



**Michigan Department of Environment,
Great Lakes, and Energy (EGLE)
National Pollutant Discharge Elimination System
Pesticide General Permit
Pesticide Discharge Management Plan (PDMP) Template**

Section I. Contact Information

A. Permittee

Permittee Name: PLM Lake and Land Management Corp. – Bre Grabill		Title: Senior Regional Manager	
Mailing Address: PO Box 424	City: Ewart	State: MI	Zip: 49631
E-mail Address: breg@plmcorp.net	FAX (with area code): 231-382-5900	Telephone (with area code): 616-891-1294	

B. Pesticide Discharge Management Team

Instructions: Describe the pesticide discharge management team, including name, certifications or registrations (if applicable), and contact information for the person(s) with the identified responsibilities: *(Identification of team members shall include any written agreement(s) between the Permittee and any other person(s), such as a commercial applicator, that specify the division of responsibilities between parties as necessary to comply with the provisions of this permit)*

Name: Bre Grabill		Title: Senior Regional Manager	Certification/Registration id: COO30602377
E-mail Address: breg@plmcorp.net		FAX (with area code): 231-372-5900	Telephone (with area code): 616-891-1294
Responsibilities Include:			
managing pests in relation to the pest management area		developing and revising the PDMP	
developing, revising, and implementing corrective actions		developing, revising, and implementing discharge limit requirements	
Name: Casey Shoaff		Title: Regional Manager	Certification/Registration id: COO002150071
E-mail Address: caseys@plmcorp.net		FAX (with area code): 231-372-5900	Telephone (with area code): 231-372-5900
Responsibilities Include:			
managing pests in relation to the pest management area		developing and revising the PDMP	
developing, revising, and implementing corrective actions		developing, revising, and implementing discharge limit requirements	
Name: Dusty Grabill		Title: Regional Manager	Certification/Registration id: COO03070347
E-mail Address: dustyg@plmcorp.net		FAX (with area code): 231-372-5900	Telephone (with area code): 616-891-1294
Responsibilities Include:			
managing pests in relation to the pest management area		developing and revising the PDMP	
developing, revising, and implementing corrective actions		developing, revising, and implementing discharge limit requirements	
Name: Paul Hausler		Title: Water Resources Practice Leader	Certification/Registration id: n/a
E-mail Address: hauslerp@progressiveae.com		FAX (with area code):	Telephone (with area code): 616-450-4716
Responsibilities Include:			
managing pests in relation to the pest management area		developing and revising the PDMP	
developing, revising, and implementing corrective actions		developing, revising, and implementing discharge limit requirements	

Name: Jason Broekstra	Title: Senior VP Michigan	Certification/Registration id: COO3960201
E-mail Address: jasonb@plmcorp.net	FAX (with area code):	Telephone (with area code): 616-891-1294
Responsibilities Include:		
managing pests in relation to the pest management area	developing and revising the PDMP	
developing, revising, and implementing corrective actions	developing, revising, and implementing discharge limit requirements	

Section II. Pest Management Area Description

A "Pest Management Area" is defined to mean the area of land, including any water, for which an Operator has responsibility for and is authorized to conduct pest management activities as covered by the PGP permit (e.g., for an Operator who is a mosquito control district, the pest management area is the total area of the district). The Pest Management Area(s) may be as large as the entire state or as small as a single waterbody and could include contiguous and non-contiguous sites.

Provide a brief description of the Pest Management Area:

Project location is the bottomlands of the former Wixom, Sanford, Smallwood and Secord Lakes (excluding the existing water course of the river) under the jurisdiction of the Wixom Lake Improvement Board established in 2002, Sanford Improvement Board and Secord/Smallwood Township Boards. The bottomlands have been exposed since the failure of the Edenville, Secord and Sanford dams in May of 2020. The areas are occupied in Gladwin and Midland counties. More specifically, Secord, Hay, Clement, Edenville, Jerome and Billings townships. (see project location maps).

