



9353 Hill Road • Swartz Creek, MI 48473
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www.lakeproinc.com

Van Etten Lake, Iosco County

September 4th, 2018

2018 Lake Management Report

2018 was the third year of the current Special Assessment District (SAD) for Van Etten Lake. Oscoda Township retained LakePro as the lake manager. Our lake management strategy was a continuation of our overall plan for the lake. The main goals were:

1. Locate and aggressively treat any Eurasian Milfoil
2. Locate and treat any other invasive species, such as Curly-Leaf Pondweed
3. Promote native plant growth, while keeping it below nuisance levels

In the spring, LakePro solicited bids for the herbicide treatments and PLM Lake & Land Management was awarded the contract for the third year in a row. The award was based on pricing, application technology, and customer service.

The following is a summary of lake management activities that took place in 2018:

June 2 Van Etten Lake Association Meeting

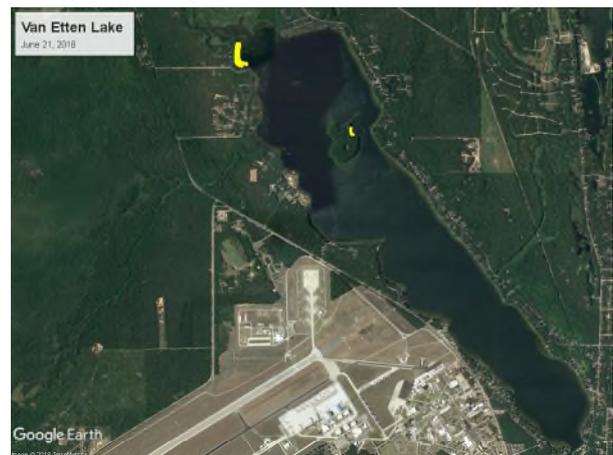
Peter Filpansick, LakePro attended the VELA meeting to discuss the lake management strategy for the summer.

June 21 Lake Vegetation Survey #1

LakePro surveyed the aquatic plants in the lake. During this survey we did not find any Eurasian Milfoil. We found algae and native plants at moderate to dense levels in many shoreline areas of the lake. LakePro used the results of this survey to design the next herbicide treatment, which included a large portion of the shoreline.

Herbicide Treatment #1

PLM applied herbicides in the Northwest Bay and in front of the homes on Loud Island. We planned an early treatment for these areas because the aquatic plants normally grow worse in these areas before the rest of the lake. These areas were recommended for treatment and approved by the Weed Committee and Oscoda Township.



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July 10

Herbicide Treatment #2

PLM was on the lake to treat shoreline areas for algae and native plants. The treatment included 89.0 acres with contact herbicides and algicides. The total cost of the treatment was \$27,590.00. LakePro was also on the lake to ensure the treatment took place according to the plan and the notification signs were posted correctly.



July 31

Lake Vegetation Survey #2

LakePro surveyed the aquatic plants in the lake. Our first objective was to check the previous treatment areas, and the treatment was very successful as controlling the native plants and suppressing algae. We also looked for any invasive species and did not find any in the lake.

Finally, we looked for any additional areas of nuisance native plant growth. At the time of this survey, there were very few plants in the lake all together. Instead, the lake was dominated by a cyanobacteria bloom. LakePro collected a water sample and identified *Anabaena* as the dominant species.

With this cyanobacteria bloom dominating the lake, LakePro made no further recommendations. The goal was to allow any vascular plants and green algae to grow to try competing against the *Anabaena*.



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Summary

In 2018, we enjoyed another year without invasive species in the lake. This allowed LakePro and PLM to focus on the nuisance native plants. Similar to previous years, we scheduled an early treatment for the Northwest Bay and Loud Island Cove, because these shallow areas grow worse before most other areas of the lake.

While on the lake to supervise that early treatment, LakePro also surveyed the entire lake to look for invasive species and native plants growing to nuisance levels. We did not find any invasive species in the lake, so we focused on the areas already showing heavy native plant growth. In 2017, LakePro recommended a conservative treatment for native plants. While saving some money, this left several residents with dense plants later in the summer. So, this year we recommended a more aggressive treatment to control nuisance algae and macrophytes.

