

PUBLIC HEALTH CODE (EXCERPTS)
Act 368 of 1978

AN ACT to protect and promote the public health; to codify, revise, consolidate, classify, and add to the laws relating to public health; to provide for the prevention and control of diseases and disabilities; to provide for the classification, administration, regulation, financing, and maintenance of personal, environmental, and other health services and activities; to create or continue, and prescribe the powers and duties of, departments, boards, commissions, councils, committees, task forces, and other agencies; to prescribe the powers and duties of governmental entities and officials; to regulate occupations, facilities, and agencies affecting the public health; to regulate health maintenance organizations and certain third party administrators and insurers; to provide for the imposition of a regulatory fee; to promote the efficient and economical delivery of health care services, to provide for the appropriate utilization of health care facilities and services, and to provide for the closure of hospitals or consolidation of hospitals or services; to provide for the collection and use of data and information; to provide for the transfer of property; to provide certain immunity from liability; to regulate and prohibit the sale and offering for sale of drug paraphernalia under certain circumstances; to provide for the implementation of federal law; to provide for penalties and remedies; to provide for sanctions for violations of this act and local ordinances; to repeal certain acts and parts of acts; to repeal certain parts of this act; and to repeal certain parts of this act on specific dates.

History: 1978, Act 368 , Eff. Sept. 30, 1978 ;--Am. 1985, Act 198, Eff. Mar. 31, 1986 ;--Am. 1988, Act 60, Eff. Aug. 1, 1989 ;--Am. 1988, Act 139, Imd. Eff. June 3, 1988 ;--Am. 1993, Act 361, Eff. Sept. 1, 1994 ;--Am. 1994, Act 170, Imd. Eff. June 17, 1994 ;--Am. 1998, Act 332, Imd. Eff. Aug. 10, 1998 .

The People of the State of Michigan enact:

333.12561 Suppression of swimmers' itch and other nuisance-producing organisms; supervising chemical treatment of waters; experiments; equipment and materials; rules. [M.S.A. 14.15(12561)]

Sec. 12561. (1) The department of natural resources shall supervise the chemical treatment of the waters of the state for the suppression of swimmers' itch, and other nuisance-producing organisms, including aquatic plants, in accordance with sections 12561 to 12563.

(2) The department of natural resources may conduct experiments to ascertain the best methods for control, and may purchase equipment and materials for control.

(3) The department of natural resources may promulgate rules describing the type of chemicals to be used, the type of solutions to be used, the manner of applying the chemicals, the time of application, and public notice and permit granting procedures.

History: 1978, Act 368 , Eff. Sept. 30, 1978 .

333.12562 Application of chemicals lawful; permit to conduct control work; times, conditions, and safeguards; fee submitted with permit application; exception; disposition of fee.

Sec. 12562. (1) The application of necessary chemicals in powder, crystal, or solution form to the waters of the state for the control of aquatic nuisances, such as swimmers' itch and aquatic plants, is lawful and not in contravention of the private or public rights to the use and enjoyment of abutting property by the owners or occupants of that property if the application is made in accordance with sections 12561 to 12563 and rules promulgated under section 12561.

(2) The necessary control work authorized pursuant to this section may be conducted by the state or a political subdivision or by an organized lake or improvement association on behalf of its members, or by the owner of property abutting on the waters of the state, or by an aquatic pest control applicator licensed under part 83 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.8301 to 324.8336, after obtaining a permit from the department of environmental quality. A permit may be obtained by application to the department of environmental quality. Unless revoked, a permit issued under this section expires on December 31 of the calendar year in which it was issued.

(3) The necessary control work authorized pursuant to this section shall be conducted at those times, under those conditions, and with those safeguards, as the department of environmental quality requires. The department of environmental quality may provide permits, upon application, for the suppression of swimmers' itch and aquatic plants, if applicants provide at their own expense chemicals and other equipment and services called for in the rules promulgated by the department of environmental quality.

(4) Except as provided in subsection (5), until October 1, 2003, an application for a permit under this section shall be accompanied by the following fee:

- (a) For treatment of areas of 1/2 acre or more and less than 2 acres, \$50.00.
- (b) For treatment of areas of 2 acres or more, \$150.00.

