# PLM Lake & Land Management Corp.

March 3, 2021

Hartwick Township
Hicks Lake SAD
10823 15 Mile Rd
Evart, MI 49631

Thank you for the opportunity to provide a contract for management services on Hicks Lake. PLM works throughout your area and we are pleased to be able to offer you a management program. PLM has expanded our services, staff, technology and equipment to offer our customers the most educated, dedicated and responsive service time in the industry. As advancements in the industry have been made, PLM has been on the forefront. Some projects and advancements include; working with genetic research on milfoil plants; researching Starry stonewort and its reproduction, treatment and infestation in Michigan; GIS mapping with GPS/GIS overlays; and MI EGLE approved evaluation treatments to name a few. The following contract is provided for the management and chemical control for Hicks Lake, Osceola County. If any additional information or changes to the services proposed are needed, please contact me. This contract is set up to include the considerations outlined in the request for proposal.

**Management Program for Hicks Lake 2021:**
Hicks Lake, Osceola County (~160 acres) needs to be properly managed from all aspects, including but not limited to plant and algae growth, water quality monitoring, surveying and educating riparian's. Hicks Lake currently has an infestation of Eurasian watermilfoil (EWM) as well as some areas of dense native growth and algae concerns pending weather.

PLM's education and experience within aquatic plant and lake management allows us to be an all inclusive lake management service provider giving our customers access to many services and management options. As each lake requires their own specific management tools, the following services are only a place to begin in properly managing your lake as a vital lake ecosystem to protect as well as an asset to properly manage for the property owners surrounding the lake as well as all those within the surrounding area. To achieve proper management of exotic plant growth, herbicide treatments will need to take place. Recommendations will be made to improve the overall water quality of the lake as well, pending water quality program participation. Recommendations will be made to all riparian's, via newsletter mailings (annually in the spring) and meetings, to assist the township and committee, in improving the watershed surrounding the lake and communicating on the goals and services of the program. If and when additional management services are recommended and/or if your board wants to discuss the possibility of incorporating additional services into the management program, please feel free to contact us, as we are always willing to meet and discuss management options. PLM's experience gives us direct knowledge and the ability to offer recommendations in all aspects of lake management on Hicks Lake.

In order to properly manage Hicks Lake, a diverse and strong native plant community needs to be promoted. This is done in a variety of ways, including by controlling the infestation of exotic and invasive plants. Controlling exotic and invasive species is vital to the overall health of the lake, however some constraints do exist and as a community, we can work through those. In addition, monitoring the lake for both plants and water quality parameters is key to the long-term success of the program. Reducing nutrient loading, promoting natural buffers and shorelines and dealing with elevated phosphorus levels are also important when managing the lake. Educating riparians on lake ecology (spring newsletter), protecting the environment and working with all that use Hicks Lake to prevent entry of new plants will assist in the long-term lake management efforts.

**References:** PLM works on hundreds of lakes and ponds across Michigan, divided into four geographical areas. Hicks Lake falls within our Northern Lakes Territory. PLM works on many lakes in Osceola County including Miramichi, Negaunee, Lure, Big, Rose, Todd and Center as well many in neighboring Wexford, Clare, Lake and Mecosta Counties. See attached reference list for more information. PLM has been in business over 40 years and many of our clients have worked with PLM for decades.

**Communication:** PLM can communicate directly with the township, committee and/or a Lake Representative upon direction. If a group (Township, Committee) would like to be communicated with regularly, an email chain is preferred. Each time PLM is on the lake (to perform a survey, WQ testing, treatment, etc.) pre notice of the schedule is confirmed (i.e. Phone call or email the week before of estimated date). Following a service, notification of services provided including condition of lake, future recommendations, etc. is made (typically via phone, mail or email). This is a standard part of our program to keep

communication open on all decision-making, and serves as a checks and balances of lake management.

