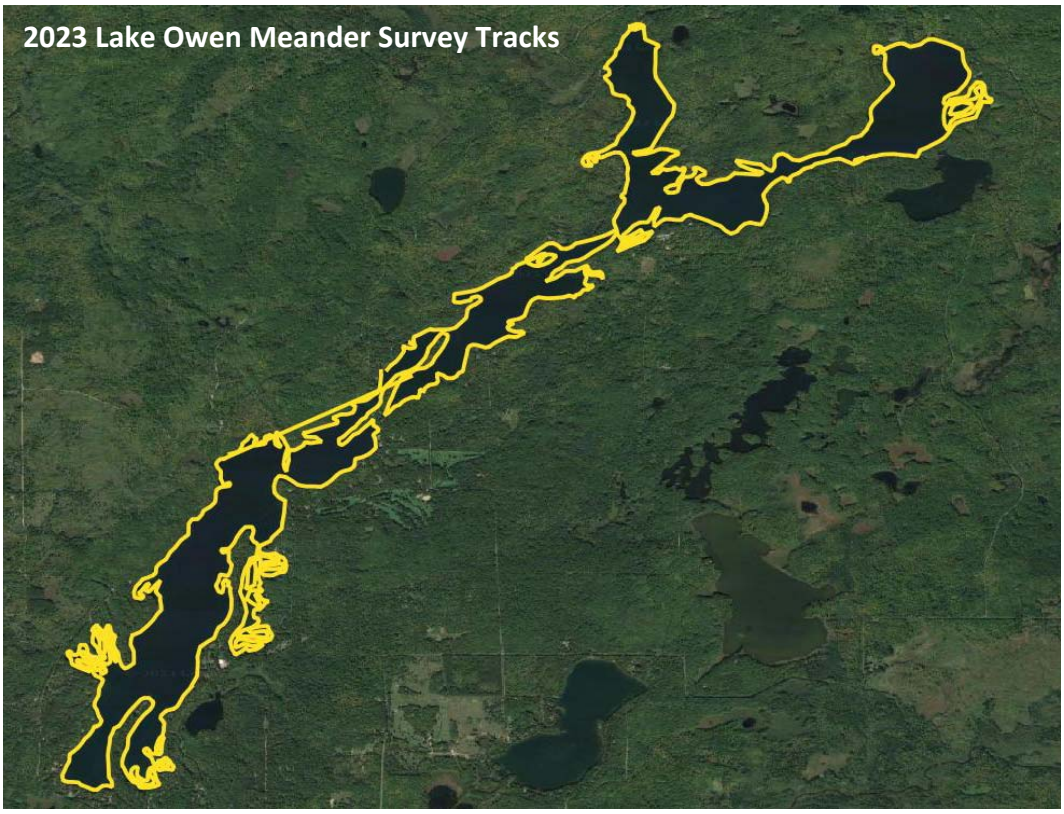
Lake Owen 2023 AIS Surveys Summary

Each month, from June through September, a meander survey is conducted on Lake Owen to evaluate the presence of invasive aquatic species, emphasizing plant species. In addition, the invasive yellow iris has been mitigated and managed in 2021, 2022, and 2023. Zebra mussel samplers were deployed at the two landings as well. This report summarizes the findings and results of the yellow iris herbicide application and manual removal in 2022. It will also show a map of the yellow iris mitigation locations for 2023. Maps of other invasive species are also presented with recommendations.

Meander surveys-2023

Once per month, from June through September, a meander survey is conducted on Lake Owen. The map below shows the tracks of a typical survey that occurs each month.



*The yellow line is the track from a meander survey in 2023. This track is followed during each meander AIS survey. Due to concerns in Agnus Bay expressed by a riparian owner, an increased survey path occurred compared to past years. No invasive species were observed in Agnus Bay.