(5) A fee is not required under this section for owners of a single property treating waters abutting their property where the treatment area is less than 1/2 acre, or for water bodies in single ownership.

(6) The department of environmental quality shall forward fees collected under this section to the state treasurer for deposit in the land and water management permit fee fund created in section 30113 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.30113.

History: 1978, Act 368 , Eff. Sept. 30, 1978 ;--Am. 1993, Act 153, Eff. Sept. 30, 1993 ;--Am. 1995, Act 174, Imd. Eff. Oct. 9, 1995 ;--Am. 1996, Act 67, Imd. Eff. Feb. 26, 1996 ;--Am. 1999, Act 41, Imd. Eff. June 9, 1999 .

333.12563 Failure to obtain permit; violation of rule or condition of permit; misdemeanor; revocation of permit. [M.S.A. 14.15(12563)]

Sec. 12563. A person who fails to obtain the necessary permit in advance of undertaking the control work, or who violates a rule of the department of natural resources or a condition of the valid permit is guilty of a misdemeanor. A permit issued under section 12562 shall automatically be revoked when the holder of the permit violates sections 12561 to 12563 or a rule promulgated under section 12561.

History: 1978, Act 368 , Eff. Sept. 30, 1978 .



DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER DIVISION
INLAND LAKES AND REMEDIAL ACTION UNIT

AQUATIC NUISANCE CONTROL

Filed with the Secretary of State on March 5, 2003.

These rules take effect 7 days after filing with the Secretary of State.

(By authority conferred on the department of environmental quality by section 12561(3) of 1978 PA 368, MCL 333.12561)

R 323.3101 to R 323.3110 of the Michigan Administrative Code are amended to read as follows:

R 323.3101 Definitions.

Rule 1. As used in these rules:

- (a) "Act" means 1978 PA 368, MCL 333.12561 et seq.
- (b) "Active ingredient" means an ingredient that will prevent, destroy, repel, or control target organisms, act as a plant regulator, defoliant, or desiccant, or otherwise alter the behavior of plants or chemicals.
- (c) "Algae" means any of the group of nonvascular aquatic plants which do not have stems, flowers, leaves, and roots, and which are single-celled, colonial, or filamentous forms.
- (d) "Applicant" means any of the following entities:
 - (i) A person who is the bottomland owner.
 - (ii) A lake board established under part 309 of 1994 PA 451.
 - (iii) A state or local government.
 - (iv) A person who has written authorization to act on behalf of an entity specified in this subdivision.
- (e) "Aquatic nuisance" means any organism which lives or propagates, or both, within the aquatic environment and which impairs the use or enjoyment of the waters of the state, including the intermediate aquatic hosts for schistosomes that cause swimmers' itch.
- (f) "Aquatic vegetation" means both algae and higher aquatic plants.
- (g) "Area of impact" means the area within a waterbody where target organisms may be adversely affected or destroyed.
- (h) "Certificate of coverage" means written authorization from the department to implement a project under a general permit.
- (i) "Chemical" means any product designed to control, aid in the control, eliminate, or restrict the growth of aquatic nuisances.
- (j) "Commercial applicator" means a person who is required to be a registered or certified applicator under part 83 of 1994 PA 451, who uses or supervises the use of a restricted use pesticide, or holds himself or herself out to the public as being in the business of applying pesticides.
- (k) "Department" means the Michigan department of environmental quality.
- (l) "Director" means the director of the department.
- (m) "Emergency notification procedure" means a department-approved procedure submitted annually by a commercial applicator, or state or local government, which provides a description of all available means of contact, such as home telephone number, business telephone number, mobile telephone number, or pager number.
- (n) "EPA" means the United States environmental protection agency.
- (o) "FIFRA" means the federal insecticide, fungicide and rodenticide act, as amended, being 7 U.S.C. §§136 to 136(y).
- (p) "Fluridone" means 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-4(1*h*)-pyridinone.
- (q) "General permit" means a permit for a category of activities that the department determines will not negatively impact human health and will have no more than minimal short-term adverse impacts on the natural resources and environment.
- (r) "Higher aquatic plant" means any of a group of vascularized plants which have true stems, flowers, leaves, and roots, which live in water, and which belong to the class angiospermae.