**Electronic Treatment Notification:** In addition to, 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.

**Text Message Pre-Treatment Notification:** In an attempt to enhance our communication, similar to the electronic notification procedure, PLM can provide pre-treatment communication via text message to contracting entities as well as lake residents prior to treatments. This notification will simply reference the proposed treatment date and will not accept reply text messages. This communication option will only be implemented if the client provides PLM with text message number.

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**Surveys:** Surveying the lakes is key to the success of any lake management program. In order to properly manage Hicks Lake, a survey program needs to include a variety of surveys and lake visits to ensure the lake is reviewed throughout the season. PLM's management programs include numerous survey visits throughout the season to allow all plants to be documented.

AVAS Surveys of the lake will allow for all vegetation within the lake, native and exotic, to be recorded along with density. An AVAS Survey (Aquatic Vegetation Assessment Site Survey) is the MI EGLE approved format for surveying lakes. Grid-point surveys may also be used on Hicks Lake when appropriate and to assist in allowing all survey techniques to be used to collect the most reliable vegetation data. This data is important in determining management plans and treatment areas. A full understanding of the vegetation growing within the lake can indicate problems within an aquatic environment and it is important to have the most detailed surveys possible. An AVAS Surveys should be performed in the fall of each season (an additional spring AVAS is optional).

An initial full lake survey in the spring will take place to prepare treatment plans and evaluate overall lake conditions. Acre plot maps, as well as GPS technology, may be used throughout the surveys when preparing treatment maps. Please note that board/committee members can accompany PLM in the field for surveys if pre-arranged. This survey will be used to determine the most appropriate, up to date, treatment recommendations based on the current growth in the lake. Following this survey, recommendations will be made which will include treatment locations, product rates and totals, costs, etc. This will be reviewed and approved prior to treatment.

Pre/Post treatment surveys will take place throughout the summer to document plant growth and prepare any additional treatment maps and recommendations.

Brief surveys will be done as needed throughout the summer during additional water quality visits, on request or as needed.

AVAS Survey cost: $400.00

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**Water Quality Program - Optional:**
*Deep Basin Site $525.00*

PLM's basic Water Quality Program: Water quality will be sampled two times per year (spring and late summer). On each occasion, (1) a depth profile of water temperature, Secchi Disk, pH, Conductivity, TDS, and dissolved oxygen concentrations will be measured at one meter intervals, (2) samples for LakeCheck™ (Total Phosphorus, Nitrogen, Total Alkalinity) analysis will be collected from deep hole basin of the lake.

Additional parameters (Ammonia, Chlorophyll a, Algae composition, etc.) can be added to the program as needed. Until updated levels are tested/evaluated from PLM, the basic program is recommended.

*E.coli Testing $100.00*

E.coli testing will be performed during the summer months at 3 locations throughout the lake. Sampling will occur one time, unless elevated readings are found.

Additional sampling can be incorporated into the standard water quality program as needed. Nutrient testing may need to be considered in the future at additional areas.

*Reports:* Reports are issued annually in the fall when all samples have been collected and processed.

Total Cost of WQ Program: $625.00/site. Recommended 1 sites total. $625.00

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**Optional Management Services Available:**

**Lake Management Plan (LMP):** A formal management plan can be complied in the fall of every season. All information requested in the bid (if applicable) will be included in the report, including but not to limited to: Yearly Treatment Summaries including location maps, herbicides, rates, quantities and pre/post survey maps; Vegetation survey information including plant species name (common and scientific), plant group, location, and density; Water quality reports; Plant trend graphs and data; Recommendations for the following season. The update gives the control program an overall scope of the activities preformed and recommendations for the seasons to come. A yearly management plan will be completed at the end of each season and available in the fall. Cost for Management Plan: $750.00 optional

If a formal LMP is not required, a year-end On-Site report will be issued including recommendations for the following year, summary of treatment activities from the current season, financial statements with acreages, rates, costs; as well as observations from the treatment activities. This is provided at no charge.