Identify the Pesticide Use Patterns for this Pest Management Area. (Note: Permittees, that are a large entity, are required to develop a PDMP if they are required to submit an application.)

<input type="checkbox"/>	Mosquito and Other Flying Insect Pest Control
<input checked="" type="checkbox"/>	Nuisance Plant and Algae Control
<input type="checkbox"/>	Nuisance Animal Pest Control and Fish Reclamation
<input type="checkbox"/>	Forest Canopy Pest Control

A. Pest Problem Description:

Briefly describe the pest problem, including identification of the target pest(s), source of the pest problem, and source of data used to identify the problem.

Note: The response will be one or more paragraphs, depending on the nature and complexity of the project. The source of the pest problem may be unknown. The EGLE does not expect the Permittee to conduct long term studies to determine the source of the pest problem.

Target Pest(s):

Nuisance growth of cottonwood and willow occupying bottomlands. This growth will inhibit future recreational opportunities including fishing, swimming, and boating once the bottomlands are flooded subsequent to the rebuilding/filling of the dams.

Source of the Pest Problem:

Disturbance caused by the sudden exposure of fertile bottomlands and subsequent seed dispersal of these nuisance scrub-shrub species caused an explosion of growth of these two species due to lack of competition and ground cover. Also, some adjacent areas experienced a resurgence of nuisance invasive emergent species such as non-native Phragmites and purple loosestrife.

Source of data used to identify problem:

Fixed-wing aerial reconnaissance photography in June of 2021 provided the extent of the problem areas. This information will be augmented by the use of lower-level aerial drone photography in the summer of 2022 to provide greater accuracy and define potential treatment limits.

B. Action Thresholds:

Describe the action threshold(s) for pest(s) in the pest management area, including data used in developing the action threshold(s) and method(s) to determine when the action threshold(s) has been met.

Note: An action threshold is the point at which pest populations or environmental conditions necessitate that pest control action be taken based on economic, human health, aesthetic, or other effects. An action threshold may be based on current and/or past environmental factors that are or have been demonstrated to be conducive to pest emergence and/or growth, as well as past and/or current pest presence. Action thresholds are those conditions that indicate both the need for control actions and the proper timing of such actions.

Cottonwood and willow saplings have occupied the exposed bottomlands and have had from the summer of 2020 to grow. Where young plants (1-2 years) would likely die and biomass wouldn't be an issue, these plants will have had five years of growth, once the water is restored. In that amount of time the trees will have established solid root structures as well as tall trunks. Trunks will impede recreation, navigation, pose health risk to swimmers and damage boats.

Action needs to be taken in 2022 so that trees will stop growing to the point where water will level them and the potential harmful trunks will not continue to grow. Current growth height is between 5'15' depending on where on the lakes you are. Some parts of Sanford Lake have been mowed, but the trees have started to regrow.

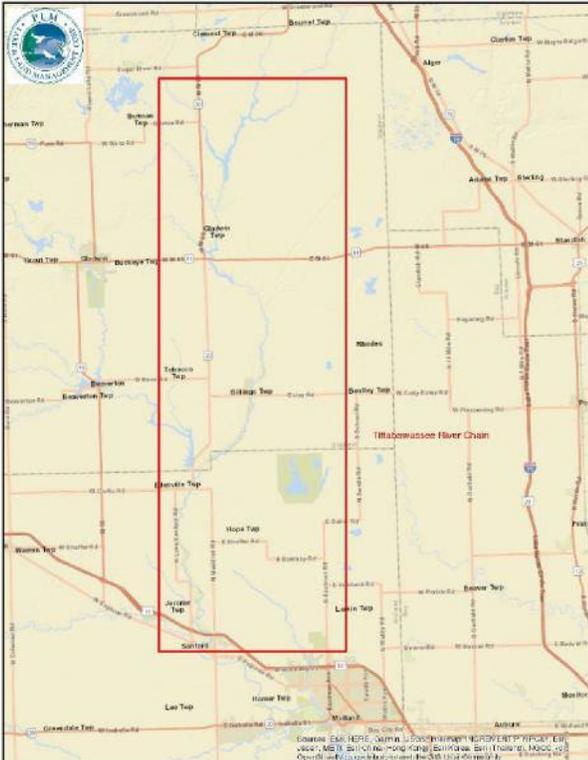
If any of these lakes plan on using the areas indicated in the treatment maps for recreation, something needs to be done to stop the growth of these trees. The goal of this project is to stop growth of the current cottonwoods and willows in order to prevent further impacts to recreation and navigation when water returns.

