterbody the visitor would visit next. The steward also collected plants that they couldn't identify, which were then identified by the QA Project Officer. The following figures and tables are a summary of the data collected at Bristol Pond and Monkton Pond from June 12th, 2021 through September 6th, 2021.

Data Summary

Over the course of the summer, the LCA boat launch stewards interacted with 425 watercraft at Bristol Pond and 173 watercraft at Monkton Pond. At Bristol Pond 15 visitors refused to have their watercraft inspected for AIS, while 9 visitors refused to have their watercraft inspected for AIS at Monkton Pond. 48.5% of the watercraft that the boat launch stewards interacted with at Bristol Pond were launching their boats. 50.3% of the watercraft that the boat launch stewards interacted with at Monkton Pond were launching their boats. The most interactions with visitors occurred in July (Figure 1).

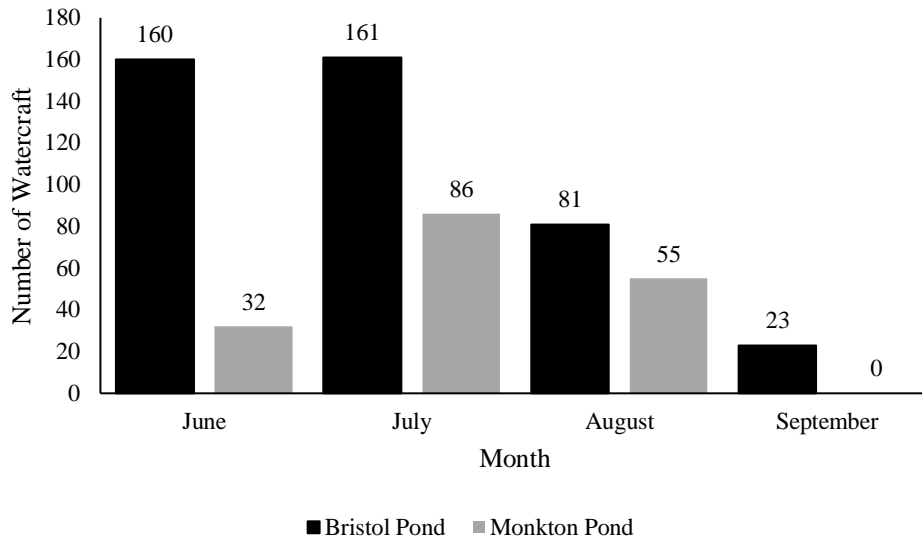


Figure 1. Number of watercrafts at Bristol Pond and Monkton Pond, Vermont by month during the summer of 2021.

LCA’s boat launch stewards were typically at the launch from 9 AM until 3 PM on Fridays, and from 9 AM until 4 PM on Saturdays and Sundays. However, these hours and days sometimes varied. LCA’s boat launch stewards interacted with most visitors between 11 AM and 2 PM at Bristol Pond and between 1 PM and 2 PM at Monkton Pond (Figure 2). 69% of visitors that the boat launch stewards interacted with at Bristol Pond and 73% of visitors that the boat launch stewards interacted with at Monkton Pond occurred between 10 AM and 2 PM.