**Lake Newsletter:** Annually a newsletter to all residents can take place informing all riparians of the planned activities for the season. The newsletter may include information such as: updates on aquatic plant management, goals of the program, plant trend and best management practices. It will update residents on actions taken, tentative treatment plans and dates and potential restrictions as well. Any additional information the lake group would like to include in the newsletter can be included. There is no cost for preparation of newsletter. An updated address list needs to be provided to PLM annually. Yearly newsletter to all residents: Cost: postage cost only

**Bathymetric Mapping:** PLM utilizes state of the art mapping technology in order to provide you with an accurate and detailed depth contour map of your lake. This new software, combined with the latest in GPS/Depth finder units, has the ability to quickly collect precise bathymetry (depths) and aquatic vegetation of any given waterbody. This data can then be used to create accurate bathymetric, vegetation bio-volume, bottom hardness or treatment maps. A bathymetric map can be done with or without a survey of the lake and vice versa. A new bathymetric map is recommended every 10-20 years in order to establish updated base data on the lake, track historical changes, etc. New bathymetric mapping may be highly recommended prior to certain treatment protocols (Sonar). Biobase mapping costs can range pending the time of year. Inquire for pricing: standard price $1250 (50% reduction for sonar prep)

**Milfoil Genetic Testing:** Over the last decade, advancements in technologies have allowed genetic testing of milfoil stems to determine genetic makeup (i.e. Northern watermilfoil versus Eurasian watermilfoil versus Hybrid watermilfoil). This testing has confirmed that there are variances in the genetic makeup of different hybrid milfoils. Genetically testing milfoil can be helpful if treatments have shown unexpected results. PLM has been collaborating with Universities across the country in sampling and studying the genetic makeup of milfoil infestations across Michigan. Although this data is very helpful in researching milfoil, genetic testing is not a requirement. PLM can genetically sample milfoil upon request or if required for management implementation. Testing per stem: $165.00.

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**Meeting Attendance/Presentation:** A representative of PLM is available to attend lake association/township board/ committee meetings upon request. Residential concerns can always be brought to the board and then to PLM or directly to PLM by calling our office. PLM will be available to attend up to four meetings with the committee/public hearings and is willing to attend any and all meetings that are pertinent to the lake and its management. Any meetings falling on national holidays and/or the weekends of national holidays will have to be pre-approved with PLM and alternative dates may have to be arranged.

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**Nutrient Abatement:** PLM's healthy lakefront living guide, which includes many measures taken to promote a healthy lake and reduce nutrient loads, will be presented to riparians and discussed in our annual newsletter to residents. Additionally, PLM is certified to work with the natural shoreline partnership to restore shoreline areas for the protection of the lake and reduction of nutrients entering the lake. Hicks Lake can work with PLM to perform a "Score the Shore" to evaluate the lake shoreline and explore opportunities to improve the lake conditions. In addition, nutrient remediation efforts can include dredging, aeration, bacteria augmentation, watershed planning, and tributary testing/improvement to name a few. PLM will work with your group to incorporate the best management practices available for Hicks Lake, if so desired.

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**Permitting:**

**MI EGLE Permit**: PLM Lake & Land Management Corp. will handle the application of the permit to the MI EGLE. All permitting fee costs are the responsibility of Hartwick Township. The permit will be applied for by PLM and PLM holds the responsibility of complying with the permit. Estimated permit fee is $800.00- $1500.00 pending acreage treated.

**Posting of Treatment Areas:** Posting of shoreline treatment areas is the responsibility of PLM Lake & Land Management and will be conducted according to MI EGLE 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 Corp., 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. It is standard policy to post the day of treatment, to ensure the most limited restriction be placed on the lake and limit water and swimming restrictions. Adjustments to this policy can be discussed with PLM and specified for your lake. Advanced posting may require reposting, which could delay treatment and impact costs. PLM is happy to discuss alternatives from our standard practice to suit your needs.

**Notification of Treatments:** PLM will notify each residents 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 (with a provided list of addresses from the township SAD). This notification requirement **must** be administered to each and every property owner within 100 feet of any treatment area. PLM Lake & Land Management Corp. 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 residents within 100 feet of the treatment areas on the day of treatment. This notice is intended to be done with the annual newsletter and if not, postage fees may apply.

