



PLM NEWS

PLM Lake & Land Management Corp.
Great Lakes Division

Changes to DEQ Permits & Processes

Over the past couple of years the Department of Environmental Quality (DEQ) has made several changes to the permitting process, conditions and fees associated with managing your lake or pond. Some of these changes have included the ability to request a multiple year permit as well as the introduction of a standard permit. The standard permit gives the applicator more flexibility to use new herbicides approved by the state without amending the existing permit. However, the biggest changes occurred last fall with the amendment of Part 33 of the Natural Resource & Environmental Protection Act.

The issuance of this amendment has created potential challenges when trying to efficiently and effectively manage your waterbody. The first important change is the permit fee structure. In the past the fees were a pre-determined cost based on potential treatment area. The new amendment has changed that fee structure to a variable fee, based on DEQ budgets, to be determined by November 1st of the year prior. Therefore, a permit that had a fee of \$400 in 2015 may have an increased or decreased fee in 2016. Typically PLM requests permit fee checks from our customers in the early fall to ensure that applications are sent into the DEQ as early as possible. However, the variable fee and date at which it is released may require PLM to change our practices in the future.

Other changes include special conditions in the actual permit document. Special conditions vary from basic information such as, "follow all pesticide label instructions" to more specific requirements for a given waterbody. For the 2015 season the DEQ implemented a few conditions that have the potential to directly impact our ability to effectively manage your waterbody. Unfortunately, some of these conditions or restrictions are not based on good, sound science but rather ideas or misconceptions. PLM has been working very hard at getting these conditions changed, modified or completely overturned for the 2015 season. However, you should be made aware that some potential changes such as, using copper sulfate near shore during peak summer months may no longer be allowed. If this is the case then PLM will be using other algaecides near shore at a potentially higher cost to our customers. Also, posting signs that have no restrictions listed (algae treatments) must remain for 24 hours post treatment. In the past the signs could come down almost immediately after the treatment. It is important that our customers are aware of this change and follow all requirements set by the state.

In addition, over the summer and fall of 2015 the DEQ will be introducing a new online database, MiWaters. MiWaters will replace many other old or outdated processes with the entire umbrella of the DEQ. Therefore, all permit applications, amendments, treatment reports and correspondence will be done through their new database starting in ~July 2015. With any new introduction of a database this size, PLM is expecting new challenges, changes and potentially internal restructuring of our processes, for the future. We will continue to keep you updated as we learn more.



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...Thirty years of invasive plant management

Did You Know...

[The Phosphorus Law](#) or the [Michigan Fertilizer Law \(1994 PA 451, Part 85, Fertilizers\)](#) restricts the use of phosphorus fertilizers on residential and commercial lawns, including athletic fields and golf courses statewide. Both homeowners and commercial applicators must follow the phosphorus application restrictions.

“Innovative and Multifaceted Control of Invasive Eurasian and Hybrid Watermilfoil Using Integrative Pest Management Principles”

A title that is a mouth full... A topic that is critical for the future of Aquatic Plant Management.

Recently the State of Michigan developed a “Michigan Invasive Species Grant Program” to be implemented in 2015 and is intended to be ongoing. Over 4 million dollars has been awarded to 20 different initiatives related to invasive plant management. Although all of these projects have relevant goals, PLM Lake & Land Management Corp (PLM) understands the urgencies to utilize science to ensure balance of our aquatic ecosystems. Under the direction of Dr. Casey Huckins, Michigan Technological University (MTU), in partnership with Many Waters LLC., SePRO Corporation and PLM Lake & Land Management Corp; a grant application was submitted and approved for \$332,000. Although not every waterbody that we currently manage is directly involved in this project, PLM cliental representation is found throughout Michigan. To oversimplify; milfoil plant samples will be collected from over 15 different water bodies during the 2015 season. Samples will be sent to MTU for genetic analysis (providing specific hybrid genotypes of milfoil). Samples will also be sent to SePRO Corporation to simultaneously determine herbicide sensitivity of each hybrid type. Ultimately we plan to verify the specific genotype of milfoil and determine how we can effectively control it. If we do not determine an effective prescription for the control of certain genotypes of milfoil, we could potentially end up with a tolerance issue or select for herbicide resistant hybrid strains. For nearly a decade PLM has proactively implemented management protocols that rotate different types of herbicides at higher rates to reduce tolerance and resistance potential, stay tuned. There are several other “multifaceted” objectives within this proposal. For further review visit our website, www.plmcorp.net.