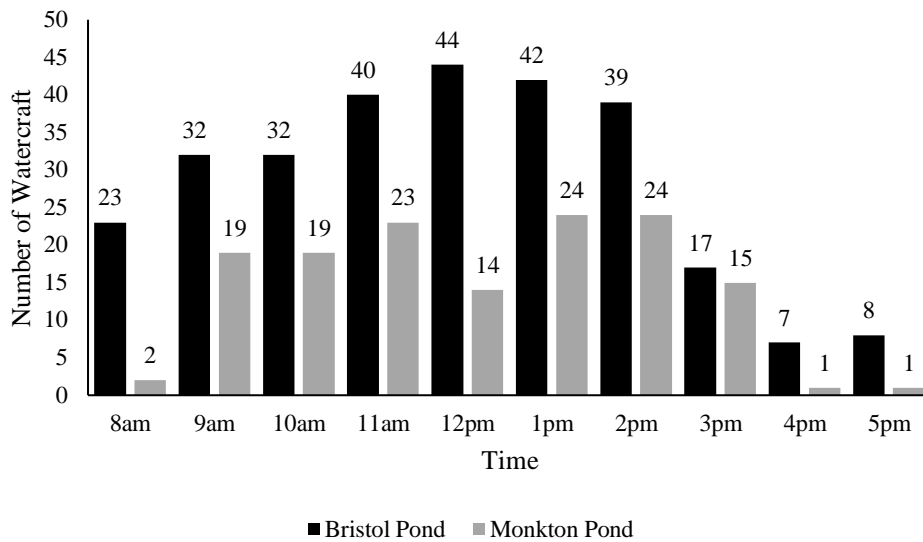


Figure 2. Number of watercrafts launching or retrieving from Bristol Pond and Monkton Pond, Vermont by time of day during the summer of 2021.

Sunday and Saturday were typically the busiest days at the boat launches. 74.8% of interactions at Bristol Pond occurred on Sunday and Saturday, whereas 83.1% of interactions at Monkton Pond occurred on Sunday and Saturday (Figure 3). The majority of watercrafts being used at Bristol Pond and Monkton Pond were kayaks, followed by motorboats, and canoes (Figure 4). The group size of visitors ranged from one to five people per group, with two people per group occurring most frequently at both ponds (Figure 5). The vast majority of watercraft that were registered came from Vermont (Table 1).

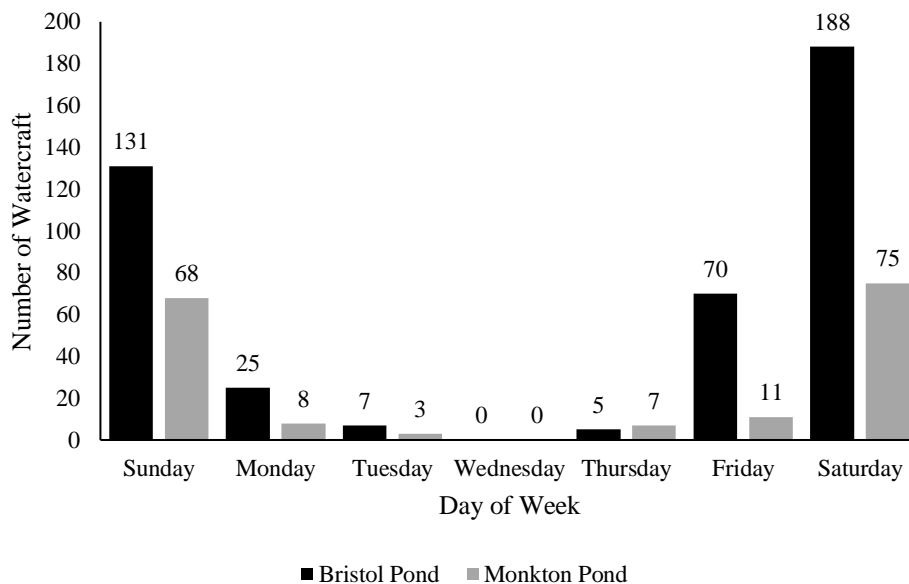


Figure 3. Number of watercrafts at Bristol Pond and Monkton Pond, Vermont by day of the week during the summer of 2021.

