



## FIELD NOTES

**Lake:** Pleasant Lake, Washtenaw County, MI  
**Date of Observation:** 30 May 2018  
**Activity:** LakeScan™ Category 700 Pre-Treatment Condition Review

### Key Points

- ~ Good water clarity and better than historical plant community diversity.
- ~ Ebrid milfoil was growing at near to or extreme nuisance levels in many parts of the lake. It appeared that it had reached a stage where it will be sensitive to herbicide application in some areas of the lake but not all areas. It is recommended that ebrid milfoil be suppressed by herbicide treatment the week of late during the week of 04 June or early in the week of 11 June 2018 when it is more likely to be receptive to treatment.
- ~ Curly leaf pondweed was a significant nuisance throughout the entire lake. It appeared to be at a growth stage that would respond favorably to MIST.
- ~ Native pondweed production was observed throughout the lake. Growth was considered to have reached a general nuisance level in the eastern part of the lake. Native pondweeds have not produced nuisance conditions in previous years. Treatment of nuisance native pondweed production is constrained by MDEQ permit policy
- ~ Waterlilies were only beginning to appear in the lake. Production is considered to be later than normal.

### Narrative

The day was mostly sunny with only a light breeze. The water clarity was very good for Pleasant Lake. The water temperature near the water surface was near in the low 80°F.

Ebrid milfoil management has produced acceptable results in Pleasant Lake in recent years. However, this pernicious weed is expected to be the dominant nuisance in Pleasant Lake in 2018 and dominance levels appear to similar or less than levels observed previously in this lake. Ebrid watermilfoil has formed surface mats in large areas of the lake, but there are also significant areas where the plants appear to be just beginning the exponential phase of summer growth. Reasonable treatment outcomes will require adequate concentrations of anti-microbials, temperature, and active plant metabolism. The lake should be ready for treatment late during the week of 04 June or early the next week.

Curly leaf pondweed is very conspicuous this year and will succumb to the treatment applied for the control of the ebrid milfoil in this lake. Native pondweeds have reached dominance levels that have not been observed in previous years. It is certain that some lake residents will recognize this growth as an unequivocal nuisance. It must be noted that native plant growth was not identified as an objective of the Pleasant Lake SAD enabling resolutions and no line item was included for the management of native plant in the budgets. It is also critical to recognize that most of the nuisance pondweed growth is in areas of the lake that are not permitted for treatment by MDEQ permit policy. Mechanical harvesting would be a good solution to provide reasonable lake access in areas that are encumbered by this native pondweed growth. The cost of harvesting is very high relative to the use of aquatic herbicides. The potential application of harvesting operations as part of the Pleasant Lake management program needs to be considered during the SAD reassessment process.

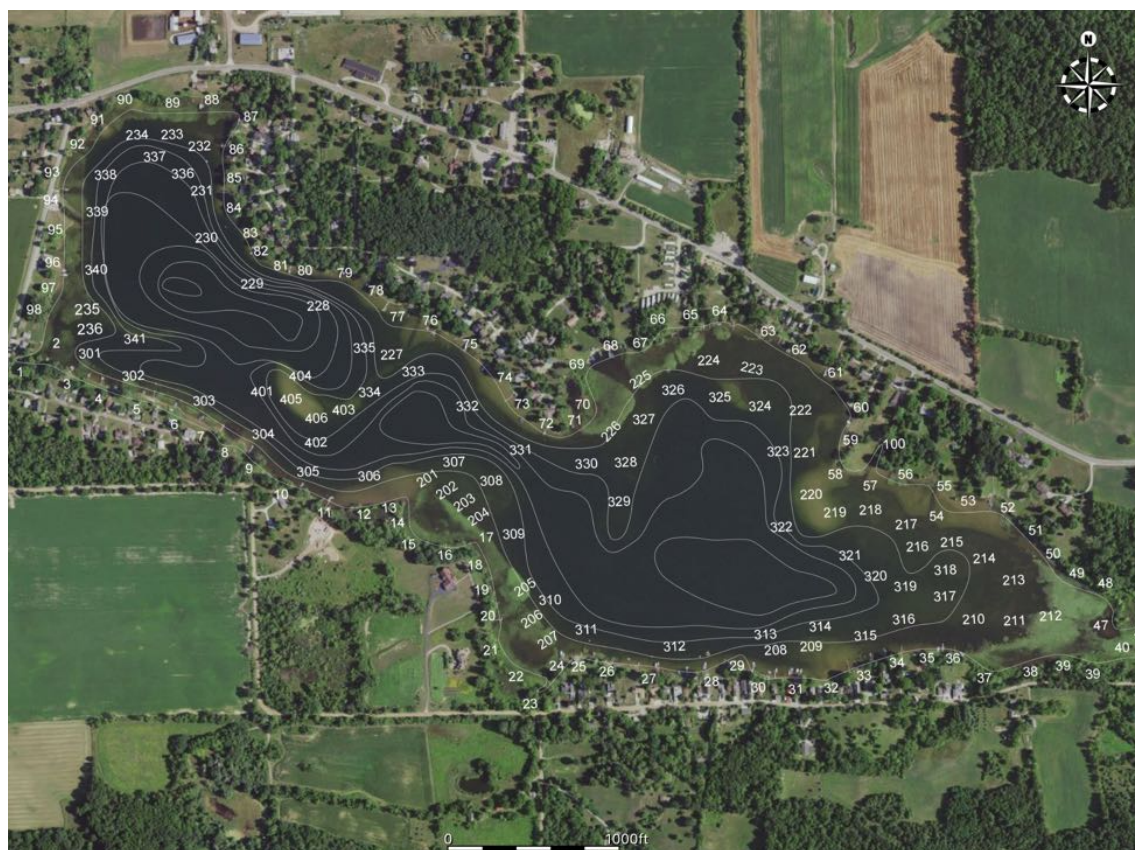


Figure 1. Pleasant Lake AROS map.

