BLID and VLAWMO partnership AIS hand-pulling in Birch Lake
update and status for 2025

Summary comments incorporating survey and hand-pulling data
compiled as additional notes to the report by Dive Guys (7/3/25) and RCSWCD surveys

by Dawn Tanner
7/21/25

Pre- and post-survey timing, logistics, and explanation

- **Pre-survey timing**: The pre-survey was conducted early in the spring (4/16/25) to focus detection on Curly-leaf pondweed (CLP). CLP often begins growing under the ice. It reaches its maximum extent early in the growing season and dies back in mid to late June (with variability among seasons). Eurasian watermilfoil/hybrid (EWM) begins growing slightly later and continues its growth throughout the season. Due to these differences in phenology, a second follow-up pre-survey to focus on EWM was tentatively scheduled as part of planning for the project in 2025.

- **Tentative removal schedule**: Based on observations and recommendations from Dive Guys in 2024, the hand-pulling effort was blocked for a full day in late May and another full day in June. This was scheduled to allow a focus on CLP removal in May, with a follow-up day to focus on EWM in June.

- **Detections that informed permit request**: During the pre-survey, the lake was clear, visibility was excellent, and plants were easy to identify and surrounded by visible lakebed sediment. No CLP was observed, with two trained observers, one from RCSWCD and one from VLAWMO. EWM was growing well, clearly visible, blooming, and growth was sufficient for detection and targeting for removal. Because the pre-survey was completed early in the season, continued growth and reproduction of plants would be expected.

- **AIS permit note**: Although no CLP was detected on the pre-survey, VLAWMO requested that the MN DNR permit for Aquatic Invasive Species (AIS) removal include EWM and CLP, as was done in previous years. This request was granted, and the permit was issued for both.

- **Mechanical removal logistics and coordination**: Logistics for this project include scheduling around BLID's annual mechanical removal aquatic plant harvest that is usually completed toward the end of June. The mechanical removal occurred after the hand-pulling effort and post-survey were completed.

- **Modification made to tentative removal schedule**: Since EWM was growing well and observed in the anticipated locations throughout the lake on the pre-survey, the decision was made to modify the hand-pulling schedule to request two consecutive days in May (May 29 and 30) instead of doing two separate days with one in May and one in June. Dive Guys accommodated this modification request.

Observation and clarification from Dive Guys' report

In Dive Guys' report, they conclude that uprooted and floating plants that had been harvested were noticed in areas where they were hand-pulling and along the shoreline.

> "We also noted a lot of new rooted milfoil popping up in the northern border of the lake. It looked to us to be mostly floating vegetation from what looked to be harvested plants. This may be something to consider in the future…"

The mechanical harvest had not been completed prior to the hand-pulling dates. However, cleared areas around resident docks and littoral areas are readily observed during surveys. Piles of aquatic vegetation are also noticeable on the shoreline in areas where vegetation has been removed. These efforts are not specific to AIS and include native plants. Uprooted floating plants that Dive Guys observed may have resulted from these efforts.

Cleared areas provide open areas that are readily colonized by invasive plants. During post-surveys over multiple years, the survey team observes EWM plant clusters next to docks and littoral areas that were previously cleared.

MN DNR provides aquatic plant removal regulations: (https://www.dnr.state.mn.us/shorelandmgmt/apg/regulations.html).

Bare areas around docks and along shoreline areas limit the likelihood of successful eradication, because the healthy, well-established native plant community prevents re-establishment of AIS once they have been removed. In Dive Guys report, they state that eradication may be possible in Birch Lake because of the healthy plant community and fairly sparse AIS. The active clearing of aquatic plants provides a limitation to this potential goal.

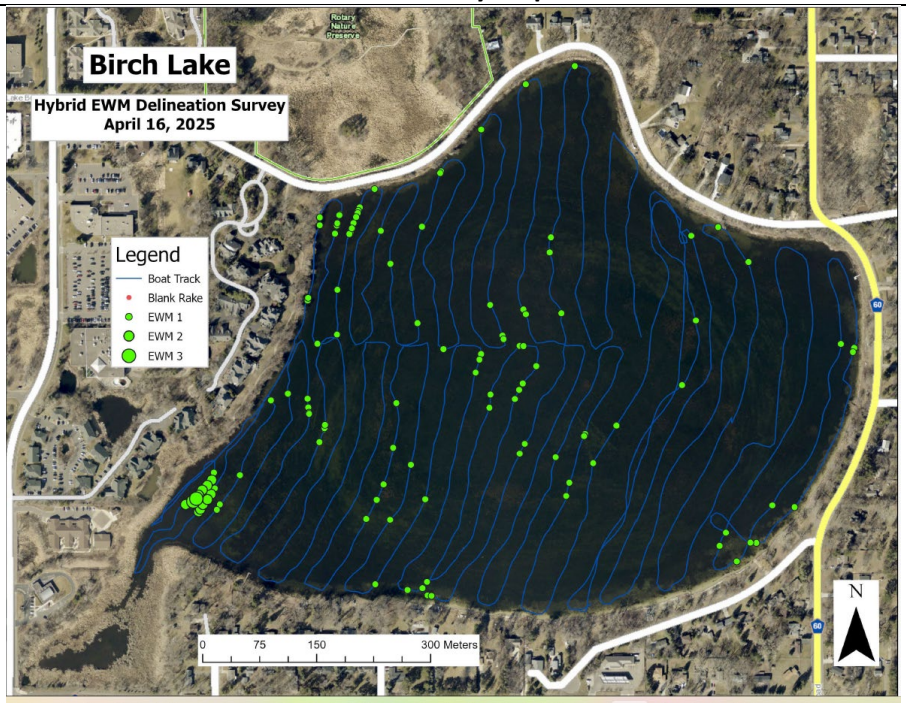
CLP during removal and post-survey

CLP was detected and removed during the hand-pulling effort. Some patches had large plants and wide coverage. Consistent with other lakes in Ramsey County, CLP appeared to begin growing later this year than it has in previous years. CLP was detected on the post-survey, especially a notable infestation on the west side of the lake.