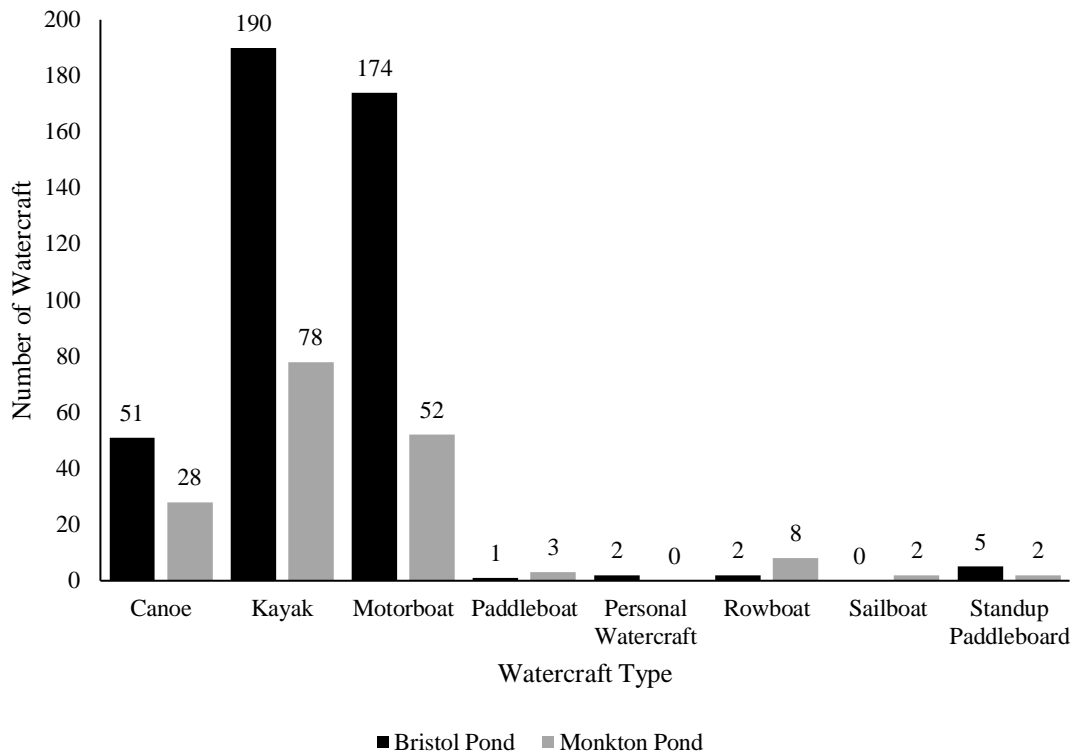


Figure 4. Number of watercrafts at Bristol Pond and Monkton Pond, Vermont by watercraft type during the summer of 2021.

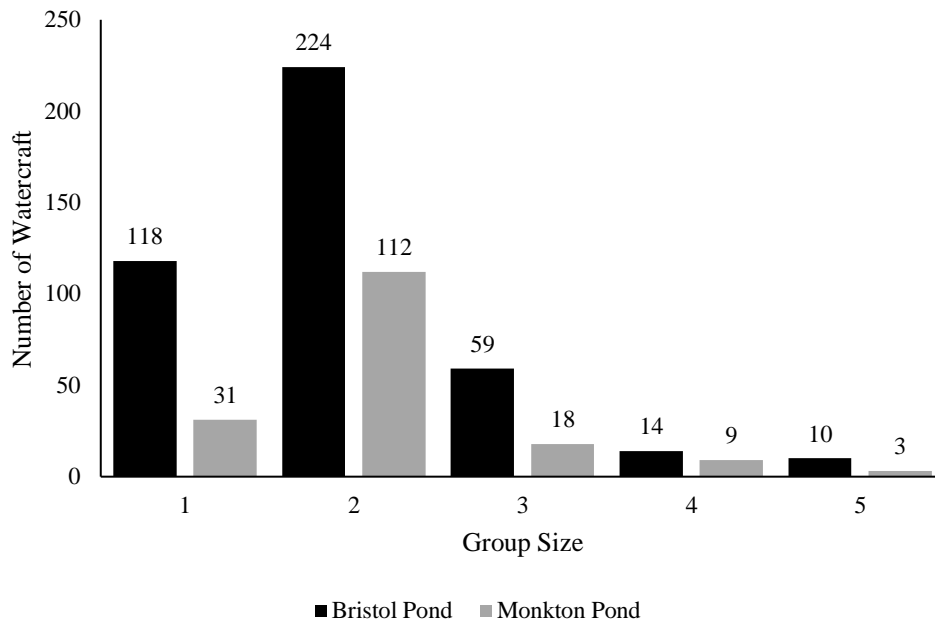


Figure 5. Number of watercrafts at Bristol Pond and Monkton Pond, Vermont by group size during the summer of 2021.