### ***Management Prescriptives***

The ebrid watermilfoil in Pleasant Lake has responded well to aquatic herbicides in recent years. There is a considerable risk of failure when herbicides are applied to water where the temperature near the sediments is not greater than 65°F. Some older plants and older plant parts are covered with algae and bacteria that can make the plant less sensitive to herbicide treatment. Furthermore, old plants and cold water can result in lower plant metabolism rates and prevent herbicide treatments from having full effect. Temperatures appeared to be nearly adequate for treatment in Pleasant Lake but and even though ebrid watermilfoil growth was observed at extreme levels in many parts of the lake, there were significant areas where the plants did not appear to be receptive to a herbicide application. It is strongly recommended that herbicide treatment not be applied to the lake until early in the week of June 11<sup>th</sup> to ensure that the herbicide applications result in acceptable outcomes.

A potent combination of herbicides and algaecides is recommended for the targeted control of nuisance milfoil and curly leaf pondweed. This potent mixture will not have significant impact on nuisance native pondweeds which are not typically permitted for treatment under normal MDEQ policy. Furthermore, these pondweeds are very resistant to most herbicide treatments. In many cases, mechanical harvesting is the preferred management strategy for nuisance native pondweeds. This strategy could be considered as a part of the SAD reassessment program.



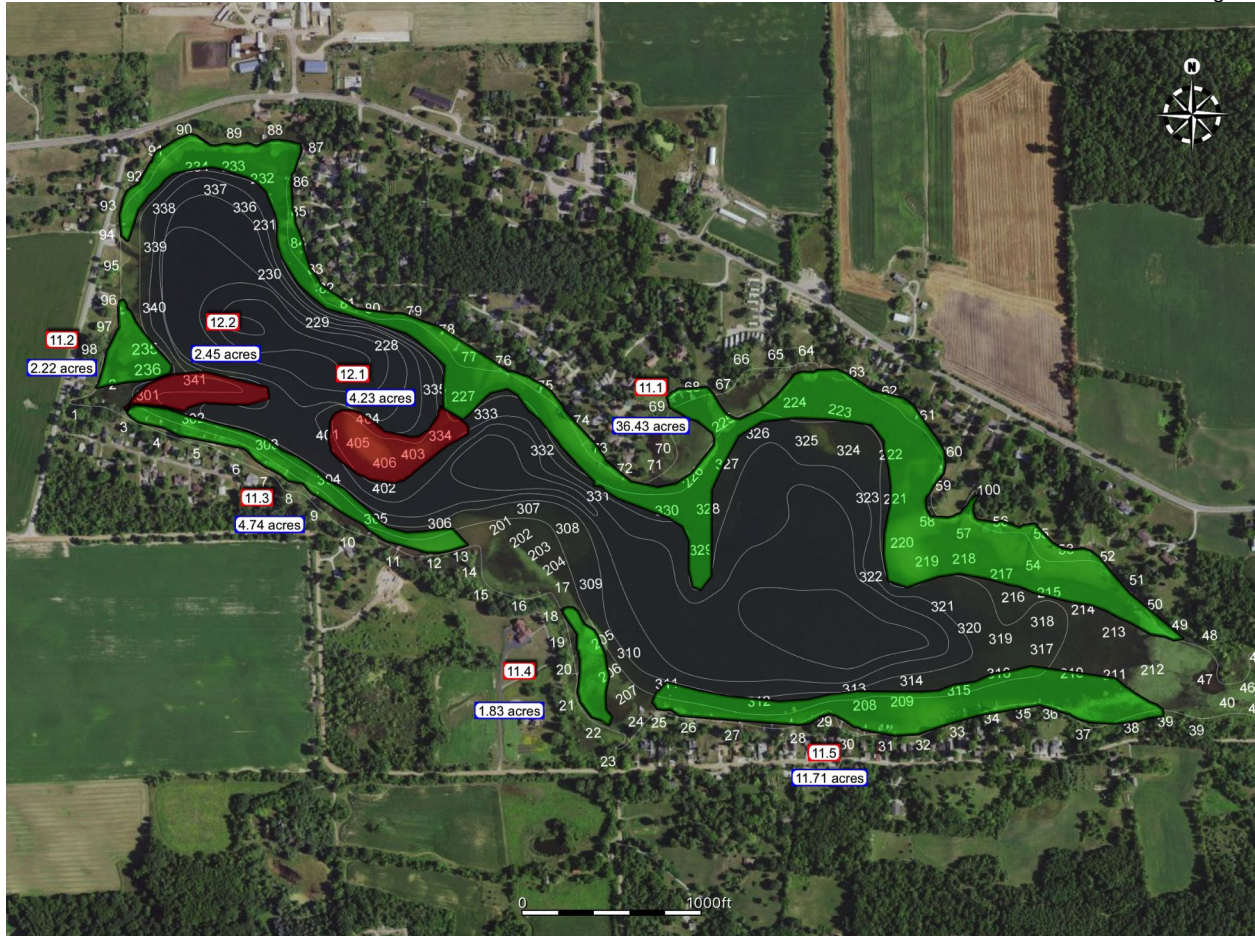


Figure 18TmtZ10 Proposed herbicide treatment for the control of extreme nuisance conditions caused by ebrid watermilfoil and curly leaf pondweed in Pleasant Lake, June 2018.