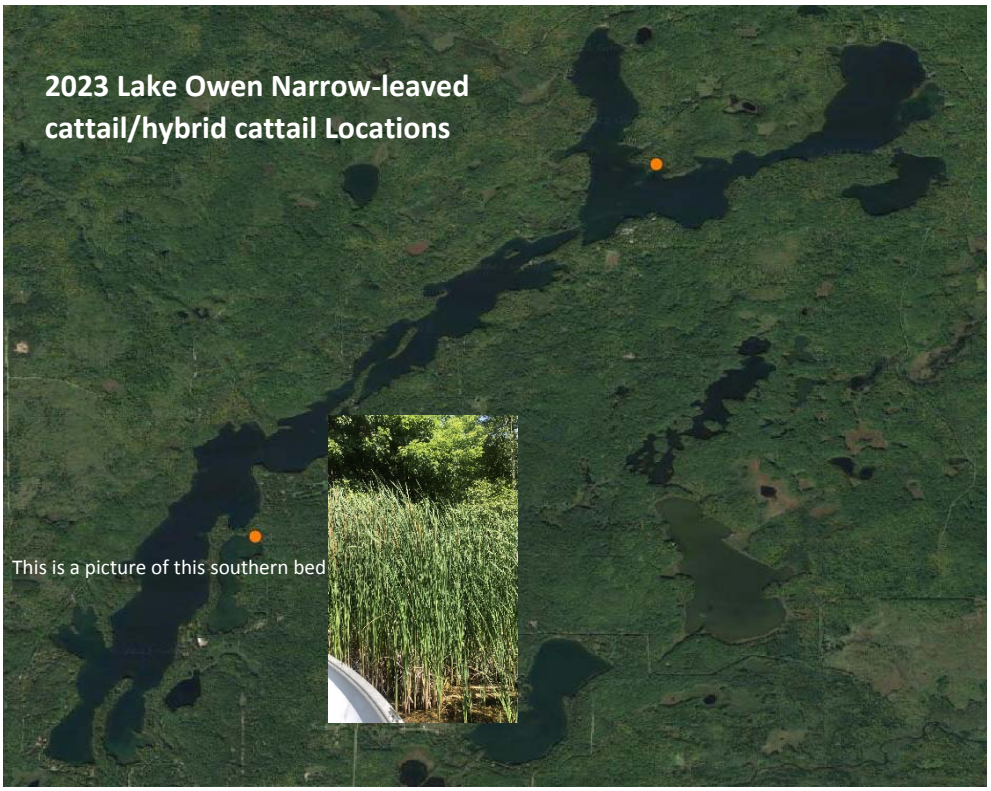
2023 Yellow Iris and Forget me not Maps

During the June meander survey, yellow iris (*Iris pseudacorus*) was observed (when a yellow iris blooms and is easiest to locate and identify) at two locations. The map below shows the locations mapped. Site 2023-A is where the yellow iris was treated with herbicide a few years ago. Site 2023-B was identified in 2022, but permission was not granted for removal until 2023.

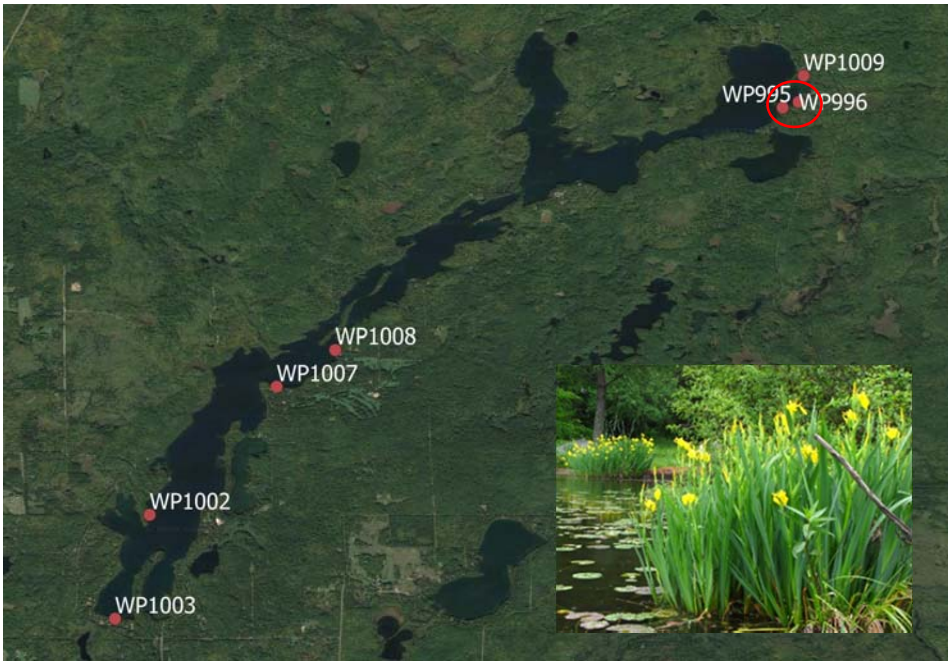
During the June and July 2023 meander surveys, aquatic forget-me-not (*Myosotis scorpioides*) was observed. The map below shows the locations recorded where forget-me-not is present.

There are two locations of likely narrow-leaved cattail (or could include hybrid cattail) (*Typha angustifolia* or *Typha x glauca*) observed on Lake Owen. The hybrid cattail crosses the broad-leaved (native) and the non-native narrow-leaved cattail. Both the narrow-leaved and the hybrid are considered restricted invasive species in Wisconsin. Those sites are shown on the map below. There has been no change in locations from 2022 to 2023.

Narrow-leaved cattail (and the hybrid) are considered invasive, but they can serve similar positive roles in the plant community. Since it hybridizes readily with the native broad-leaved cattail, it is not often managed. Occasionally, this plant can lead to a monotypic wetland, reducing other species. Narrow-leaved cattails can grow in somewhat deeper water than native broad-leaved cattails.



Yellow Iris 2022 Mitigation Results



In September 2022, all the yellow iris locations on the map above were treated with herbicide except for two (WP995 and WP996). The herbicide was applied by hand using sponges on tongs. Two sites, WP995 and WP996, had manual removal conducted. These points were on US land, which was an agreed method.

