



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
 WATER RESOURCES DIVISION
 AQUATIC NUISANCE CONTROL PROGRAM

LAKE MANAGEMENT PLAN FORM

Pursuant to Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and Part 33, Aquatic Nuisance Control, of the NREPA, and the administrative Rules promulgated thereunder, a lake management plan is required as part of the permit application for a whole-lake chemical treatment to the waters described below for the control of nuisance aquatic vegetation.

Waterbody Name:	County(ies):	Town(s):	Range(s):	Section(s):
Title of Management Activity:		Latitude/Longitude:		
I. Physical Characteristics of the Waterbody				
Lake Size (Acres):				
Maximum Depth (Feet):				
Mean Depth (Feet):				
Lake Volume (Acre-Feet) – include volume calculations as an attachment. Whole Lake = _____ Based on 0-10 feet depth = _____				
Size of Littoral Zone (Acres):				
Shoreline Length (Feet):				
Shoreline Development Factor:				
Retention Time (Days):				
Outlet Flow Rate (CFS):				
Source:				
<input type="checkbox"/> Location Map – include a map showing the location of the waterbody within the county(ies).				
<input type="checkbox"/> Bathymetric Map – include a map of the waterbody indicating the depth contours at five-foot intervals. The following attributes must be identified on the map: tributaries, outlets, inlets, public and private access sites, public land, critical fish spawning areas, wetlands, special habitats, parks, and water control structures. See guidance for instructions.				
<input type="checkbox"/> Land Use Map – include a map of the waterbody indicating the land use of the surrounding area. The following categories shall be used to describe the land use on the map: high density residential, low density residential, commercial/industry, agricultural, parks, and undeveloped areas.				
II. Water Quality Information				
Provide the water quality parameter measurements on the data sheet provided (Appendix). These parameters are required, at a minimum. If there are additional data available or additional space is required, please attach additional pages. See guidance for specific collection requirements.				
<input type="checkbox"/> Water Quality Sampling Map – include a map of the waterbody indicating the sampling sites used to collect the water quality parameters.				
III. Biological Characteristics of the Waterbody.				
Total Higher aquatic plant surface coverage (%) =				

Aquatic Vegetation Map(s) and Data Analysis – include the results of an aquatic vegetation survey of the waterbody performed in August or September of the year prior to the proposed treatment. The survey and data analysis shall be performed according to EGLE’s “Procedures for Aquatic Vegetation Surveys.”

Description of the Fish Community – include the source of the information and copies of any correspondence with fisheries biologists, anglers, natural resource groups, etc. Please attach the original comments as a separate sheet of paper.

Description of the Wildlife Community – include the source of the information and copies of any correspondence with wildlife or habitat biologists. Please attach the original comments as a separate sheet of paper.

Description of the Plan Community – include copies of any correspondence with the appropriate agencies. Please attach the original comments as a separate sheet of paper.

Description of Special Concern, Threatened, or Endangered Species – include copies of any correspondence with the appropriate agencies. Please attach as a separate sheet of paper.

IV. Nuisance Conditions

List the current aquatic nuisance condition(s) occurring in the waterbody:

Indicate the activities that are being impaired by the nuisance conditions:

- Swimming
- Boating
- Fishing
- Hunting
- Other: _____

Target Species Map – include a map of the waterbody indicating the current location(s) of each targeted nuisance species.

V. Vegetation Management Goals

Indicate the appropriate management goals that are desired outcome(s) of this program:

- Create/Maintain Swimming Areas
- Create/Protect Fish/Wildlife Habitat
- Improve Native Plant Diversity
- Protect Endangered/Threatened Species
- Create Areas for Recreational Use (oating, water skiing, fishing, etc.)
- Remove Non-native Plant Species
- Other: _____

Management Goal Maps – Include map(s) indicating locations where each of the goals may be achieved through the proposed management activities.

VI. History of Vegetation Management for this Waterbody:

Provide a written description of the management activities performed on the waterbody within the past ten years. Include mechanical, chemical, or biological control efforts, lake level manipulation, dredging, and fish stocking activities (including species stocked and stocking schedule).

VII. Vegetation Management Options:

List all management options considered to achieve the management goals established for this waterbody. Briefly explain why each proposed management option was chosen or not chosen:

VIII. Vegetation Management Plan

Propose a three-year aquatic vegetation management plan that will be used to attain the management goals for this project by checking the appropriate box(es) below.

Year 1:

	Systemic herbicides	Contact herbicides	Algaecides	Harvesting	Biological Control	Fluridone or Other
<i>Non-native Submerged Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Submerged Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Non-Native Emergent Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Emergent Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Algae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Non-native Macroalgae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Macroalgae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Year 2: _____

	Systemic herbicides	Contact herbicides	Algaecides	Harvesting	Biological Control	Fluridone or Other
<i>Non-native Submerged Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Submerged Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Non-Native Emergent Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Emergent Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Algae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Non-native Macroalgae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Macroalgae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Year 3: _____

	Systemic herbicides	Contact herbicides	Algaecides	Harvesting	Biological Control	Fluridone or Other
<i>Non-native Submerged Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Submerged Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Non-Native Emergent Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Emergent Species</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Algae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Non-native Macroalgae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Native Macroalgae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Provide any additional information to clarify the proposed treatment strategy for each year of the management plan.

Annual Vegetation Management Maps – include maps showing areas of management for each year. Be sure to compare the Management Goal Maps with the Annual Vegetation Management Maps to ensure that the proposed treatments are consistent with the management goals.

Fluridone (or other product) Distribution Map – include a map of the waterbody indicating the proposed path of fluridone (or other product) distribution in the lake.

Fluridone (or other product) Calculations – include any calculations used to determine the amount of fluridone (or other product) requested for use.

IX. Monitoring and Evaluation:

List the proposed monitoring activities to be performed on the waterbody during the 3 years of the management plan, include proposed date(s) of each activity. Be specific as possible.

Proposed activity:

- Aquatic vegetation survey
- Fluridone concentration sampling
- EffecTEST™
- PlanTEST™
- Water quality Sampling
- Fish Surveys
- Other: _____

Proposed Date(s) and Responsible Party:

Describe how the monitoring results will be used to evaluate the success of this program in achieving the states management goals.

Management Goals (From Section V.)

How will you evaluate your success of this goal using the monitoring results?

Fluridone (or other product) Concentration Sampling Map – include a map of the waterbody showing locations where product concentration samples will be collected. Number each sample site.

X. Lake Management Plan Development

Who has participated in developing the lake management plan for this project?

- Commercial Applicator
- Lake Consultant
- Lake Board
- Lake Association
- Township(s)/County(ies)
- State Agency(ies) (specify) _____
- Park Administrator/Board
- Group of Individual Riparians
- Back Lot Owner(s)
- Other (specify) _____

Documentation of Lake Management Plan Development – provide documentation of participation in development of this Lake Management Plan by stakeholders and agencies responsible for managing public trust resources. Attach meeting minutes and other correspondence separately.

Lake Management Plan prepared by _____ (Signature)
 _____ (Print Name)
 _____ (Title)
 _____ (Affiliation/Organization)
 Date: _____

On behalf of the stakeholders or public agencies at _____, I have reviewed this lake management plan.

Lake Management Plan reviewed by _____ (Signature)
 _____ (Print Name)
 _____ (Title)
 _____ (Affiliation/Organization)
 Date: _____

For information or assistance on this publication, please contact the Aquatic Nuisance Control Program, through EGLE Environmental Assistance Center at 800-662-9278. This publication is available in alternative formats upon request.

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