Hybrid Milfoil



For the 2015 season, PLM will hopefully have some new products/formulations to incorporate into our management programs. Stingray, SeClear G, GreenClean 5.0 and AquaSticker should be available in the near future. All products have received EPA registrations and are currently being reviewed by the State. Stingray (carfentrazone) is liquid herbicide used at a low concentration (parts per billion) for control of select weed species. It is typically applied in combination with other products for increased efficacy and is said to provide good control of Eurasian watermilfoil. With some of the issues we are sometimes seeing with hybrid milfoils, an additional mode of action could allow for better control. SeClear G and GreenClean 5.0 are different formulations of already existing products.

SeClear G is a granular formulation where in 2014 SeClear was used as a liquid. SeClear is a combination of algacide and phosphorus locking technology. It is designed to treat algae while reducing phosphorus which typically is the cause for algae growth. GreenClean 5.0 is a more concentrated formulation of GreenClean 2.0. While other algacides are copper based, GreenClean is a peroxide based product. In specific situations where our ability to use copper based algacides are limited, GreenClean 5.0 may be an alternative. AquaSticker is a blend of specialized bacteria catalysts used as adjuvant and sticking agent for algacide applications treating species such as Lyngbya and cyanobacteria that form benthic mats.

Once final approval is confirmed, PLM will be evaluating these products to determine how they may fit into our current management programs. If we find that use of these products could benefit your management program, a PLM manager will discuss possible options.

PLM Assists with Pilot Study for the Control of Zebra and Quagga Mussels in Lake Erie

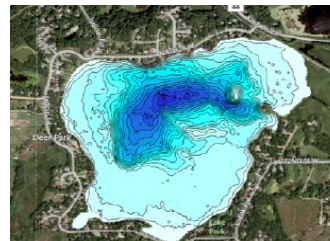
It is no secret that invasive zebra and quagga mussels have caused lasting and extensive economical and ecological damage to the Great Lakes basin. The latest high profile example of this was seen in August of 2014 as a toxic algal bloom of *Mycrocystis* caused a "Do Not Drink" order to be placed on the water for half a million people around Toledo, Ohio. Zebra mussels are a main contributor to harmful algal blooms (HABs) as they typically reject algae such as *Mycrocystis* as a food source, while eliminating competitor algae. In light of the incident, PLM partnered with Marrone Bio Innovations (MBI) to perform the first zebra mussel treatment of its kind in the Great Lakes, specifically Lake Erie. Zequanox® is a biopesticide developed and registered by MBI for control of invasive zebra and quagga mussels (no other species) while having no lasting impact to water quality. This project is part of MDEQ's response to reduce the impacts and occurrences of harmful algal blooms in the Great Lakes (Weber 2015, January 30). In order to determine the feasibility of future treatments, PLM and MBI developed a plan to deal with the harsh physical conditions which occur in such large bodies of water. Benthic barriers (Figure 1) were used to help contain the product in the treatment area and increase efficacy. The aim of the study was to determine if a practical and effective method could be developed to help control mussels in the Great Lakes basin. The treatment occurred in November of 2014 and monitoring will continue through 2015. PLM will continue to be involved in the development of management options for these and other invasive species threatening Great Lakes basin waters.



Zequanox is applied to the treatment area by PLM crews via specialized injection system.

PLM's Advanced Mapping Services

PLM has upgraded our GPS technology to bring our customers a revolutionary new mapping software for your lake or pond. This new software, combined with state of the art GPS/Depth Finder Units, quickly collect precise bathymetry (depths) and aquatic vegetation of any given water body. The data is then used to create accurate bathymetric, vegetation biovolume, bottom hardness or treatment maps in record time. This mapping software is an excellent management tool and a great affordable avenue for lake associations to update old, inaccurate lake maps. PLM also uses this software when working with the DEQ to bring our customers the best possible lake management options available. To incorporate PLM's mapping technology into your lakes program contact us for a quote.



PLM Happenings

Blake Mallory, Western Regional Assistant Manager, and his wife Kelly welcomed their second baby girl on January 20, 2015. Piper Lorae weighed in at 7lb 7oz. The Mallory family is doing great! Congratulations!

PLM is very excited to welcome **Garrett Groves & Ben Halbersma** to our team! Garrett has a B.S. in Environmental Economics from MSU and Ben has a B.S. in Natural Resource Mgt from GVSU. Also, they both have past experience in aquatic plant management and water quality sampling. They are going to make a great addition to our diverse staff. Welcome!



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PLM Lake & Land Management, Great Lakes Region now has a Facebook page! This page will be a great way to provide our customers with up to date information on exciting things happening within our company and the aquatics industry. You will find before and after treatment pictures, invasive species info, videos of our latest treatments and much more. Please check out our page frequently, as we plan to add more photos and videos along with field studies and treatment information throughout the season.