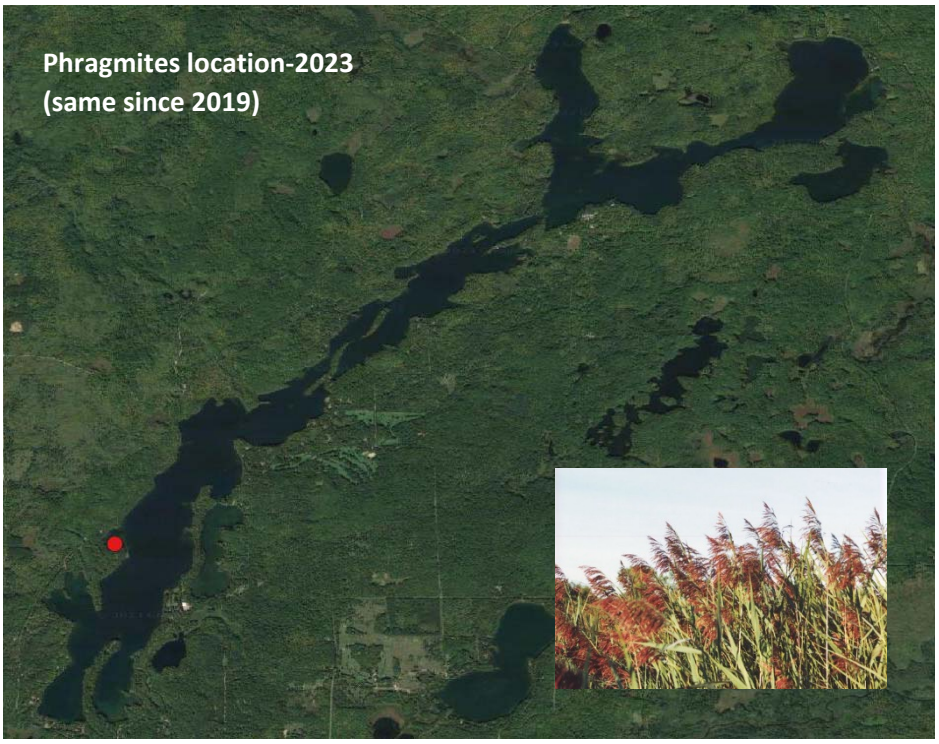
In June 2023, each site treated with herbicide and the sites that had manual removal in 2022 were evaluated for mitigation effectiveness. No yellow iris was observed at any of these mitigation sites in 2023. This lack of growth shows that the mitigation efforts had short-term success. The sites will continue to be monitored as the yellow iris could return over time.

The two "new" yellow iris sites in 2023 were also mitigated. Hand removal occurred at both sites. Site 2023-A was on federal land and occurred in an area where herbicide was applied a few years ago. These plants were in a dense sand substrate, so there is concern that the whole rhizome may not have been removed. This site will be evaluated in 2024. At Site 2023-B, the yellow iris plants were embedded in a floating mat of vegetation, so there is a greater chance the entire rhizome was removed. This site will also be monitored for return growth.


Yellow iris plants that were hand removed in 2023.

Phragmites

In 2019, the prohibited invasive species *Phragmites australis* was discovered. This bed has been monitored annually to make sure there has been no spread. The 2023 check did not indicate any changes in the coverage of Phragmites. The map below shows the location of this invasive plant. The site has not changed since 2019.



Zebra mussel Samplers

No zebra mussels were observed on the plate samplers. The plate samplers were in position from May 4 until approximately Oct. 15, 2023.

Recommendations

Yellow Iris

Since the two locations of the yellow iris were hand removed in 2023, monitoring these two sites will occur in June 2024 to determine if all plant material was successfully removed. The entire littoral/riparian zones will be monitored carefully in June 2024 to locate any new yellow iris plants.

Aquatic-Forget-Me-Not

The locations of aquatic-forget-me-not are similar from 2023 to 2022, so the spread has not been apparent. However, some sites appear to be slowly growing in size and density. If this plant gets into a wetland area, it could create ecological issues. For this reason, lake riparian owners should be educated

about identifying the plants and encouraged to remove and dispose of the plants by hand. Forget-me-not tends to have shallow roots so that it can be removed with little effort. Riparian owners or the National Forest where more dense growth occurs should be contacted directly to express concern about the increase in growth.

Narrow-leaved cattail

Since narrow-leaved cattail is typically of low concern due to serving similar functions to the native broad-leaf cattails, mitigation may not be necessary. The beds of narrow-leaved cattail have little to no native cattail. However, native cattail beds should be monitored, and new narrow-leaved cattail plants should be removed by hand to ensure the invasive version does not take over the native cattail bed.

Phragmites

This invasive plant is designated as "prohibited" by the State of Wisconsin. This means this plant is of high concern and needs to be removed as soon as possible. Fortunately, careful monitoring since its discovery in 2019 has not shown any evidence of spread. If this plant spreads to a wetland, it could degrade the ecology of that wetland quickly.