Aerial herbicide treatment using helicopters is the most efficient method of management. Herbicide treatments need to occur during summer or early fall before the first freeze. Following treatment, growth of target species should be limited by current ground cover, which will prevent future seed establishment.

C. General Location Map(s)

Attach a general location map (e.g., USGS quadrangle map, a portion of a city or county map, computer or other map) and a brief description identifying the boundaries of the area to which the plan applies and location of surface waters of the State of Michigan.

Areas intended for treatment are the current exposed waterbed, where drawdown exposed fertile sediment. Spray will not be anywhere other than where the lake once was. Secord, Wixom, Smallwood and Sanford are intended for treatment ONLY.



D. Tier 3 (Outstanding State Resource Water) Water Bodies and Impaired Waters

Identify any Tier 3 Waters or any waters identified as impaired by a substance which either is a pesticide active ingredient or a degradate of such an active ingredient.

The project site is located in the Tittabawassee riverbed where no outstanding state resource water exists and is not impaired by the substances.

Section III. Pest Management Options Evaluation

Document your evaluation of the pest management options, including combination of the pest management options, to control the target pest(s).

Note: All six pest management options may not be available for a specific use category and/or treatment area. However, the PDMP must include documentation of how the six pest management options were evaluated. The PGP does not require the use of the least toxic alternative or that non-pesticide methods be tried first. Combinations of various pest management options are frequently the most effective Pest Management Measures over the long term. The goal should be to emphasize long-term control rather than a temporary fix. "Pest Management Measure" is defined to be any practice used to meet the effluent limitations that comply with manufacturer specifications, industry standards and recommended industry practices related to the application of pesticides, relevant legal requirements and other provisions that a prudent Operator would implement to reduce and/or eliminate pesticide discharges to waters of the United States.

- No Action: No action is not a desirable option. Continued growth of shrubs/trees will cause more problems as they grow, negatively impacting recreation value and potentially water quality once the areas are flooded.
- Prevention: There was no way to prevent this growth from happening. The only way it could have been prevented was; no dam failure/drawdown.
- Mechanical/Physical Methods: Mechanical methods have been implemented in some areas of the exposed bottomlands. While it removes the aboveground portion of plants in the short-term, they will/are regrowing. It is also very difficult on machinery due to the variety of debris and obstacles that have accumulated on the lakebeds and could damage equipment. Mechanical methods also take far longer to implement (1-2 acres per hour with mowing versus 40+ acres an hour using a helicopter) and are more expensive.
- Cultural Methods: Not applicable in the bottomlands where water will be in a few years. Fire is not feasible due to the potential for smoke to impact the surrounding residential communities, embers and ash damaging nearby residential property, and potential liability from damage by an escaped fire.
- Biological Control Agents: There are no current biological control methods for this large scale of project with the amount of time available. Biological controls will still leave tree trunks standing after the plant MAY die.
- Pesticides: Triclopyr and glyphosate are the best options at systemically killing the willows and cottonwoods. Vastlan, Garlon 3A or Renovate 3 (triclopyr) are currently proposed. Triclopyr is a fast-acting selective herbicide that kills broadleaf weeds while leaving grasses unharmed. Glyphosate is non-selective and will impact any plant applied to.