Table 1. Number of watercrafts at Bristol Pond and Monkton Pond, Vermont by state registration during the summer of 2021.

State of Registration	Bristol Pond	Monkton Pond
AZ	2	4
CT	1	2
ME	2	4
MN	1	2
NH	6	12
NJ	3	6
NY	3	6
VT	160	319

Most visitors have had prior contact with a boat launch steward, either from our program or elsewhere (Figure 6). The boat launch stewards asked each visitor if they took any measures to prevent the spread of AIS prior to each inspection. The boat launch stewards determined that the visitor took AIS spread prevention measures if the visitor clearly connected their actions to preventing the spread of AIS. Interestingly, we found that the visitors who had no prior contact with boat launch stewards did not take AIS spread prevention measures. Approximately 73% of visitors at Bristol Pond and 64% of visitors at Monkton Pond took AIS spread prevention measures before visiting the ponds (Figure 7).

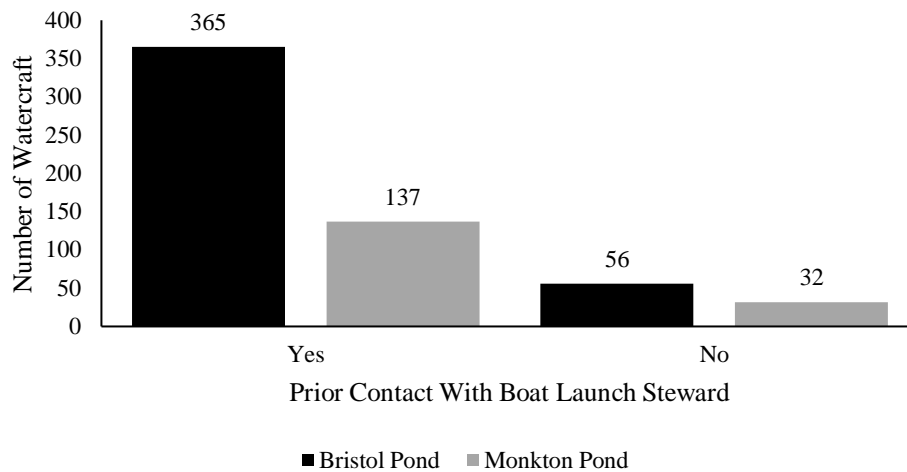


Figure 7. Number of watercraft owners who had prior contact with a boat launch steward at Bristol Pond and Monkton Pond, Vermont during the summer of 2021.

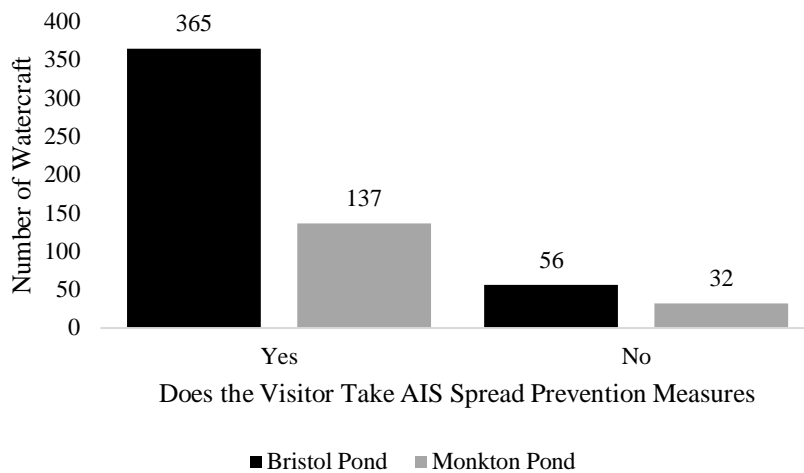


Figure 8. Number of watercraft owners who took AIS spread prevention measures before visiting Bristol Pond and Monkton Pond, Vermont during the summer of 2021.