Zebra mussels'

Lake Owen has a relatively low susceptibility to zebra mussel. However, the plate samplers should continue to be deployed each year for monitoring. Riparian owners should also be reminded to examine piers, boat lifts, and boats for zebra mussels.

All other AIS

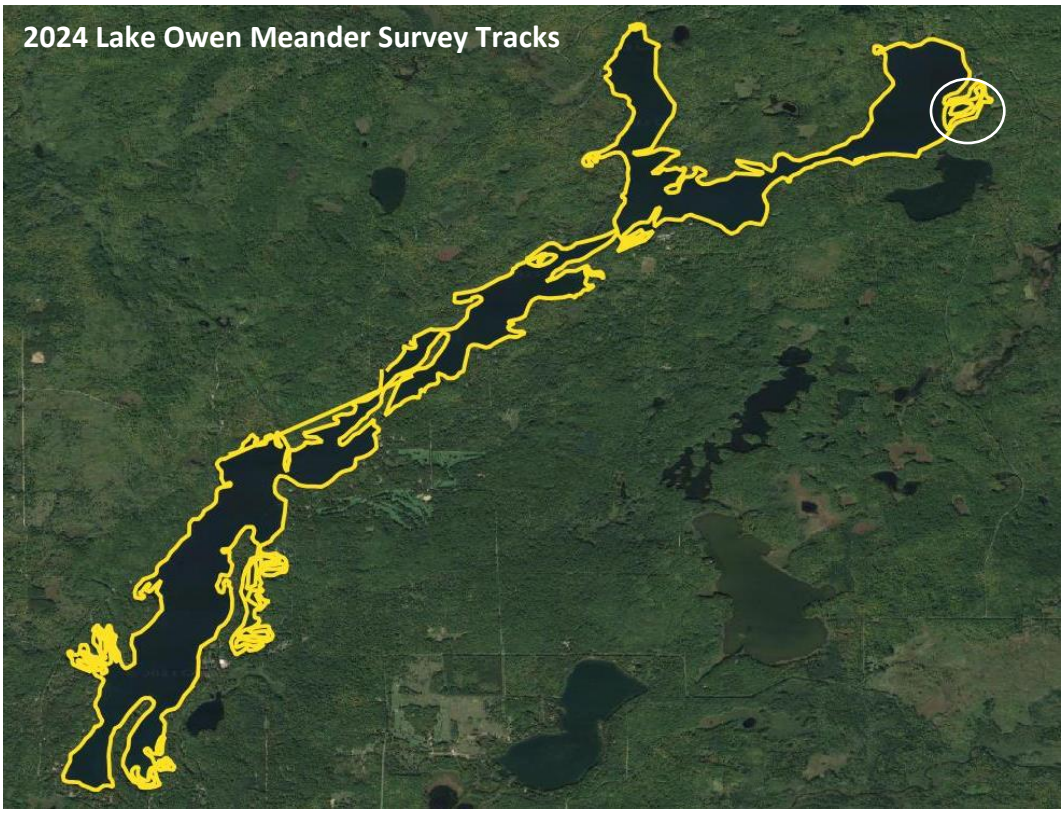
Monthly meander surveys should continue annually from June through September. Early detection of AIS is critical, so routine AIS surveys will increase the chance of locating any new AIS infestation. Riparian owners should be reminded to contact the LOA with any concerns.

Lake Owen, Bayfield County Wisconsin-2024 AIS Surveys Summary

Each month, from June through September, a meander survey is conducted on Lake Owen to evaluate the presence of invasive aquatic species, emphasizing plant species. In addition, the invasive yellow iris has been mitigated and managed in 2021 through 2024. Zebra mussel samplers were deployed at the two landings as well. This report summarizes the findings and results of the yellow iris herbicide application and manual removal in 2023. It will also show a map of the yellow iris mitigation location for 2024. Maps of other invasive species are also presented with recommendations.

Meander surveys-2024

Once per month, from June through September, a meander survey is conducted on Lake Owen. The map below shows the tracks of a typical survey that occurs each month.