- (s) "Littoral zone" means the area of a waterbody from the water's edge to the limit of the depth of light penetration where rooted aquatic vegetation typically grows.
- (t) "Outlet" means any natural or artificially created watercourse or structure which allows passage of water out of a waterbody into other surface waters of the state, in an intermittent or continuous flow.
- (u) "Person" means any of the following entities:
 - (i) An individual.
 - (ii) Sole proprietorship.
 - (iii) Partnership.
 - (iv) Corporation.
 - (v) Municipality.
 - (vi) This state.
 - (vii) An instrumentality or agency of this state.
 - (viii) The federal government.
 - (ix) An instrumentality or agency of the federal government.
 - (x) Another legal entity.
- (v) "Pesticide" means a substance or mixture of substances intended for preventing, destroying, repelling, or mitigating aquatic nuisances.
- (w) "Swimmers' itch" means the inflammation of a swimmer's skin resulting from an allergic reaction to the penetration of the skin by the immature stages of blood fluke parasites which live a part of their life cycle in certain aquatic snails.
- (x) "Waters of the state" means groundwaters, lakes, ponds, rivers, streams, and wetlands and all other watercourses and waters within the jurisdiction of this state and also the great lakes bordering this state. For the purposes of these rules, "waters of the state" may also be referred to as a waterbody.

R 323.3102 Activities requiring a permit or certificate of coverage.

Rule 2. (1) A permit or certificate of coverage shall be obtained from the department before any chemical treatment of waters of the state for the purpose of aquatic nuisance control, where the area of impact contains visible water at the time of chemical treatment. A permit or certificate of coverage shall also be obtained for chemical treatment of the Great Lakes and Lake St. Clair where the area of impact is exposed bottomland located below the ordinary high water mark.

(2) A person is authorized to chemically treat waters of the state without obtaining a permit or a certificate of coverage from the department if all of the following criteria are met:

- (a) A waterbody does not have an outlet.
- (b) There is no record of a state or federal endangered or threatened species, pursuant to part 365 of 1994 PA 451.
- (c) A waterbody has a surface area of less than 10 acres.
- (d) The bottomlands of a waterbody are owned by either of the following:
 - (i) A single person.
 - (ii) More than 1 person and written permission for the proposed chemical treatment is obtained from each person.

(3) A person conducting a chemical treatment authorized by subrule (2) of this rule shall maintain written permissions and records of treatment, including treatment date, chemicals applied and amounts, and a map indicating the area of impact, for 1 year from the date of each chemical application. The records shall be made available to the department upon request. Each chemical treatment shall be posted as specified in R 323.3106(d).

R 323.3103 Registration of pesticides; use of certain chemicals prohibited.

Rule 3. (1) Pesticides used in waters of the state for aquatic nuisance control shall be registered with the EPA, pursuant to section 3 of FIFRA, and the Michigan department of agriculture, pursuant to section 8307, 1994 PA 451, MCL 324.8307, for the nuisance control activity for which it is proposed.

(2) The department may conduct evaluations of the impacts and effectiveness for any chemicals that are proposed for use in waters of the state. This may include the issuance of permits for field assessments of the chemicals.

(3) The director, in consultation with the director of the Michigan department of agriculture, may prohibit or suspend the use of a chemical if, based on substantial scientific evidence, use of a chemical is shown to cause unacceptable negative impacts to human health or the environment. The department shall not issue permits authorizing the use of such chemicals. In addition, a person shall cease the use of such chemicals upon notification by the department.

R 323.3104 Application for permit or certificate of coverage.