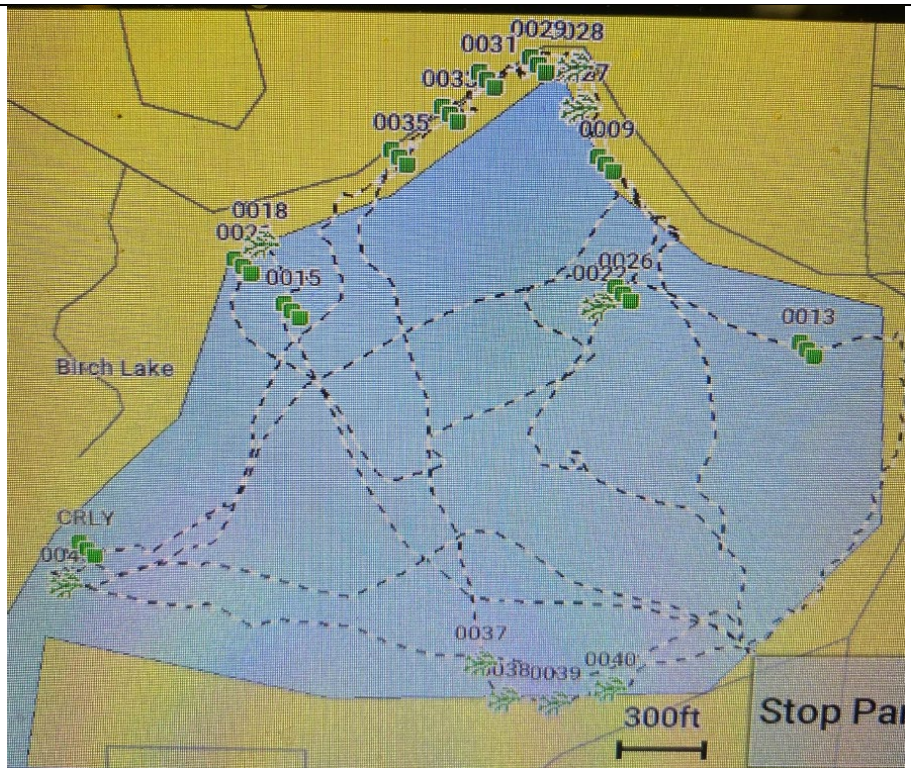
Initially, in year #1 of the project, the CLP infestation was detected and reported. At that time, it was present in a small patch on the east side of the lake. A small plant was also noted at the boat launch at that time. The extent of CLP has been mapped on surveys since year #1, and a turion survey was also completed. CLP is not confined to the small area where it was initially detected. The native plant community, especially fern and large-leaf pondweed in Birch Lake, appears to prevent widespread CLP infestation. CLP plant parts, especially turions, that are connected to uprooted plants or broken off plant pieces allow these plants to spread. Plants, plant pieces, and turions, move through wave action. Their movement and establishment allow new plants to grow. Bare areas where vegetation has been removed are optimal spaces for these plants to establish.

Pre-survey, removal focal areas, and post-survey

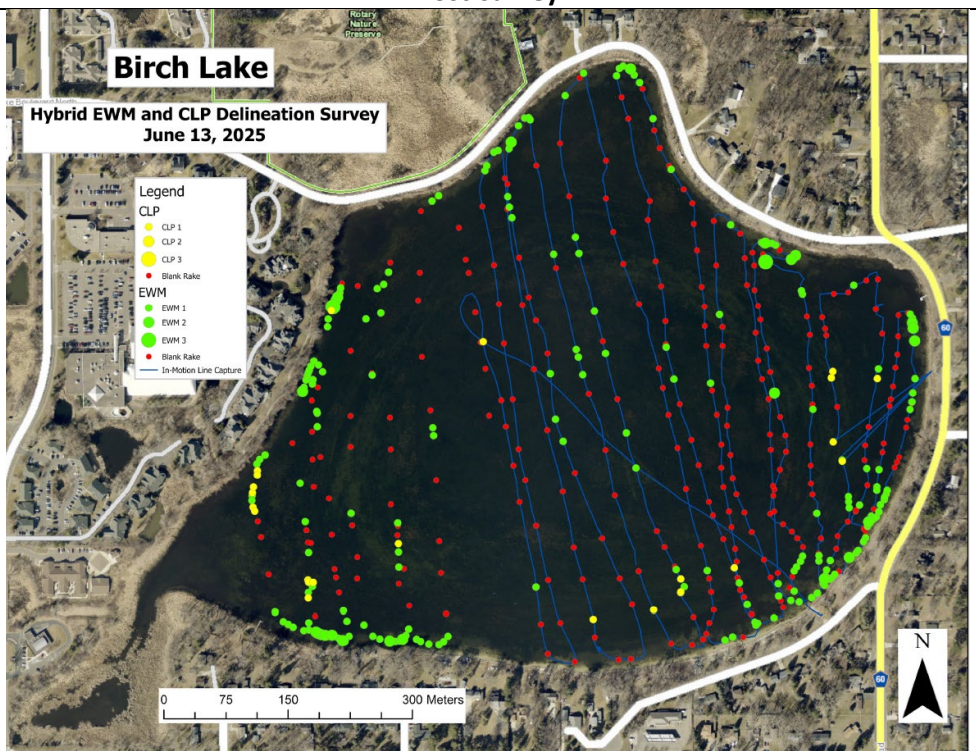
Pre-survey map



Removal focal areas



Post-survey



Observations on post-survey

From Dive Guys report:

> "The natural native vegetation is a big reason why this project is successful. It is pretty much always impossible to eradicate invasive species once they infest a lake. However, this does not seem to be the case with Birch Lake. The low water level and strong natural plant presence make it possible for the invasives to be completely choked out in areas where they have been hand pulled."

From VLAWMO:

As previously stated, a potential limitation that was observed on the post-survey is that cleared shoreline and dock areas are open for reestablishment of AIS.

The project has been ongoing now for four years (two partially grant funded, and two partnership funded with BLID paying for hand-pulling and VLAWMO providing pre- and post-surveys and logistical support). It may be that the achievable gains have been realized without modifications to management of littoral and dock areas.

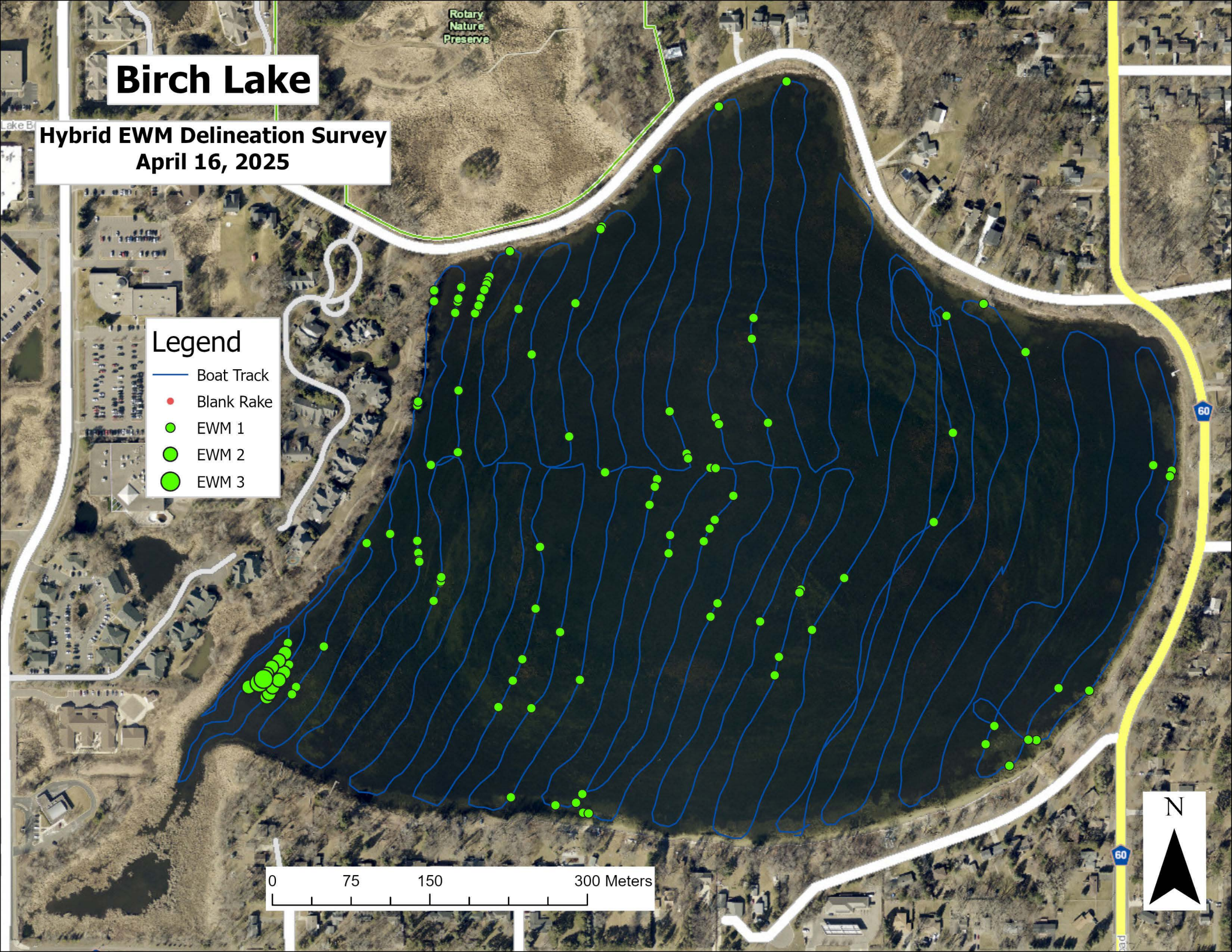
Guidance request to BLID for next steps

Over the past four years, the hand-pulling effort has been successful in detecting a new AIS infestation of CLP and removing CLP and EWM. Because the achievable gains may have been realized, VLAWMO requests guidance from BLID as to next steps. VLAWMO is able to continue to provide logistical and technical support, including funding the pre- and post-surveys and obtaining the MN DNR AIS removal permit.