A. Pest Management Measures

Provide a summary of Pest Management Measures that will be or are implemented to meet the technology-based effluent limitations. The active ingredient(s) of any pesticide(s) used must also be included.

Spraying will be conducted by multiple aerial spray units that are certified applicators through the Department of Agriculture. Application will be done under weather conditions that limit or eliminate drift to non-target areas. Treatment will be done in accordance with product labeled rates. For Vastlan, the application rate is 9 quarts/acre. Renovate 3 and Garlon 3A application rate is 8 quarts/acre. The herbicides to be used are wetland approved by EPA and have short half-lives and residency times once they are applied. All herbicide mixing will occur away from wetlands and other sensitive areas. Treatments will be implemented using a helicopter spray unit. The unit will have a boom no greater than 75% of the rotary blades. Nozzles coming from the system will always point backward and parallel with the air stream and never pointed downwards more than 45 degrees. Nozzle size and pressure will be determined the day of treatment based on weather conditions. Droplet size will increase with heat and wind speed. Application will be done no higher than 10 feet above the highest plant unless safety is in question. Spray height is important due to the potential drift and evaporation of product.

List the name of the pesticide(s) used and the active ingredient(s):

Pesticide Name	Active Ingredient
Vastlan- EPA Reg. No. 62719-687	Triclopyr choline: 2-[(3,5,6-trichloro- 2-pyridinyl)oxy] acetic acid, choline salt
Garlon 3A- EPA Reg. No. 62719-37	Triclopyr: 2-[(3,5,6-trichloro-2-pyridinyl)oxy] acetic acid, triethylamine salt
Renovate 3- EPA Reg. No. 62719-37-67690	Triclopyr: 2-[(3,5,6-trichloro-2-pyridinyl)oxy] acetic acid, triethylamine salt
Cygnat Plus	Limonenes, Methylated Vegetable Oil and Related Isomers
Glyphosate 5.4 EPA Reg. No. 81927-8	Glyphosate*, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt

Section IV. Schedules and Procedures

Permittees must document the schedules and procedures that detail all of the following:

- pre-application pest surveillance;
- assessment of environmental conditions in the treatment area;
- determination of the lowest effective amount of pesticide product per application and the optimum frequency of pesticide applications necessary to control the target pest;
- maintenance activities for preventing spills and leaks;
- maintenance activities to ensure that the pesticide application equipment is in proper operating condition, including calibrating, cleaning, and repairing the equipment;
- spill response procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. Procedures for notification of the Department, appropriate personnel, and emergency response agencies shall also be included;
- adverse incident response procedures including notification of the incident. Contact information for the Department, the nearest emergency medical facility, and the nearest hazardous chemical responder shall be in locations that are readily accessible and available; and
- monitoring, including the process for determining the location of any monitoring, the monitoring schedule, the person responsible for conducting monitoring, and the procedures for documenting any impacts to non-target organisms resulting from the pesticide discharge.

Pre-application pest surveillance-

An evaluation of each area will be conducted prior to each application to verify presence and density. Management will be determined based on the pre-surveillance.

Assessment of environmental conditions in the treatment area-

Drone work done in the spring of 2022 will assess environmental conditions in the treatment area. Day of treatments will depend on wind, precipitation and any other variable/condition that may delay application. The treatment areas do not contain any known listed threatened or endangered species.

Determination of the lowest effective amount of pesticide product per application and the optimum frequency of pesticide applications necessary to control the target pest.

Treatments will be done with the suggested lowest labeled rate as provided by the product's manufacturer. Vastlan application rate- 2.25 gal/acre Garlon 3A application rate- 2 gal/acre Renovate 3 application rate- 2 gal/acre. Ideally, one application will be implemented.

Maintenance activities for preventing spills and leaks.