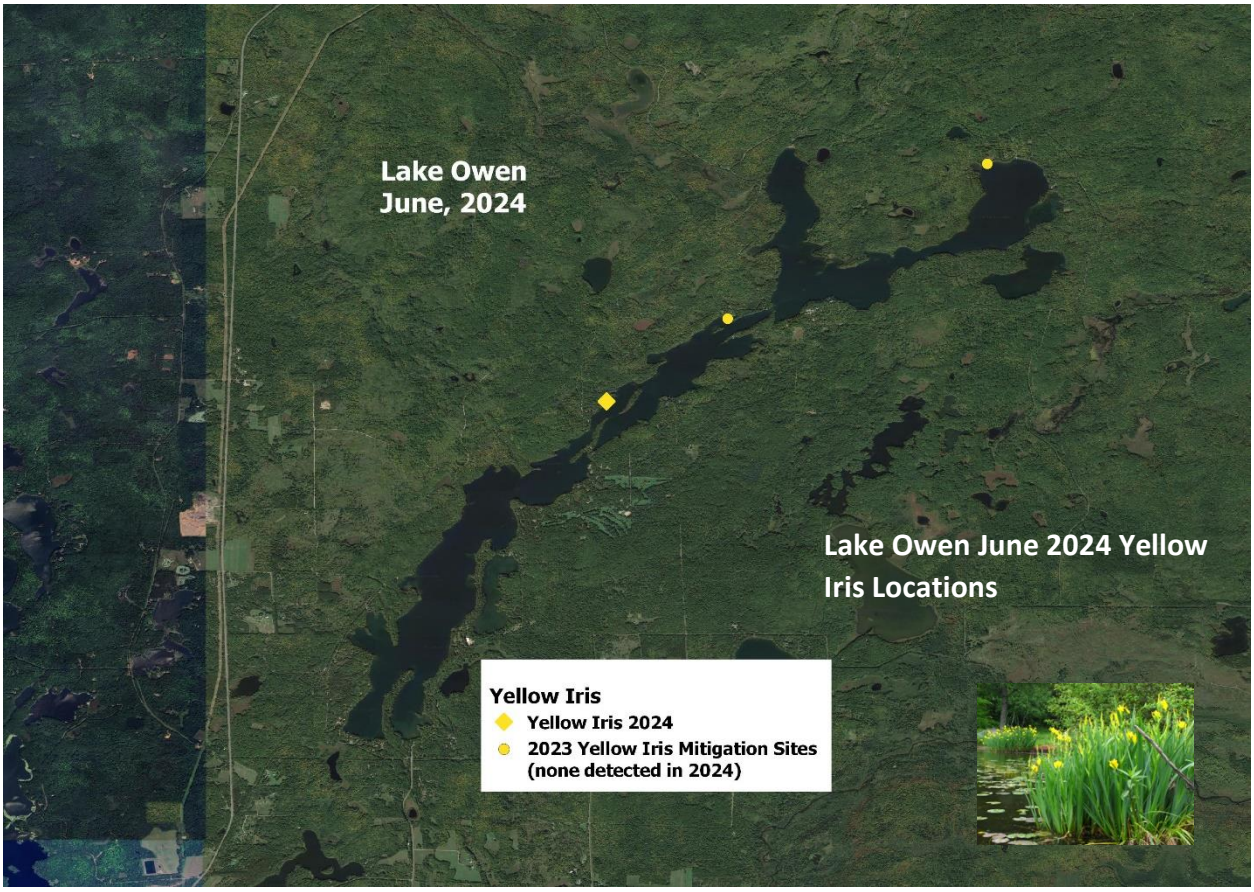


The yellow line is the track from a meander survey in 2024. This track is followed during each meander AIS survey. Areas like bays with more plant growth and landings have a more concentrated meander path.

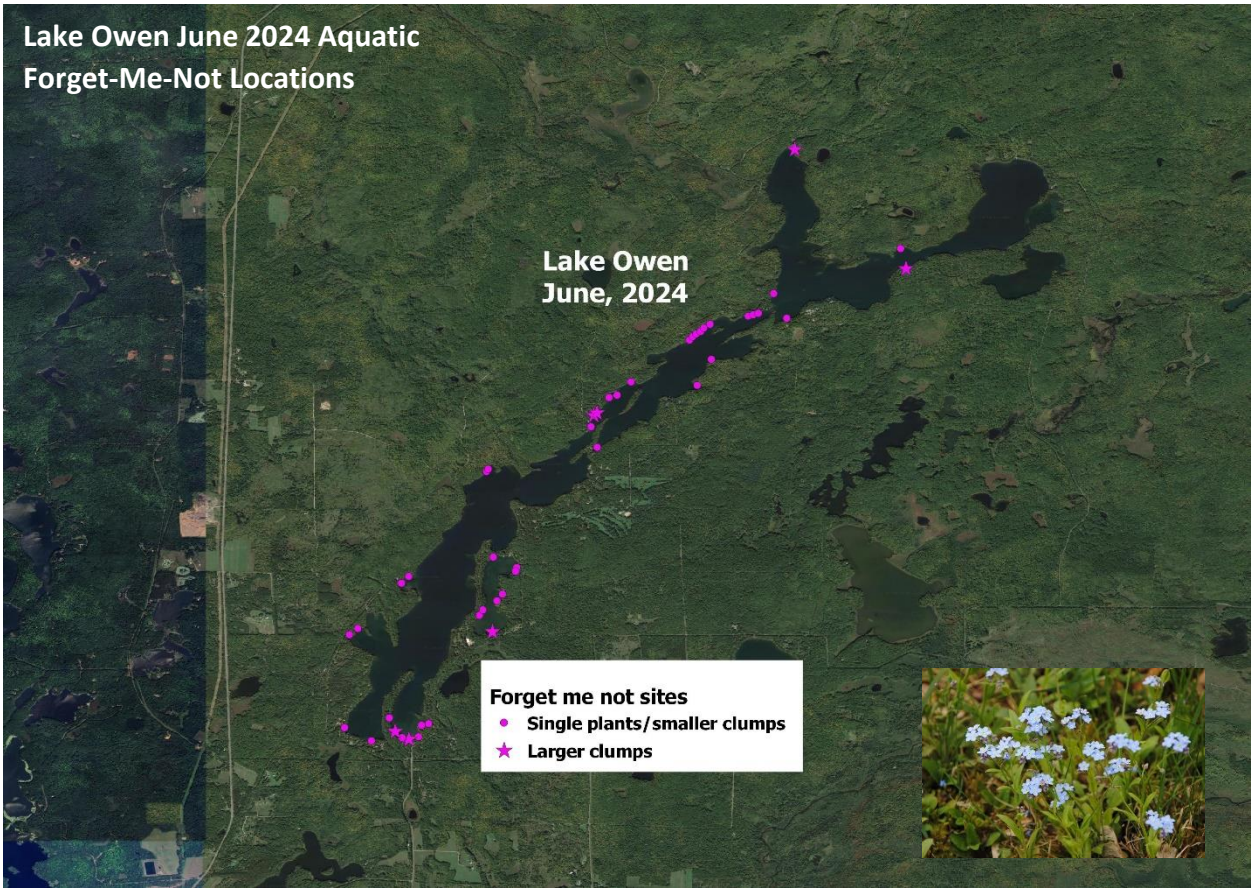
In July, a concerned lake user felt they had observed Eurasian watermilfoil (EWM)in the circled area on the map. This area was immediately surveyed extensively. A large amount of native milfoil was observed (northern watermilfoil) was observed/sampled, but no EWM was found.