VLAWMO requests guidance from BLID as to their goals for and future of the project, especially whether or not they wish to continue funding hand-pulling of AIS at what may be an ongoing maintenance level. At this time, the project will remain paused for pre/post surveys by VLAWMO. If BLID would like to continue the partnership, we request direction and are happy to resume work if BLID requests that.

Attachments:

1. Pre-survey by RCSWCD and VLAWMO
2. Dive Guys 2025 report
3. Post-survey by RCSWCD and VLAWMO


Birch Lake
Hybrid EWM Delineation Survey
April 16, 2025
Rotary Nature Preserve
Legend
Boat Track
Blank Rake
EWM 1
EWM 2
EWM 3
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Birch Lake Selective Hand-pulling Report

by: Logan Dop, Dive Guys Owner

Submitted to BLID and VLAWMO July 3, 2025.

Objective

The objective of this project was to hand remove Eurasian Watermilfoil and Curly-leaf Pondweed. The goal was to remove the entire plants we encountered, including the root systems. And our allotment goal was to remove as much as possible in the allotted timeframe.

Process

Our process was to first locate the plants using the GPS maps and observation. Once the plants were located, we hand-pulled the stalks by their root systems. The pulled plants were then carefully bagged into the boat for disposal.

Results

Day 1, 05/29/25, 8:00am – 3:30pm (7 ½ hours)

We started this session by focusing on the east shoreline looking for EWM and CLP as we slowly waded north along the shore. There were generally only 1-3 plants per clump found during this time. We continued this north ward, until we were about at the northern most point on Birch.

We next went to the NW corner, where we found a fair amount of sporadic EWM plants. Most were smaller clumps of 1-5 stalks. We spent the majority of the remainder of our time on this day targeting the thickest patches of EWM that we could identify from the boat.

Notes: Wind was very little today, and it was quite easy to identify the EWM and the CLP from the native plants. I feel very confident in saying that we made a significant impact on the invasive populations in those specific areas because it was so thin and the majority of the established populations were native to begin with.

Day 2, 05/30/25, 9:00am – 2:30pm (6 hours without lunch included)

We started this area by focusing on the EWM and CLP near the public boat access. We continued eastward, wading and picking the sparse patches of invasives to meet up with where we began the first day.

The next area we targeted was the SW corner. This area is covered with native lily pads. It also had the highest presence of EWM by far. The clumps here were large, often consisting of 10+ stalks. And there were a lot of them. We spent over three hours in this area alone, and unfortunately, we were not able to get it all. The good news is that the EWM was only present way back into the lily pads, roughly 70-100 yards in. As in past years, the thick lily pads serve as an entrapment barrier that prevents the EWM from easily moving out of that area.

Conclusion

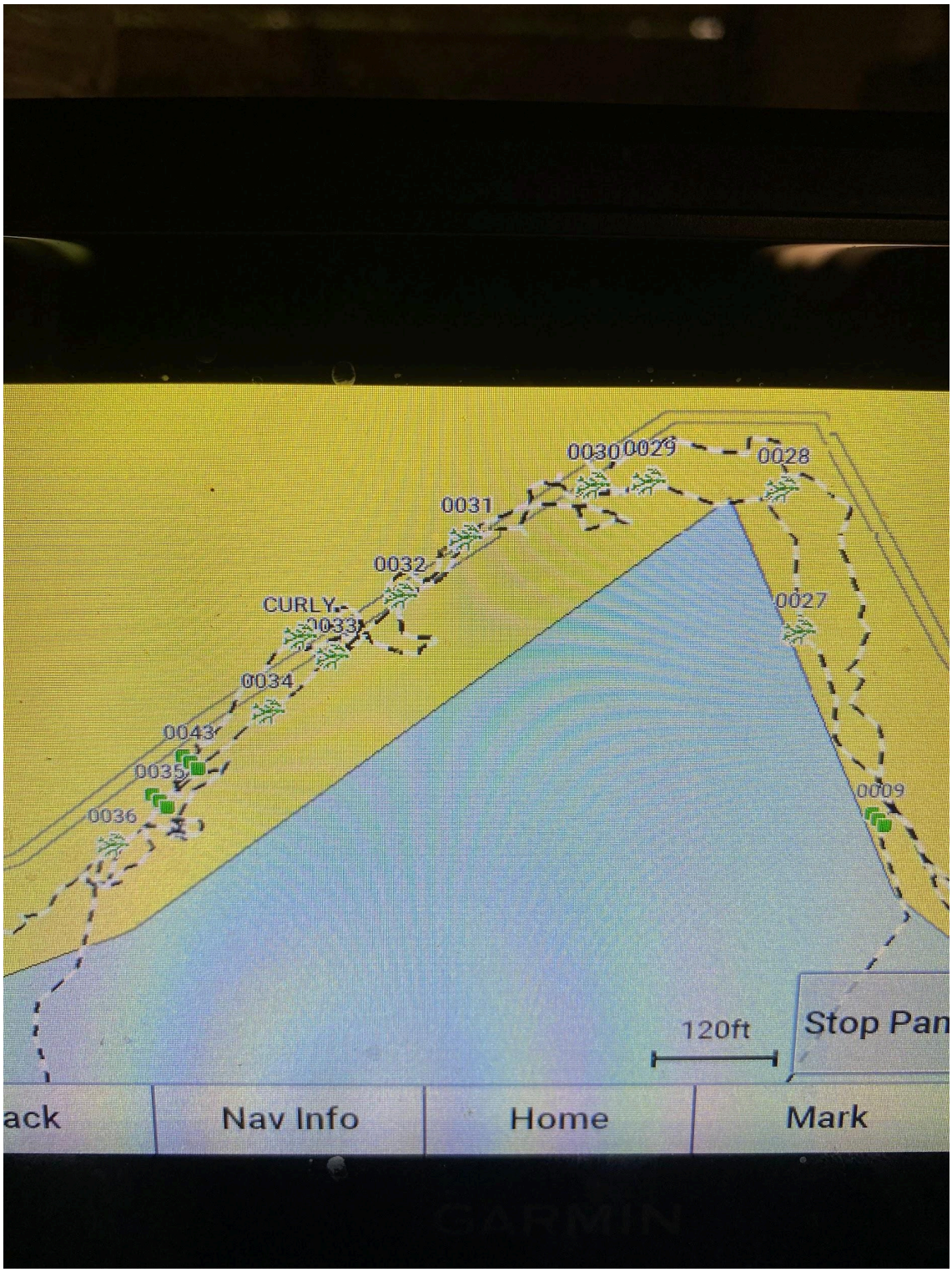
Overall this project went very well. Our process was efficient and productive. It was very encouraging to see low EWM presence in areas that we treated last year.