Equipment will be properly handled and filled on a non-porous pad. Seals will be checked to ensure no leaking happens. Qualified and experienced personnel will prevent leaks and have spill kits on site in the event of a spill. All herbicide mixing and filling of field equipment will occur away from treatment areas and away from sensitive areas, including waterways.

All employees who work with herbicides are trained in procedures for responding to spills and will carry spill response kits. All contracted applicators will also be required to have training and carry spill response kits.

Maintenance activities to ensure that the pesticide application equipment is in proper operating condition, including calibrating, cleaning, and repairing the equipment.

Equipment will have been calibrated prior to application with the correct rates needed to gain complete control. Gaskets, hoses and tips will be cleaned and checked after each application to ensure proper coverage. Equipment will be inspected to ensure it is clean before first use. Preventative repairs will be conducted as needed.

Spill response procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak shall be trained in

these procedures and have necessary spill response equipment available. Procedures for notification of the Department, appropriate personnel, and emergency response agencies shall also be included. The Spill Response Plan can be found in Appendix B of the Workplan.

Adverse incident response procedures including notification of the incident. The Adverse Incident Response Plan can be found in Appendix B of the Workplan

Monitoring, including the process for determining the location of any monitoring, the monitoring schedule, the person responsible for conducting monitoring, and the procedures for documenting any impacts to non-target organisms resulting from the pesticide discharge.

1. Visual monitoring for possible and observable adverse incidents including but not limited to the unanticipated death or distress of non-target organisms and disruption of wildlife habitat, recreational, or municipal water use (to be conducted before, during, and after pesticide applications, if feasible).
2. Monitoring includes visual counts and/or photos and surveys if an adverse incident occurs or non-target organisms are affected.
3. Monitoring of the site will be conducted by certified pesticide applicator.
4. Visual monitoring occurs during post application surveillance or efficacy checks.
5. Monitoring sites are selected based on pesticide application locations, human population, pest sightings, pest population and environmental conditions.
6. Field reports and associated maps are used to document site surveillance and added to client folders and PLM database, if applicable.

Section V. Pesticide Discharge Management Plan Modifications:

The PDMP shall be modified whenever necessary to address any issues that trigger corrective action, if appropriate, or when a change in the identified pest control activities significantly changes the type or quantity of pollutants discharged. Updates to the PDMP shall be made before the next pesticide application that results in a discharge, if practicable, or if not, no later than thirty (30) days after the change in pesticide activities.

A copy of the current PDMP, along with all supporting maps and documents, shall be retained by the Permittee. The PDMP and all supporting documents must be readily available upon request by the Department, and the Department may provide copies of any of these documents, upon request, provided the request complies with the provisions of Title 40 of the Code of Federal Regulations (40 CFR) Part 2, Confidential Business Information and that the claim of confidentiality is properly asserted and documented as required by said regulation.

Section VI. Signature of responsible party

CERTIFICATION

Rule 323.2114(1-4), promulgated under the Michigan Act, requires that this Pesticide Discharge Management Plan must be signed as follows:

- A. For an organization, company, corporation, or authority, by a principal executive office, vice president, or higher**
- B. For a partnership, by a general partner**
- C. For a sole proprietor, by the proprietor**
- D. For a municipal, state, or other public entity, by a principal executive officer or ranking elected official (e.g., mayor, village president, city or village manager, or clerk)**

Note: If the signatory is not listed above, but is authorized to sign the Pesticide Discharge Management Plan, please provide documentation of that authorization.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for having knowledge of violations."

I understand that my signature constitutes a legal agreement to comply with the requirements of the NPDES Permit. I certify under penalty of law that I possess full authority on behalf of the legal owner/permittee to sign this Pesticide Discharge Management Plan.

Print Name	Casey Shoaff	Title:	North East Regional Manager
Signature		Date:	6/28/2022

PREPARER'S NAME IF DIFFERENT FROM CERTIFIER

Print Name	_____	Title:	_____
Signature	_____	Date:	_____