**MSDS Sheets:** MSDS sheets are carried in all PLM trucks and available at the lake for review if needed. Electronic PDF's of all MSDS sheets will be provided to the township as requested. All Residents will also receive an updated copy of the MI Department of Agriculture and MI EGLE approved "Risk Benefit Statement" in the first year of working with PLM.

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**Treatment Plan:**

**Treatment Duration:** PLM will make ALL attempts to minimize restrictions on the waterbody and perform all treatments in a timely, efficient manner. In most situations, a 1-day treatment window will be feasible to comply with treatment needs. In the event of weather or delay, a second day MAY be needed; however, PLM has the staff and equipment to perform the treatments on Hicks Lake in one day.

**Treatments:** All treatments will be done in reflection of the approved MI EGLE Permit and under those regulations. All treatments will be pre and post surveyed for effectiveness. The applicator will have specific instructions and maps to allow for the most effective and efficient application. All treatments will be performed to protect the lake and fish habitat. For exotic plant management, herbicide treatments are a common, are normally the preferred and most successful management choice for selectively, and cost effectively controlling EWM as well as other exotic plants. However, other management options are available including but not limited to harvesting, suction harvesting, benthic barriers, biological control measures, etc. PLM has worked with all management tools and will continue to work with new options as advancements are made. PLM will survey and determine the scope of management needed, make recommendations and provide options for management choices (if applicable) and implement the program. Usually, chemically controlling EWM is most effective. Please see our survey section for more information on how our survey programs are implemented.

PLM uses the latest technologies available for milfoil control. If and when a new herbicide is available for milfoil control, PLM evaluates its usage and implements it into our management programs when appropriate. Over the years, new products have greatly improved our ability to manage milfoil. Recently, ProcellaCOR has been approved for use and PLM has been using it to determine its place in our future management programs. Combination treatments may be recommended as well and have been shown to have synergistic results for greater milfoil control. This can be done with the use of ProcellaCOR or other products. If and when it is best for Hicks Lake, we will review costs and update information. Further, Hicks Lake may be an ideal candidate for a whole lake, Fluridone treatment, versus a spot treatment approach. PLM will continually evaluate your waterbody and make updated recommendations based on annual findings. Finally, we are always managing a lake for the current season but also for seasons to come. Management decisions need to allow for annual changes or variations to avoid plant resistances.

Initially, Hicks Lake will be surveyed in the spring and treatment recommendations will be updated based on the presence, distribution and density of milfoil. At that time, PLM would also review the plan for 2021 and 2023 and if a whole lake treatment program should be explored. If it is, the decision to use systemic herbicides the year before should take place along with additional conversation on the benefits or rotating active ingredients for treatment longevity.

Treatment effectiveness is determined post treatment with survey work. If and when results do not meet expectations, follow up treatments are done, normally at no cost to the client. Our control guarantee and manufacturer support allows for highly effective treatments. If, by rare chance, plants show abnormal responses to control measures, follow up discussions will need to take place.

**Algae Treatments:** Algae can become an issue on lakes during the peak growing season, when temperatures rise and production is high. Elevated Total Phosphorus in the lake can lead to increased production and algae blooms as well. Algae can be an issue in the channels as well, where water flow is reduced. Algae can be controlled in a variety of ways, standardly with the use of copper products (Copper Sulfate or Chelated copper). SeClear G, which is a copper complex algaecide also has the capabilities to dissipate Phosphorus from the water column, potentially reducing the productivity of algae and providing longer control. SeClear may be a preferred treatment method. Although is it more expensive than standard approaches, it does provide a long-term proactive approach and addresses the cause of the problem and not just a reaction.

