



October 7, 2020

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5780 North Watervliet Rd
Watervliet, MI 49098

PLM Lake & Land Management will provide a lake management program for the control of exotic weeds and/or algae in **Paw Paw Lake for the 2021 season.**

Aquatic Vegetation Control Plan for Paw Paw Lake – 2020 Treatment Summary and 2021 Recommendations.

The 2020 season was a successful year in regards to exotic plant control on Paw Paw Lake. Based on conditions in 2019, treatment timing was adjusted to address possible early/mid-June plant growth with the intent of having plants controlled prior to July 4. This strategy was successful and we were able to address Eurasian watermilfoil, Curlyleaf pondweed and Thinleaf pondweed in a single treatment. Treatments for the remainder of the season were fairly small in scale. At the end of the year, Eurasian watermilfoil re-growth was starting to occur. Based on the abundance and distribution in Paw Paw Lake, we are recommending the use of Sonar A.S. for 2021.

The pricing for Sonar has been adjusted based on new protocols. Historically, Sonar dosage rates have been estimated using a hypothetical 10-foot thermocline depth. This method does not account for variations in thermocline depth and runs the risk of not achieving an effective dosage rate due to dilution of the herbicide. PLM has utilized a new protocol using the “evaluation treatment” permit application that allows for the use of the actual thermocline depth to calculate dose. With this method, the thermocline is measured a few days before application. Based on the depth, the amount of Sonar required is determined. This method increased the chances of obtaining a 6 ppb concentration and a more effective treatment. During the last Sonar A.S. treatment, FasTEST results (Sonar concentration measurements) were much lower that we would have hoped. The evaluation method will allow us to get closer to the 6 ppb target concentration.

Whole Lake Treatments – Sonar A.S. (fluridone)

Whole lake treatments using Sonar A.S. (fluridone) can provide excellent, long term (2-3 seasons) control of Eurasian watermilfoil. Sonar A.S. also has the ability to provide selective control of Eurasian watermilfoil. Sonar A.S. treatments consist of two treatments conducted in late April and early May. It is applied at a low rate of 6 ppb (parts per billion) to selectively control Eurasian watermilfoil. The initial application is conducted once the lake has stratified and is applied at 6 ppb. Following the initial application, the concentrations are monitored (FasTESTS) at various time periods. Based on the Sonar concentrations at 14 days after treatment, a “bump up” treatment is conducted to bring Sonar levels back up to 6 ppb. Since Sonar A.S. is applied to the entire lake, all Eurasian watermilfoil is controlled lake wide. Sonar A.S. is slow acting and control is usually achieved over a 45-60 day period. This treatment strategy is best suited for lakes that have a high density and wide distribution of Eurasian watermilfoil. The use of other herbicides are not permitted by MDEQ the year Sonar is applied. Sonar A.S. applications can only be conducted every three years.

Estimated Cost for using Fluridone (Sonar A.S.):

April/May: Fluridone treatments 6ppb:	\$92,800.00	\$92,800.00
April/May: Fluridone Bump-up to 6ppb:	\$10,460.00	\$61,840.00
Additional requirements by MDEQ: ~	\$6,970.00	\$7,630.00 (see description below)
SSW Treatments: ~	\$0	\$4,000.00
Estimated total cost using Fluridone:	\$110,230.00	\$166,270.00

Additional requirements by MDEQ

Cost per fastest: \$140.00 MDEQ required fastest (measurements of Fluridone ppb)

Cost per survey: \$840.00/survey (required by MDEQ)

Cost for MDEQ Permit: \$1,500.00

Cost for Lake Management Plan: \$750.00 (required for MDEQ)

Contract Terms:

Contract Period:

One Year Treatment Program: Pricing is based on the type and the amount of vegetation or algae present at the time of treatment, as well as, the products applied. Unlike the multiple year program, an agreeable price structure is not contracted into a one-year program. Therefore, an increase in the cost of products, labor, or changes made by the DEQ or other regulatory agencies may have an effect on the pricing for following years.

Permit Fee:

PLM Lake & Land Management is responsible for completing and submitting aquatic nuisance permit applications. PLM Lake & Land Management will send an invoice or statement for the yearly DEQ permit application fee. It is your responsibility to send a check made out to the "State of Michigan" to our office. We must include this check with the DEQ permit application.

Posting of Treatment Areas:

Posting of shoreline treatment areas is the responsibility of PLM Lake & Land Management and will be conducted according to MIDEQ regulations. Signs will be attached to thick barked trees, posts or other suitable fixtures already on site. If homeowners wish to have signs posted in designated areas or on specific fixtures they must notify PLM Lake & Land Management, providing lake address, location of property, and where the signs are to be posted. Pictures are the most informative way to relay this information. Notification of alternate posting must be made at least 14 days prior to treatment and additional fees may apply. The removal of posting signs after the restrictions have expired is the responsibility of the homeowner.

Notification of Treatments:

It is your responsibility to notify each resident within **100 feet** of the treatment area **at least seven days** in advance, **but no more than forty-five days** prior to the first treatment date, that products will be applied to the lake. This notification requirement **must** be administered to each and every property owner within 100 feet of any treatment area. PLM Lake & Land Management will provide a tentative treatment schedule and the **Notice** of proposed products to be used during the spring of each year. We will also notify resident within 100 feet of the treatment areas on the day of treatment.

Electronic Treatment Notification:

In addition to the above-required notification procedures, the Department of Agriculture allows for electronic notification i.e. email with the contracting entity. Therefore, if the contracting entity is a township, lake board, or municipality, you will also receive the same information that is being distributed to each resident (Posting Sign) prior to the treatment. By signing this agreement with PLM Lake & Land Management Corp and providing us the contracting entity email address, we can legally implement the electronic notification procedure.

Non-Target Species:

Please be aware that we only control weeds and algae **present** at time of treatment. Emergent vegetation (cattails, bulrush, purple loosestrife), lily pads, eel grass and sago pondweed require separate programs for control and are not addressed unless specifically mentioned in the management program. We have no control over future weed or algae

growth based on the current chemicals registered for aquatic use in Michigan.

Invoicing and Payments:

PLM Lake & Land Management will submit an invoice following treatment that will include the following information; lake and/or pond(s) treated, date of treatment and type of treatment or acres treated. Monies will be due net sixty (60) days after each treatment. Interest of 1.25% will be added to your bill for each additional ninety (90) days that payment is not received. Payment terms are negotiable.

Liability Issues:

We are responsible for workman's compensation and liability insurance for the duration of the contracted period. PLM Lake & Land Management is not responsible for fish loss due to low oxygen levels caused during warm water conditions.

Sincerely,

Andy Tomaszewski
Southern Regional Manager
PLM Lake & Land Management

For **Paw Paw Lake:**
One-Year Program _____

Print Name **Date**

Signature