2024 Yellow Iris and Forget Me Not Maps

During the June meander survey, two small clumps of yellow iris (*Iris pseudacorus*) were observed (when a yellow iris blooms and is easiest to locate and identify) at one location. The map below shows the locations mapped. The yellow diamond shows the only yellow iris detected in June 2024. The yellow dots show the location of the yellow iris hand-removed in 2023.

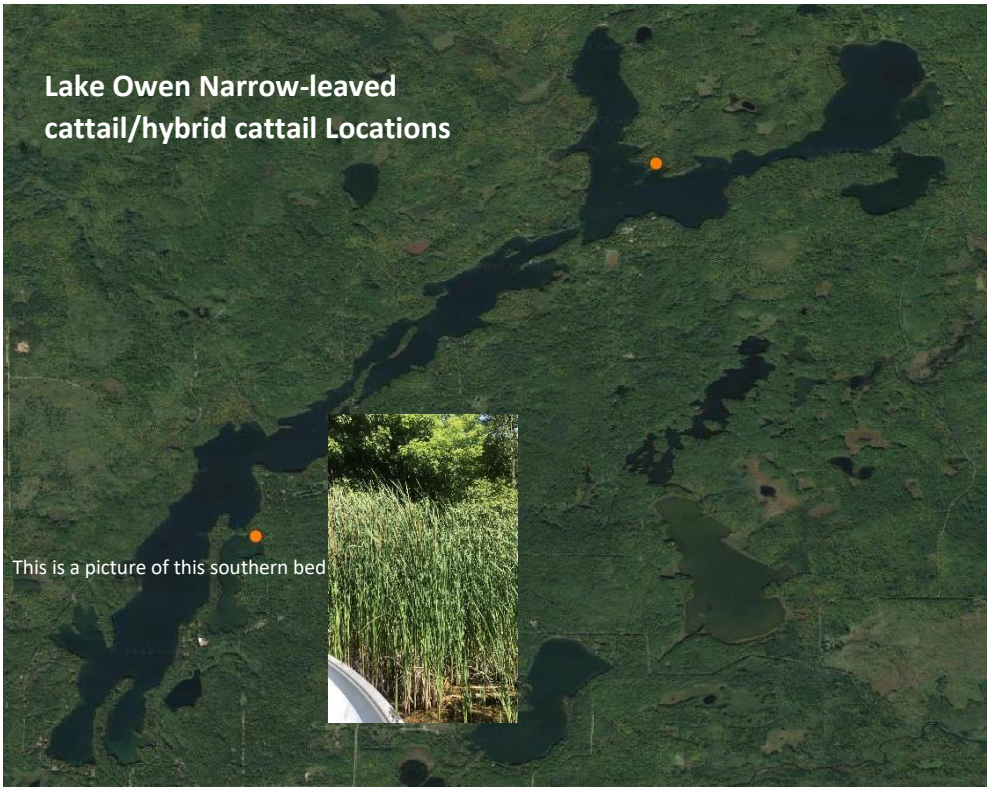


During the June and July 2023 meander surveys, aquatic forget-me-not (*Myosotis scorpioides*) was observed. The map below shows the locations recorded where forget-me-not is present.