**Herbicide Treatments Restrictions:** All treatments will be done in reflection of the approved MI EGLE Permit and under those regulations. All herbicide treatments carry a one-day swimming restriction, regardless to the label, to keep residents out of the way of equipment coming into swimming areas. This creates a much safer environment for residents and the technicians working on the waterbody. PLM works in a manner to reduce this imposition on residents with having effective and efficient treatments. Further, no treatments occur to restrict weekends or holidays. Irrigation restrictions vary pending which products are used for milfoil control. Restrictions can vary from none to a few days or weeks, sometimes longer. These restrictions are posted prior to treatment and PLM works with each treatment to ensure the least restrictive restriction is used. There are no fishing restrictions associated with any treatment.

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**Tentative Plan of Action for Hicks Lake:**
**Winter 2020:** Apply for MI EGLE Permit
**Spring 2021:** Newsletter/notification to residents
**April/May/June:** Spring survey. Potential initial herbicide application. Water Quality testing (optional).
**June/July/August**: Pre/post treatment surveys as required. Follow up herbicide treatments based on growth of vegetation. Water Quality testing (optional).
**August/Sept:** Pre/post treatment surveys as required. Emergent (Phrag) treatment if required. Fall AVAS Survey. Water Quality testing.
**Fall/Winter 2021:** Prepare year-end reports on Hicks Lake and recommendations for next season.
Note: PLM schedules roughly every 3 to 4 weeks for pre/post surveys and applications and performs services only based on approval and set management programs.

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**Unit Costs per Acre**

| **Systemic Herbicides:** | **Cost:** | **Application Rate:** | **Potential Plant Target** |
|---|---|---|---|
| Sculpin G: | $325.00 | @120lbs/acre | EWM |
| Navigate: | $410.00 | @100lbs/acre | EWM |
| Renovate OTF: | $450.00 | @120lbs/acre | EWM |
| Renovate 3: | $250.00 | @2.5gals/acre | EWM |
| ProcellaCOR: | $115.00 | @1PDU | EWM |
| | | | |
| **Contact Herbicides:** | | | |
| Diquat: | $160.00 | @1gal/acre | EWM/CLP/nuisance natives |
| Diquat: | $180.00 | @2gals/acre | EWM/CLP/nuisance natives |
| Aquastrike: | $325.00 | @2.5gals/acre | EWM/CLP/nuisance natives |
| Aquathol K: | $175.00 | @1gal/acre | CLP/nuisance natives |
| Clipper: | $450.00 | @200ppb | EWM/CLP/SSW/nuisance natives |
| Clipper: | $325.00 | @100ppb + contacts | EWM/CLP/nuisance natives |
| | | | |
| **Other Services:** | | | |
| Nautique: | $385.00 | @7.5gals/acre | Wild Celery |
| Komeen Crystals: | $640.00 | @40lbs/acre | SSW/Wild Celery |
| Algaecides (per acre): | $40.00 | @5-6lbs/acre + chelated copper | Algae/SSW |
| Algaecides (per acre): | $45.00 | @13lbs/acre | Algae/Chara/SSW |
| SeClear G: | $150.00 | @20lbs/acre | Algae |
| AVAS Survey: | $400.00 | | |

| | |
|---|---|
| Water Quality Program: | $625.00/site |
| Lake Management Plan: | $750.00 |
| Bacteria Augmentation: | $275.00/acre muck |
| Bathymetric mapping: | inquire for pricing |
| Mechanical Harvesting: | $250.00/hour ($5,000.00 minimum) |
| MI EGLE Permit: | $800-$1,500.00 |

*Unit cost application rates are provided. If the application rate is adjusted, the unit cost will be proportionally adjusted for the increase in rate.
*Hybrid milfoil populations require increased application rates and more aggressive treatment protocols, often increasing the cost/acre and overall lake budgets. It is important to stay on top of milfoil populations and manage a waterbody for changing genetic makeups.