After the second treatment, LakePro conducted another lake vegetation survey. The large shoreline treatment was very successful by controlling the macroalgae and pondweeds. But at the time of this survey, the lake was dominated by a cyanobacteria bloom. LakePro identified the bacteria as *Anabaena*.

After a large, aggressive treatment, the algae and plant cells decompose and release nutrients back into the water. The abundant available nutrients can fuel an algal bloom. Furthermore, the lake is constantly receiving additional nutrients from its watershed through the main inlets. Finally, *Anabaena* grows specialized cells that can fix nitrogen to help it grow faster. It was likely a combination of these factors that allowed the cyanobacteria to grow aggressively after treating for the green algae and native pondweeds.

The 2018 lake management was mostly successful. We met the primary goals of eradicating Eurasian Milfoil, watching for other invasive species, and suppressing nuisance plants. The only challenge that was unresolved was the cyanobacteria bloom, which is extremely difficult to control after it occurs. You may consider options to prevent future blooms, which include nutrient mitigation and less aggressive treatments of native algae and plants.

The aquatic plant management on Van Etten Lake is not complete. Continuing your efforts is vital to keeping the lake in the great condition we saw this summer. We must diligently search for new introductions of invasive species such as Eurasian Milfoil, Phragmites, or Fanwort. Also, keeping native plants below nuisance levels will make boating, swimming, and fishing better for everyone on the lake.

Thanks for another great summer on your lake,

Peter Filpansick
Director of Lake Management
Aquatic Biologist

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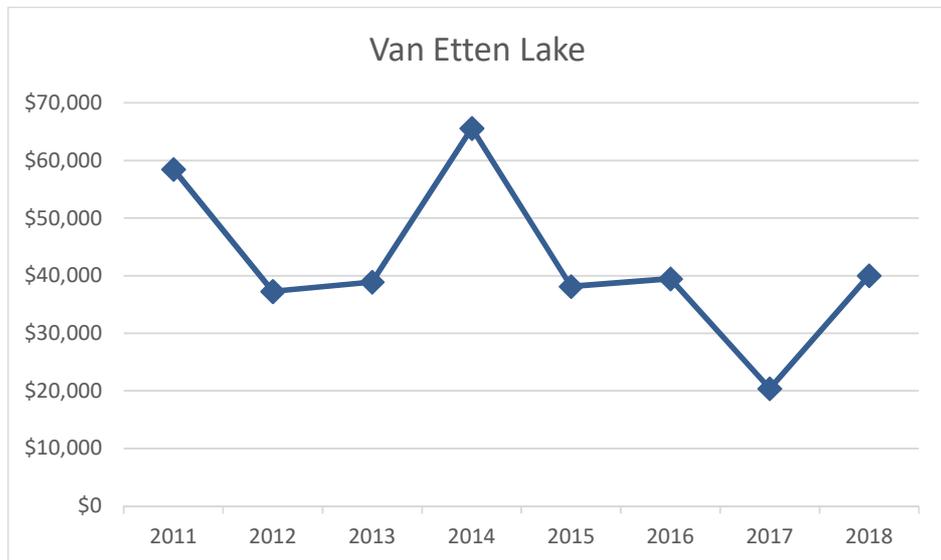
2018 Lake Management Expenditures

LakePro, Inc.	Lake Management Consulting	\$ 8,000.00
MDEQ	Aquatic Nuisance Control Permit	\$ 1,500.00
PLM Lake & Land	Treatment #1	\$ 2,940.00
PLM Lake & Land	Treatment #2	\$27,590.00

2018 Lake Management Total: \$40,030.00

Historical Lake Management Expenditures

2018	\$40,030.00
2017	\$20,404.00
2016	\$39,510.00
2015	\$38,120.00
2014	\$65,601.92
2013	\$38,897.50
2012	\$37,254.50
2011	\$58,475.25



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