Rule 4. (1) An applicant shall file an application for a permit or a certificate of coverage with the department on a form provided by the department. An application shall include all of the following information:

- (a) The active ingredient or chemical trade name, and proposed application rate for each chemical proposed for use.
- (b) A map or maps, to scale, of the waterbody which clearly delineates the proposed area or areas of impact for each chemical type.
- (c) The name, address or lot number, and telephone number for all bottomland owners whose property is in the proposed area of impact, except as follows:
 - (i) If the proposed area of impact is to involve the property of 5 or more bottomland owners, contact information is required for 5 persons who will know the date of treatment, the chemicals used, and the area or areas of impact for each chemical treatment.
 - (ii) If an applicant has an emergency notification procedure, contact information is required for 1 person who will know the date of treatment, the chemicals used, and the area or areas of impact for each chemical treatment.
 - (iii) If an applicant has contracted with a person to provide chemical treatment of aquatic nuisances, who has an emergency notification procedure, the applicant shall identify the person and provide a copy of the contract or authorization form.
- (d) Any additional information the department deems pertinent to reaching a decision.

(2) An applicant shall provide a lake management plan as part of an application for permit, if a whole lake treatment is proposed.

(3) The department may require an applicant to provide a lake management plan as part of an application for permit based on the type of proposed chemical treatment (for example, treatments evaluating the effectiveness of a pesticide) or on the significance of proposed impacts on natural resources (for example, treatments where threatened or endangered species or habitats are present, treatment of a waterbody where removal of a large portion of native aquatic vegetation is proposed), or on the extent of bottomlands owned by public institutions. If a lake management plan is required, then the department shall notify potential applicants at least 1 year in advance of the requirement. At a minimum, notification shall be posted on the department internet web site, and shall be published in pertinent department publications.

(4) A lake management plan shall be provided on department forms and shall include, at a minimum, all of the following:

- (a) All of the following physical characteristics of the waterbody:
 - (i) Location.
 - (ii) Lake size.
 - (iii) Maximum depth.
 - (iv) Mean depth.
 - (v) Size of littoral zone.
 - (vi) Shoreline length.
 - (vii) Retention time.
 - (viii) Location map.
 - (ix) Bathymetric map, including all of the following:
 - (A) Tributaries.
 - (B) Outlets.
 - (C) Public/private access sites.
 - (D) Public land.
 - (E) Critical fish spawning areas.
 - (F) Wetlands.
 - (G) Special habitats.
 - (H) Parks.
 - (I) Water control structures.
- (b) A description of the water quality, including data for water quality indicators, such as dissolved oxygen, temperature, total alkalinity, and transparency (secchi disk).
- (c) All of the following biological characteristics of the waterbody:
 - (i) Aquatic vegetation map(s) and data analysis.
 - (ii) Total higher aquatic plant surface coverage.
 - (iii) A description of the fish, wildlife, and plant communities, including identification of any special concern, threatened, or endangered species.
- (d) Land use activities including a description of the land use, and a land use map.
- (e) History of waterbody management.

- (f) Documentation of opportunities for involvement in plan development by stakeholders and agencies responsible for managing public trust resources, including a description of all input obtained.
 - (g) Vegetation management plan that includes a description of the aquatic nuisance problem, management goals, management goal maps, management options, proposed actions necessary to attain the management goals, management timeline, and monitoring and evaluation processes.
- (5) The department shall either issue or deny a certificate of coverage within 15 working days after receipt of a complete application. If denied, the department shall notify the applicant, in writing, of the reasons for denial.
- (6) The department shall issue a permit, grant the permit in part, or deny the permit within 30 working days after receipt of a complete application. If denied or granted in part, the department shall notify the applicant, in writing, of the reasons for denial.
- (7) An applicant shall obtain authorization to chemically treat the proposed area or areas of impact by obtaining written permission from each person who owns bottomlands in the area or areas of impact. The applicant shall maintain the written permission for 1 year from the expiration date of the permit, and shall make the records available to the department upon request. Written permission from each bottomland owner is not required if the applicant is providing, or has contracted to provide, chemical treatment for either of the following:
- (a) A lake board established under part 309 of 1994 PA 451.
 - (b) A state or local government acting under authority of state law to conduct lake improvement projects or to control aquatic vegetation.

R 323.3105 Permits.