The natural native vegetation is a big reason why this project is successful. It is pretty much always impossible to eradicate invasive species once they infest a lake. However, this does not seem to be the case with Birch Lake. The low water level and strong natural plant presence make it possible for the invasives to be completely choked out in areas where they have been hand pulled.

We also noted a lot of new rooted milfoil popping up in the northern border of the lake. It looked to us to be mostly floating vegetation from what looked to be harvested plants. This may be something to consider in the future when considering harvesters as a service, if you are actively trying to combat these invasives, which I know you guys are. Overall, it was an efficient and productive day.

A recommendation for next year is to split the project into two different sessions, roughly one month apart. The first session (late May) would focus on the CLP, as well as the EWM in the lily pads. The CLP should still be rooted at this point, so it should not be at all difficult to find and extract. The lily pads will not be nearly as thick, which will make navigating much more efficient for this area.

Photos: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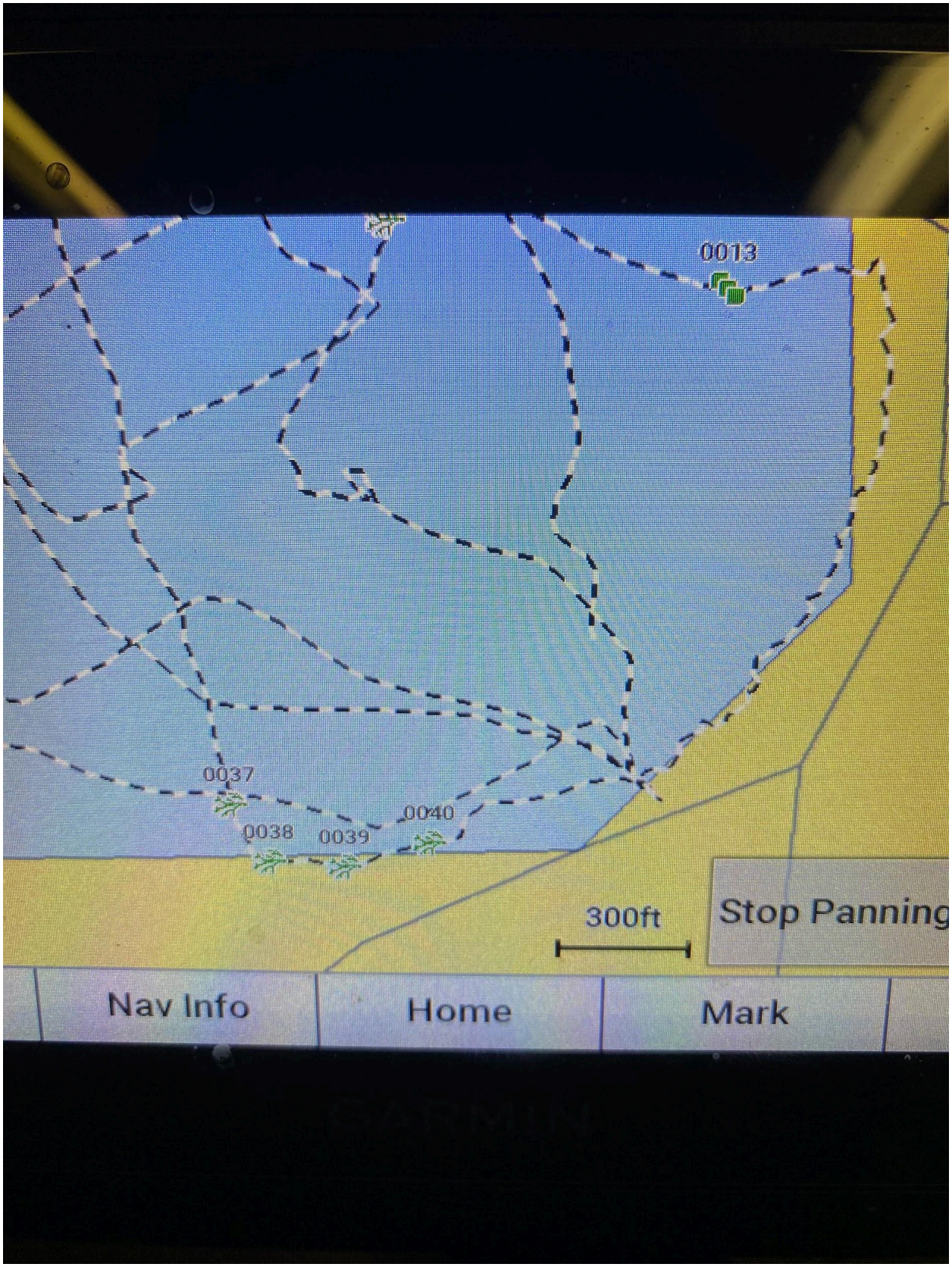
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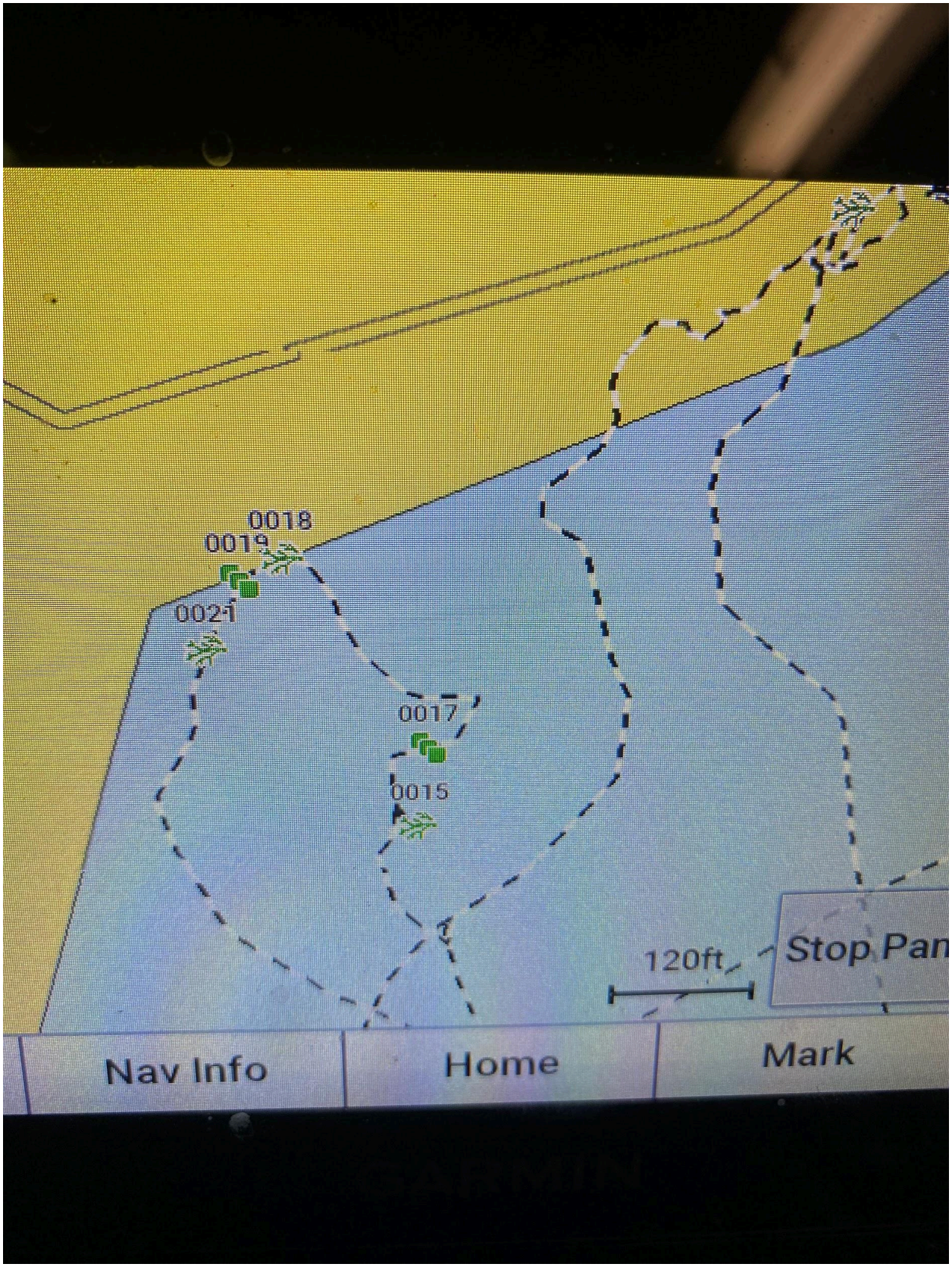
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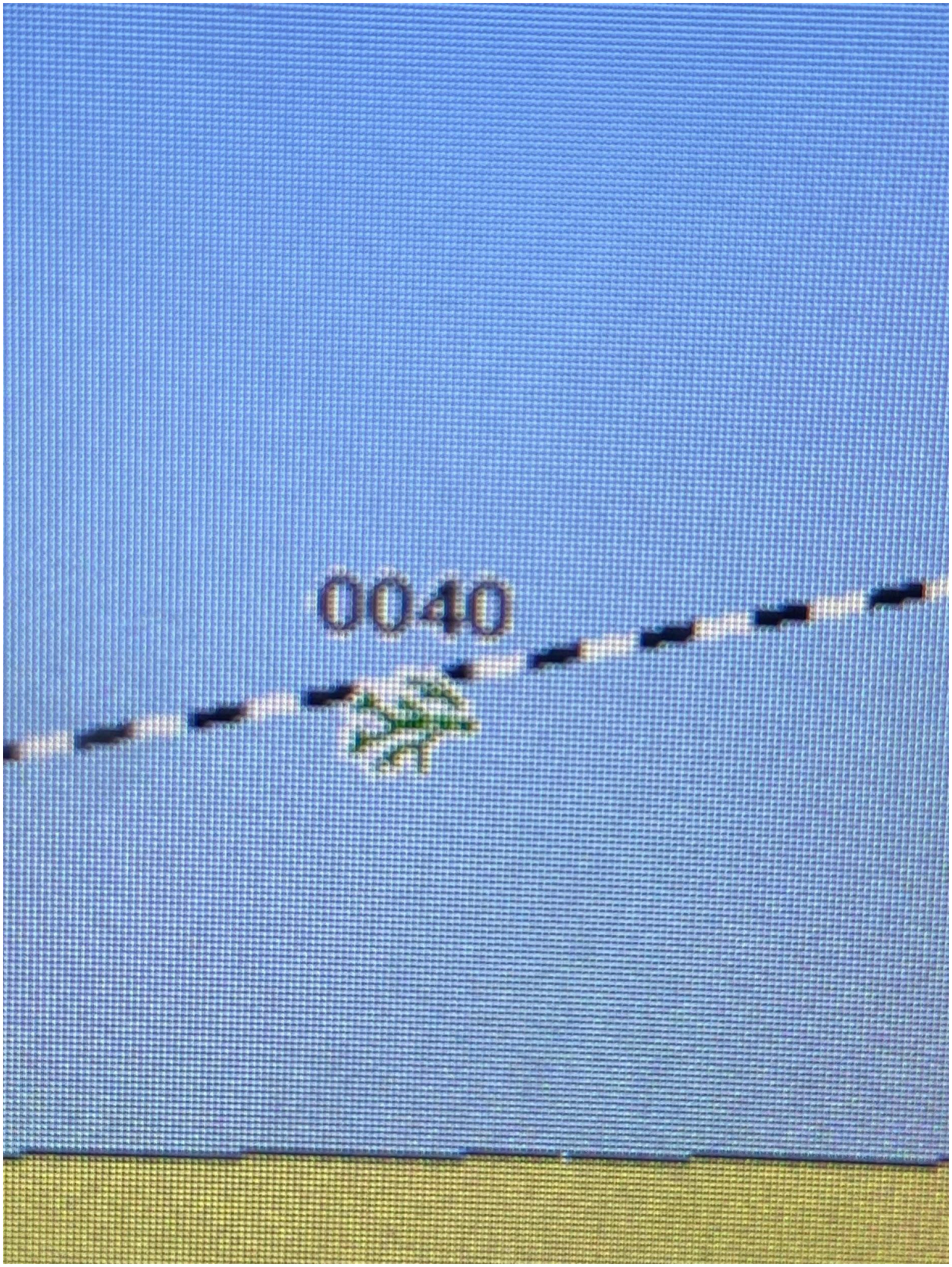