Of the visitors who did take AIS spread prevention measures, most either washed and/or inspected their watercraft (Figure 9). If the visitor did not know how to prevent the spread of AIS, the boat launch stewards would educate the visitor on the various AIS spread prevention measures.

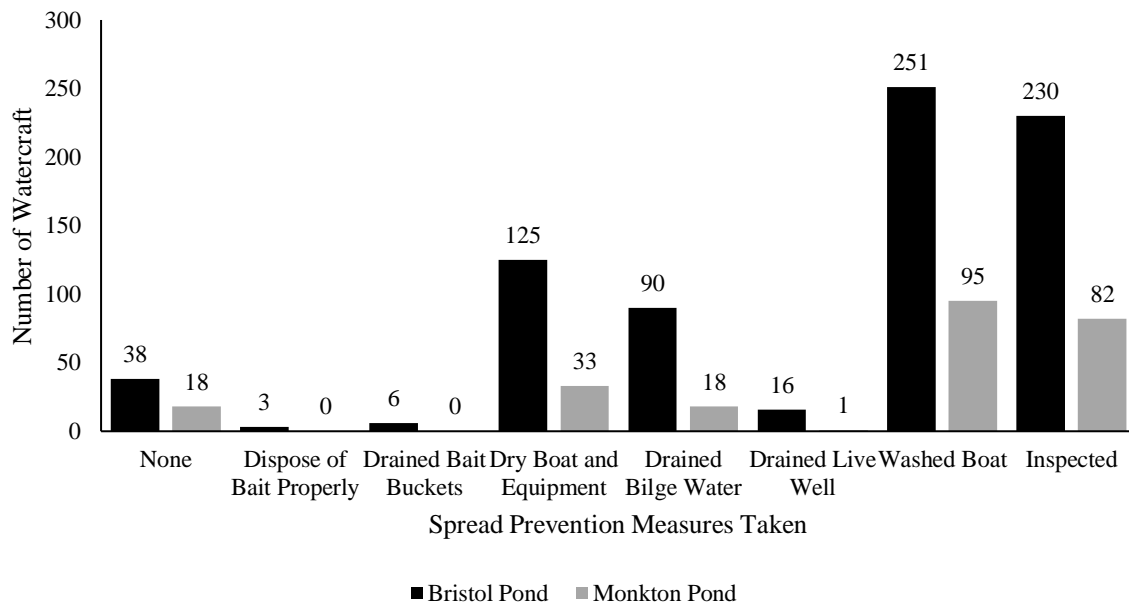


Figure 9. Spread prevention measures taken by watercraft owners at Bristol Pond and Monkton Pond, Vermont during the summer of 2021.

Most watercraft at Bristol Pond and Monkton Pond did not have any aquatic plants on them. However, more plants were found on boats retrieving from both ponds, compared to launching (Figure 10 and Figure 11). Eel Grass, followed by Eurasian Watermilfoil were the most commonly found aquatic plants on watercraft and their trailers at Bristol Pond (Table 2). At Monkton Pond, Eurasian Watermilfoil, followed by Eel Grass were the most commonly found aquatic plants on watercraft and their trailers (Table 2). Brittle Naiad was discovered by the boat launch stewards at Bristol Pond. The stewards initially noticed Brittle Naiad on a few watercraft retrieving from the pond and were able to locate a small infestation of it near the dock at the pond. The boat launch stewards found most of the aquatic plants on motorboats at Bristol Pond and Monkton Pond (Table 3). If the boat launch stewards hadn't intercepted the vegetation on the watercrafts launching into and retrieving from Bristol and Monkton Pond, the watercraft could have served as vectors for 237 possible infestations of AIS.