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**Alternative 1: Estimated Spot Treatment Budget**: *The low, middle and high estimations are provided to show potential treatment variances from year to year and IF THE LAKE IS LEFT UNMANAGED how quickly the budget will change. The high estimate includes more aggressive control in addition to worst-case scenarios with exotic plant control required. The low estimate provides an option reflective of only exotic control and a more limited program. PLM will work within the approved budget and bill based on the product requirement.* All budgets are comprised using the unit costs per acre listed above and approximate acreages. The below budget is determined using estimated acreages. All treatment costs will stay within approved funds. Treatments will only be performed as required and approved. This estimate is a basis to get started. It is **likely** that after a sonar treatment (alternative 2) or a year or two of treatment, the overall budget will reduce.

| **Chemical Program:** | **Est. Low** | **Est. Middle** | **Est. High** |
|---|---|---|---|
| Permit: | $ 800.00 | $ 800.00 | $ 1,500.00 |
| Developed shoreline area: | $ 6,000.00 | $ 8,000.00 | $12,000.00 |
| Offshore/undeveloped area: | $15,000.00 | $19,000.00 | $24,500.00 |
| Algae: | $ 1,000.00 | $ 1,500.00 | $ 2,000.00 |
| *Subtotal:* | *$22,800.00* | *$29,300.00* | *$40,000.00* |
| **Management of lake** | | | |
| Survey Program | $ 400.00 | $ 400.00 | $ 400.00 |
| Water Quality Program | $ 000.00 | $ 625.00 | $ 625.00 |
| *Subtotal:* | *$ 400.00* | *$ 1,025.00* | *$ 1,025.00* |
| **Total:** | $23,200.00 | $30,325.00 | $41,025.00 |

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**Alternative 2: Sonar A.S. Treatment Option**
When EWM has been in a lake a few years and is wide spread in distribution around the lake, it is common to explore other treatment options than traditional spot treatments. Spot treatments seek out the milfoil and targets it either with a contact or systemic herbicides. A whole lake treatment is a systemic treatment approach that spreads throughout the water column to find all the EWM, and therefore can provide a more aggressive management option. Using Sonar A.S is done earlier into the season than standard treatments and is typically done in a 2 or 3 treatment process. Treatments would typically occur in Mid or early June, pending ice out and spring warming. This is helpful because it reduces the swimming restrictions throughout the summer. The irrigation restriction is longer than other treatment options, posted at approximately 30 days, however as this treatment manages the lake in a short and long term approach, it is a small hurdle to overcome.

Research has shown that rotating active ingredients in milfoil management will help avoid plant resistances and allow for better milfoil management. Using Sonar A.S allows a new active ingredient to be used. Further, Sonar A.S will also control Curlyleaf pondweed the year of treatment. CLP will not have residual control the year following treatment, while EWM likely will. Each lake responds differently, but it is common that EWM can carry residual control for multiple years post treatment, helping spread the cost out over more than one season.

**Alterative 2: Estimated Fluridone Treatment Budget: (NOT FINAL COST UNTIL UPDATE BATHYMETRY DETERMINED)**

| | | |
|---|---|---|
| Sonar Treatment: | $14,000.00 | @6ppb at estimated 15' depth* |
| Bump Up Treatment/ppb: | $2,300.00 | @1ppb at estimated 15' depth* (estimated 2-4 ppb required) |
| FasTESTs: | $180.00 | @16 samples |
| Lake Management Plan: | $750.00 | MI EGLE requirement |

| | **Est. Low** | **Est. Middle** | **Est. High** |
|---|---|---|---|
| Permit: | $ 1,500.00 | $ 1,500.00 | $ 1,500.00 |
| Algae Control: | $ 1,500.00 | $ 2,000.00 | $ 2,500.00 |

| | | | |
|---|---|---|---|
| Sonar Treatment: | $14,000.00 | $14,000.00 | $14,000.00 |
| Sonar Bump Up Treatment: | $ 4,600.00 | $ 6,900.00 | $ 9,200.00 |
| FasTESTs: | $ 2,880.00 | $ 2,880.00 | $ 2,880.00 |
| Lake Management Plan: | $ 750.00 | $ 750.00 | $ 750.00 |
| Management Services: | | | |
| WQ Program: | $ 625.00 | $ 625.00 | $ 625.00 |
| AVAS Surveys: | $ 400.00 | $ 400.00 | $ 400.00 |
| Total: | $26,255.00 | $29,055.00 | $31,855.00 |

*Price is based on 15' depth treatment. If treatment depth is different at time of treatment, adjustment may be need to be made.