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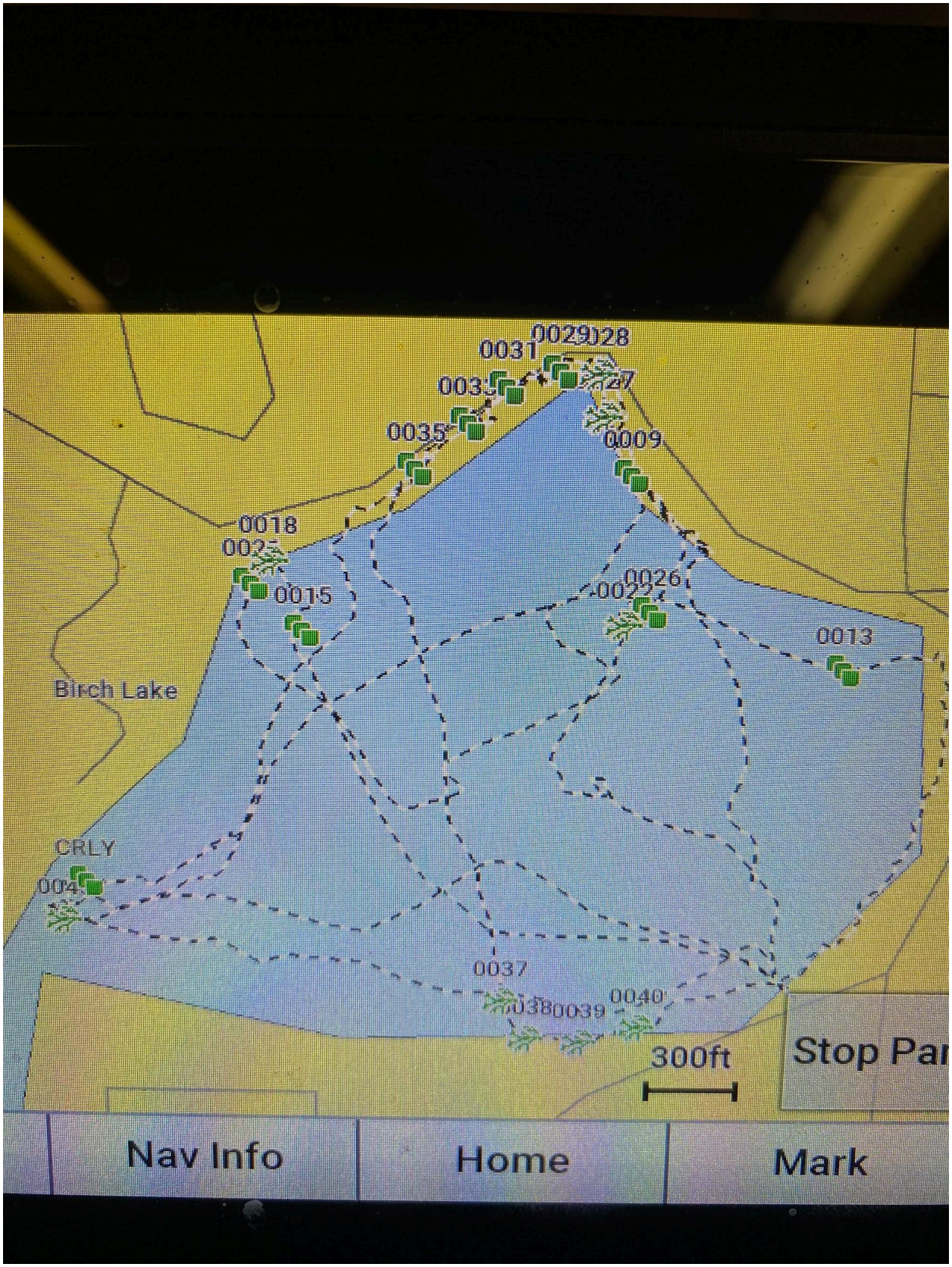
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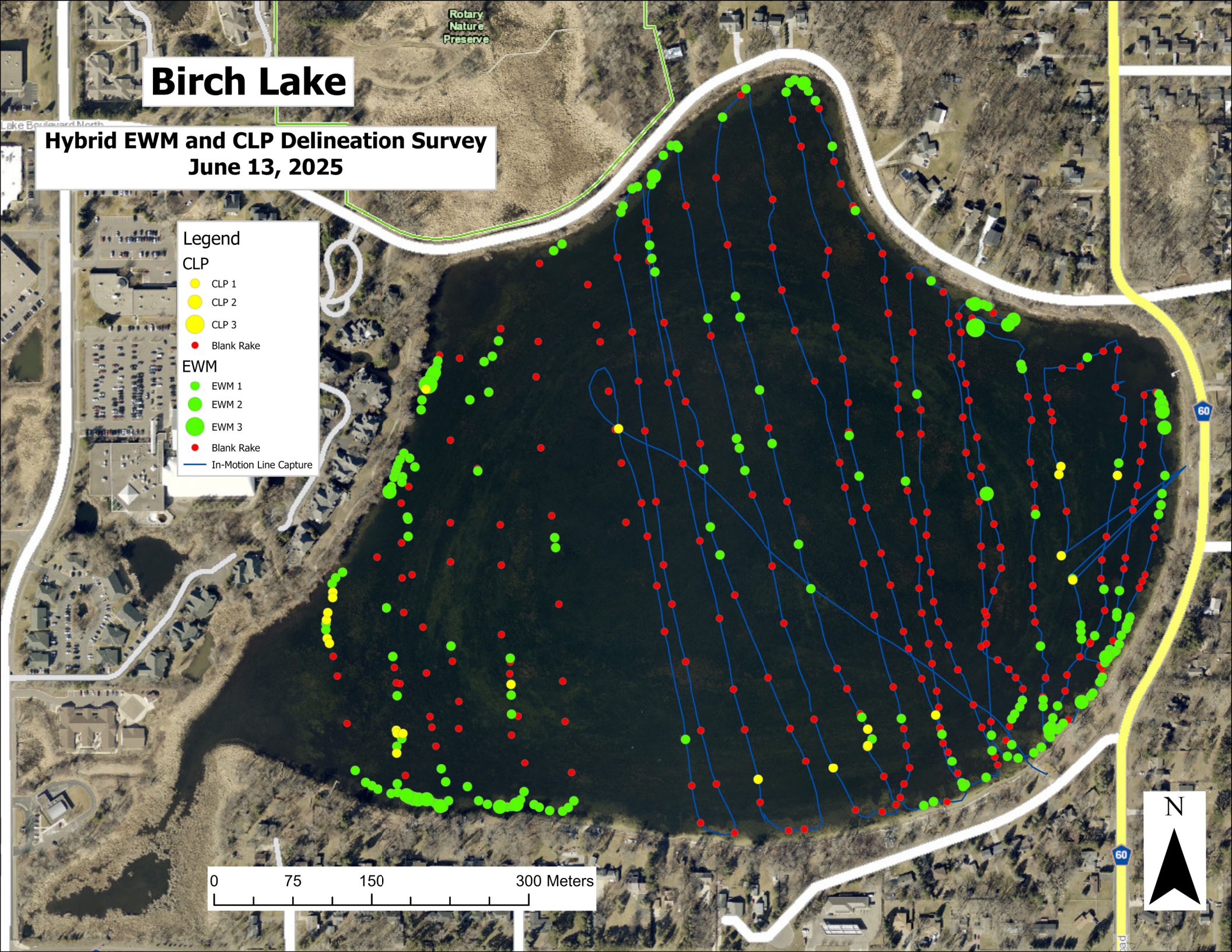
Birch Lake
Hybrid EWM and CLP Delineation Survey
June 13, 2025
Rotary Nature Preserve
Legend
CLP
CLP 1
CLP 2
CLP 3
Blank Rake
EWM
EWM 1
EWM 2
EWM 3
Blank Rake
In-Motion Line Capture
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75
150
300 Meters
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