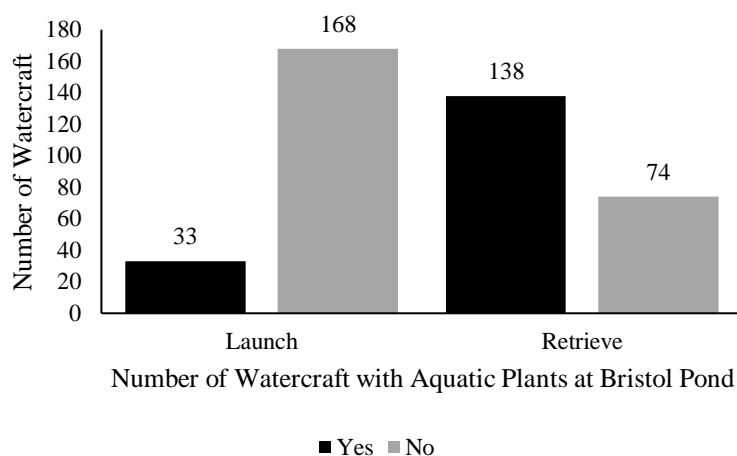


Figure 10. Number of watercrafts that had aquatic plants on them during inspections at Bristol Pond, Vermont during the summer of 2021.

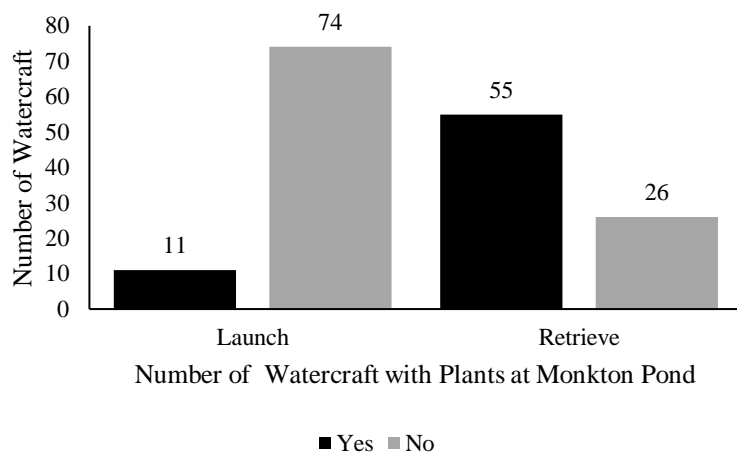


Figure 11. Number of watercrafts that had aquatic plants on them during inspections at Monkton Pond, Vermont during the summer of 2021.

Table 2. Species found on watercrafts at Bristol Pond and Monkton Pond, Vermont during the summer of 2021. * indicates aquatic invasive species.

Species Present	Bristol Pond	Monkton Pond
Coontail	3	2
Eel Grass	100	28
Eurasian Watermilfoil*	95	57
Native Pondweed	63	19
Elodea	12	18
Curly-leaf Pondweed*	1	1
Unknown	3	1
Native Lilies	30	12
Arrowhead	2	0
Common Bladderwort	14	0
Cattail	0	1
Water Stargrass	36	3
Brittle Naiad*	5	0
Duckweed	1	0
Slender Naiad	0	1
European Frogbit*	1	0
Water Smartweed	1	0
Watershield	1	0

Table 3. Number and percentage of boats that had aquatic plants on them prior to inspection at Bristol Pond and Monkton Pond, Vermont during the summer of 2021.

Plants found	Bristol Pond	Monkton Pond
Canoe	8 (15.7%)	6 (21.4%)
Kayak	48 (25.3%)	23 (29.5%)
Motorboat	114 (65.5%)	33 (63.5%)
Other	1 (100%)	1 (33.3%)
Personal Watercraft	1 (50%)	0
Rowboat	0	3 (37.5%)
Sailboat	0	1 (50%)
Standup Paddleboard	1 (20%)	1 (50%)

Watercraft launching into Bristol Pond and Monkton Pond were known to have previously been in at least 34 different waterbodies (Table 4). 54.1% of the watercraft launching into Bristol Pond had previously been in other waterbodies, while 57.6% of watercraft launching into Monkton Pond had previously been in other waterbodies. The majority of watercraft launched into Bristol Pond and Monkton Pond came from waterbodies located in Vermont (Table 4).