This treatment plan is based on a two treatment program. If a third treatment is needed, it is not included in the budget and additional discussion would need to take place.

PLM is willing to help with this treatment. If this cost is over your annual assessment and/or available budget, and you would like to allocate funding from the next year's program; we will hold your open invoice, at no interest, until the next years taxes come in. Payment is expected in full by March 1 of the following year.

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**5 year proposed budget – estimated until new bathymetry is collected; if Sonar A.S was utilized**

| | Est. Low | Est. Middle | Est. High | |
|---|---|---|---|---|
| 2021: | $15,000.00 | $22,000.00 | $25,000.00 | (Spot treatment, prepping for Sonar Treatment) |
| 2022: | $26,255.00 | $29,055.00 | $31,855.00 | (Sonar Treatment- if warranted, determined fall 2021) |
| 2023: | $12,500.00 | $19,000.00 | $26,400.00 | (Spot Treatment) |
| 2024: | $17,500.00 | $22,500.00 | $26,400.00 | (Spot Treatment) |
| 2025: | $20,000.00 | $26,400.00 | $30,000.00 | (Spot Treatment) |
| Total: | $91,255.00 | $118,995.00 | $139,655.00 | |

Avg./year: $18,251.00 - $23,791.00 - $27,931.00

**For Reference:** PLM comprises all budgets using the unit costs per acre listed above. All treatments will be done within your set/available budget. PLM bills include service/treatment, based on the amount of product used. Note: Infestation of exotic plants can change quickly and an up to date survey needs to be completed in order to determine the final need and cost of treatments in 2021. Working together, we can determine treatment needs and perform treatments within your program's finances.

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**Contract Period:**

**Multiple Year Treatment Program**: As an incentive to establish a multiple year agreement we will manage your lake at the same price structure as 2021 for 2022! The remaining three years (2023, 2024, 2025) will have cost increases of (3%) three percent per year or less. If total chemical cost increases 10% from the previous year a new agreement will have to be mutually acceptable between both parties. If during the life of the contract MI EGLE or other regulatory agencies significantly change the approved treatment procedures, either party may terminate this agreement upon giving ninety (90) days advance written notice thereof. If after exhausting all remedies to resolve any issues or concerns between the township and PLM, and after giving written notice, at least sixty (60) days prior, this contract may be terminated.

**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 MI EGLE or other regulatory agencies may have an effect on the pricing for following years.

**Non-Target Species:** Please be aware that we only control weeds and algae **present** at time of treatment (pre-emergent treatments are not applicable in aquatics). Emergent vegetation (cattails, bulrush, purple loosestrife), and some native plants 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 Corp. will submit an invoice to Hartwick Township 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 thirty (30) days after each treatment. The invoice may be subject to a fuel surcharge of up to 1.5% of the invoice. Interest of 1.25% may be added to your bill for each additional sixty (60) days that payment is not received.

**Liability Issues:**
We are responsible for workman's compensation and liability insurance for the duration of the contracted period.

PLM Lake & Land Management Corp. is not responsible for fish loss due to low oxygen levels caused during warm water conditions.

Please sign, check optional multiple year program, or one-year program, if you would like to participate.

Please check which optional programs you would like to participate it.

Please return this as our contract, by March 30, 2021 to avoid permitting delays.

For further clarification or modifications please contact.

BreAnne Grabill, Environmental Scientist
Northern Division Manager
PLM Lake & Land Management Corp.
breg@plmcorp.net
800-382-4434 ext. 2200

**For Hartwick Township (Hicks Lake SAD)**
Please Check which Program you are participating in:
**Multiple Year Program_____ OR One Year Program _____**
**Optional Services:**
**Survey program/AVAS_____ Water Quality Program_____ Others_____**

_____ _____
Signature Witness Signature

_____ _____
Print Name Date Witness Print Name Date

_____
Email address for notifications.

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Contact information for committee chair or additional representative(s), if required