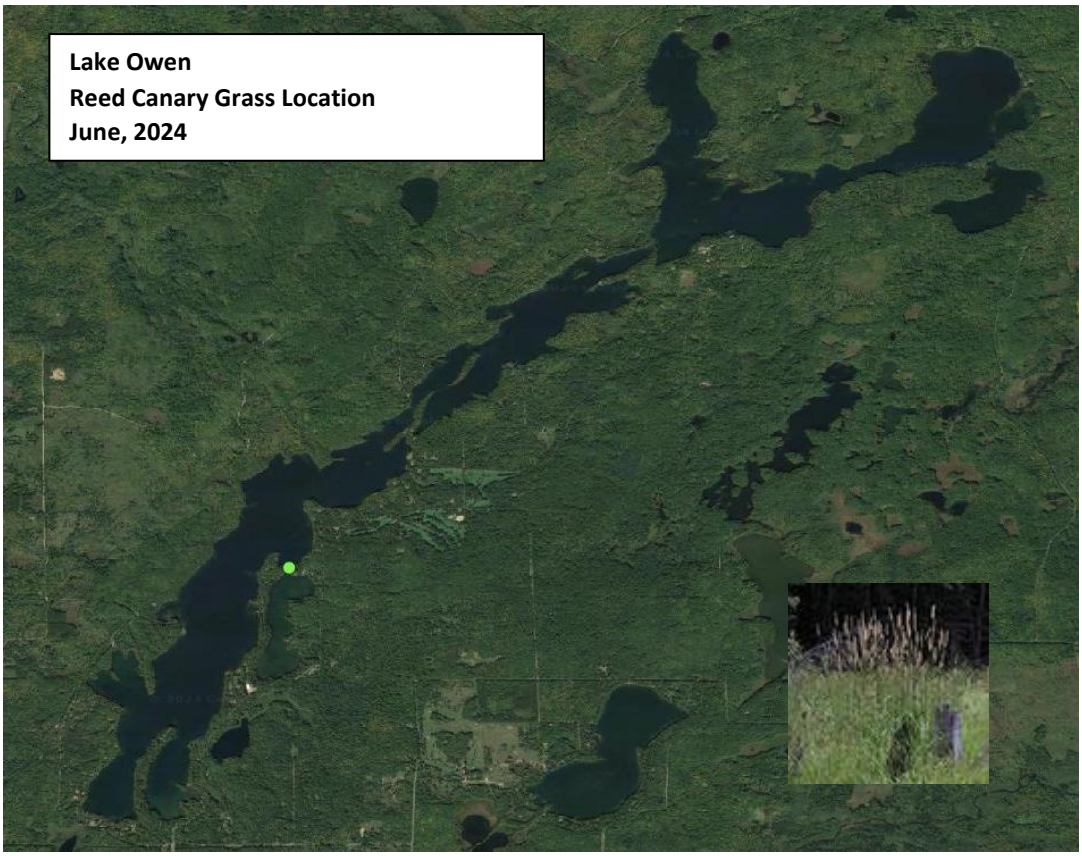
There are two locations of likely narrow-leaved cattail (or could include hybrid cattail) (*Typha angustifolia* or *Typha x glauca*) observed on Lake Owen. The hybrid cattail crosses the broad-leaved (native) and the non-native narrow-leaved cattail. Both the narrow-leaved and the hybrid are considered restricted invasive species in Wisconsin. Those sites are shown on the map below. There has been no apparent change in locations from 2023 to 2024.

Narrow-leaved cattails (and the hybrid) are considered invasive, but they can serve similar positive roles in the plant community. Since it hybridizes readily with the native broad-leaved cattail, it is not often managed. Occasionally, this plant can lead to a monotypic wetland, reducing other species. Narrow-leaved cattails can grow in somewhat deeper water than native broad-leaved cattails.



Reed Canary Grass (*Phalaris arundinacea*)

Reed canary grass is a widespread, non-native grass cultivar. A location on Lake Owen has reed canary grass growing. This grass is very common around lakes and wetlands (and other habitats) were human disturbance such as development has occurred. Since it is so common, mitigation is not typically done. On some occasions, if a shoreline restoration occurs and this grass is observed, mitigation will occur. Otherwise, it is typically documented and left alone. This grass may be in other locations around Lake Owen, but the site on the map was vouchered and identified as reed canary grass.