Visitors retrieving their watercraft from Bristol Pond and Monkton Pond reported that they would be launching at a minimum of 33 different waterbodies (Table 5). 50% of the watercraft retrieving from Bristol Pond were expected to launch at another waterbody during their next outing, while 60.4% of the watercraft at Monkton Pond were expected to launch at another

waterbody during their next outing. The vast majority of watercraft that were retrieved from Bristol Pond and Monkton Pond were likely to be launched next into a Vermont waterbody (Table 5).

Table 4. Last waterbody that watercrafts were previously retrieved from prior to launching at Bristol Pond and Monkton Pond, Vermont during the summer of 2021.

Waterbody	Bristol Pond	Monkton Pond
Maine		
Unknown	1	0
New Hampshire		
Crystal Lake	1	0
New York		
Lake George	0	1
Long Pond	1	0
Raquette River	1	0
Unknown	0	1
Vermont		
Blueberry Lake	1	0
Bristol Pond	67	5
Colchester Pond	0	1
Connecticut River	1	0
Curtis Pond	0	1
Dead Creek	4	0
Fern Lake	2	0
Half Moon Pond	0	1
Indian Brook Reservoir	1	1
Joe's Pond	0	1
Kettle Pond	2	0
Lake Bomoseen	0	1
Lake Carmi	1	1
Lake Champlain	13	5
Lake Dunmore	5	0
Great Hosmer Pond	1	0
Lake Iroquois	4	7
Lake Willoughby	1	0
Lewis Creek	1	0
Little Otter Creek	1	0
Missisquoi River	1	0
Monkton Pond	12	25
Unknown	4	2
Otter Creek	9	3
Richville Pond	1	0
Shelburne Pond	2	3
Waterbury Reservoir	7	0
Winooski River	1	0

Table 5. Next waterbody that watercraft owners report they would launch after retrieving from Bristol Pond and Monkton Pond, Vermont during the summer of 2021.

Waterbody	Bristol Pond	Monkton Pond
Connecticut		
Unknown	2	0
Maine		
Unknown	0	2
New Hampshire		
Pawtuckaway Lake	2	0
New York		
Joe's Pond	1	0
Lake George	1	0
Unknown	1	0
Vermont		
Bristol Pond	71	8
Dead Creek	1	0
Goshen Dam	1	0
Green River Reservoir	2	0
Huff Pond	1	0
Indian Brook Reservoir	1	0
Island Pond	0	1
Lake Bomoseen	2	0
Lake Carmi	0	1
Lake Champlain	28	7
Lake Dunmore	2	0
Lake Fairlee	1	0
Lake Hortonia	1	0
Lake Iroquois	4	4
Lake Memphremagog	0	1
Lamoille River	1	0
LaPlatte River	0	1
Lewis Creek	1	1
Little Averill	1	0
Little Otter Creek	1	0
Monkton Pond	5	21
Unknown	7	3
Otter Creek	3	0
Shelburne Pond	0	1
Sunrise Lake	0	1
Wallingford Pond	1	0
Waterbury Reservoir	0	1

Conclusion

During the summer of 2021, LCA's boat launch stewards interacted with 145 less watercraft at Bristol Pond compared to the summer of 2020. That being said, with the addition of Monkton Pond, the boat launch stewards interacted with 58 more watercraft during the summer of 2021 compared to 2020. A greater proportion of boaters took AIS spread prevention measures during the summer of 2021 compared with the previous year. This may be because the boaters were previously educated by LCA's boat launch stewards. Significantly more aquatic plants were found on watercraft this year compared to the summer of 2021. This may have to do with potentially better growing conditions for aquatic plants this year compared to last year.

LCA's boat launch steward program's second year was successful in intercepting AIS and educating the public on the issues surrounding AIS. The vast majority of visitors to Bristol Pond and Monkton Pond seemed excited to have the program and many people from the community went to the ponds to ask LCA's boat launch stewards AIS questions. Visual inspections and hand removal of aquatic vegetation has been shown to be extremely effective at preventing AIS from spreading to other bodies of water. Therefore, LCA's boat launch steward program could potentially prevent, both directly and indirectly, AIS from spreading to other uninfested waterbodies. The program was deemed successful and LCA intends on continuing the program into the summer of 2022 pending funding.

Funding Statement

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