Lake Owen
Reed Canary Grass Location
June, 2024

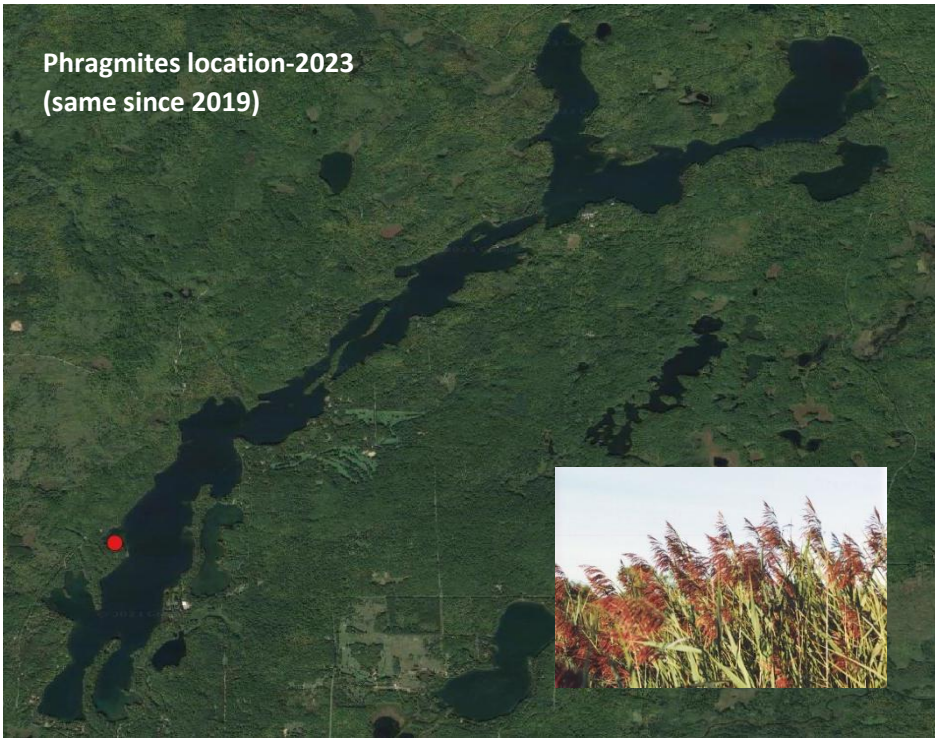
Yellow Iris 2023 Mitigation Results

In September 2023, the two yellow iris locations on the map were hand-removed. In June 2024, each site was evaluated for mitigation effectiveness. No yellow iris was observed at these mitigation sites in 2024. This lack of growth shows that the mitigation efforts had short-term success. The sites will continue to be monitored as the yellow iris could return over time.

The "new" yellow iris site in 2024 was also mitigated. Hand removal occurred in September 2024. The site had two very small clumps of yellow iris adjacent to the native blue flag iris. This site will be evaluated in 2025 to determine if any yellow iris remains.

Phragmites

In 2019, the prohibited invasive species *Phragmites australis* was discovered. In 2024, the Wisconsin DNR hand-removed the bed of Phragmites. It appears that most all the plants were successfully removed, but a few remain. The bed will be re-evaluated in 2025 and the Wisconsin DNR will likely follow-up on removing the remaining plants.



Zebra mussel Samplers

No zebra mussels were observed on the plate samplers. The plate samplers were in position from May 14 until October 21, 2024.

Chinese mystery snail

The presence of Chinese mystery snail in Lake Owen was documented several years ago. Some floating, dead snails were observed around the lake. Fairly dense snail populations were observed near the campground beach. No effective mitigation of Chinese mystery snail is available. Most lakes in northern Wisconsin are listed as having this snail, so analysis of snail populations is typically not done.

Recommendations

Yellow Iris

Since the one location of the yellow iris was hand removed in 2024, monitoring this site will occur in June 2025 to determine if all plant material was successfully removed. The entire littoral/riparian zones will be monitored carefully in June 2025 to locate any new yellow iris plants.

Aquatic-Forget-Me-Not

The locations of aquatic-forget-me-not were shared at the annual meeting with suggested hand removal by riparian owners. Some owners have carried out hand-removal efforts. This practice as well as locations should continue to be emphasized so this plant does not spread and overtake area wetlands. If this plant gets into a wetland area, it could create ecological issues. Forget-me-not tends to have shallow roots, so it can be removed with little effort.

Narrow-leaved cattail

Since narrow-leaved cattails are typically of low concern due to serving similar functions to the native broad-leaf cattails, mitigation may not be necessary. The beds of narrow-leaved cattail have little to no native cattail. However, native cattail beds should be monitored, and new narrow-leaved cattail plants should be removed by hand to ensure the invasive version does not take over the native cattail bed.

Phragmites

This invasive plant is designated as “prohibited” by the State of Wisconsin. This means this plant is of high concern. The bed was mitigated but continued monitoring and further mitigation may be necessary.

Zebra mussels

Lake Owen has a relatively low susceptibility to zebra mussel. However, the plate samplers should continue to be deployed each year for monitoring. Riparian owners should also be reminded to examine piers, boat lifts, and boats for zebra mussels.

Reed canary grass

Since reed canary is so widespread around lakes in Wisconsin, mitigation is typically ignored. Since this plant spreads so readily, shoreline restoration projects should monitor for this plant and remove it if it infiltrates the restoration plot.

Chinese mystery snails

No mitigation is available for these snails and they have been documented in Lake Owen for several years. No action is recommended currently.

All other AIS

Monthly meander surveys should continue annually from June through September. Early detection of AIS is critical, so routine AIS surveys will increase the chance of locating any new AIS infestation. Riparian owners should be reminded to contact the LOA with any concerns.