Rule 5. (1) A permit shall, at a minimum, include all of the following information:

- (a) The active ingredient or the trade name of each chemical to be applied.
 - (b) The application rate of each chemical.
 - (c) The maximum amount of each chemical to be applied per treatment.
 - (d) Minimum length of time between treatments for each chemical.
 - (e) A map or maps that clearly delineate the approved area or areas of impact.
- (2) The department may impose additional conditions on a permit to protect the natural resources or the public health; to prevent economic loss, recreational damage, and unacceptable negative impacts to nontarget organisms; and to prevent a failure to provide control of the aquatic nuisance.
- (3) The department may issue general permits.

R 323.3106 Permit conditions.

Rule 6. (1) As a condition of a permit, the department may require the permittee to do any of the following:

- (a) Notify the department not less than 2 working days in advance of chemical treatment.
- (b) Proceed with chemical treatment only if a department representative is present.
- (c) Allow the department or its representative to collect a sample of the chemical or chemicals used before or during any chemical treatment.
- (d) Post the area or areas of impact before chemical treatment. All of the following posting requirements apply:
 - (i) Signs shall be of a brilliant color and made of durable material. Minimum sign dimensions shall be 14 inches by 11 inches and shall be attached to a supporting device with the bottom of the sign extending not less than 12 inches above the ground surface.
 - (ii) Posting signs shall be placed in the following locations unless the department determines that the locations are impractical or infeasible based upon a written request from an applicant which includes an explanation of the necessity for alternative posting locations and a description of the proposed posting locations:
 - (A) For an area or areas of impact that total less than 2 acres, signs shall be placed along the shoreline of the areas of impact not more than 100 feet apart. Riparian lands adjacent to the area shall also be posted, if permitted by the riparian owner.
 - (B) For an area of impact that is greater than or equal to 2 acres, posting signs shall be posted as in paragraph (ii)(A) of this subdivision. In addition, all access sites, boat launching areas, and private and public parks located on the waterbody shall be posted conspicuously, such as at the entrances, boat ramps, and bulletin boards, if permitted by their managers or owners. If the access sites, launching areas, and parks are not to be treated or are not adjacent to the areas of impact, then the signs shall clearly indicate the location of the areas of impact and shall contain the other information specified in paragraph (iii) of this subdivision.
 - (iii) At a minimum, posting signs shall include all of the following information:
 - (A) The permit number.

- (B) The name of the waterbody.
 - (C) The date of treatment.
 - (D) The name, address, and telephone number of the person conducting the treatment.
 - (E) The name of the chemical or chemicals used and the restrictions on the use of treated water pursuant to the permit.
 - (F) The expiration date of water use restrictions for each chemical used during treatment.
 - (G) The phrase "do not remove posting signs or maps until all water use restrictions have expired."
- (e) Publish a notice in a local newspaper or make an announcement on a local radio station regarding the chemical treatment. The notice or announcement shall include all of the following information:
 - (i) The permit number.
 - (ii) The name of the waterbody.
 - (iii) A list of the chemicals to be used with corresponding water use restrictions.
 - (iv) A description of the areas of impact.
 - (v) The proposed treatment dates.
 - (f) Apply chemicals so that swimming restrictions and fish-consumption restrictions are not imposed on any Saturday, Sunday, or state-declared holiday.
 - (g) Take special precautions to avoid or minimize potential impacts to human health, the environment, and nontarget organisms.
 - (h) Notify, in writing, an owner of any waterfront property within 100 feet of the area of impact, not less than 7 days, and not more than 45 days, before the initial chemical treatment. Written notification shall include all of the following information:
 - (i) Name, address, and telephone number of the permittee.
 - (ii) A list of chemicals proposed for use with corresponding water use restrictions.
 - (iii) All approximate treatment dates per chemical.
 If the owner is not the occupant of the waterfront property or the dwelling located on the property, then the owner is responsible for notifying the occupant.
 - (i) Complete and return the treatment report form provided by the department for each treatment season.
 - (j) Perform lake water residue analysis to verify the chemical concentrations in the waterbody according to a frequency, timing, and methodology approved by the department.
 - (k) Perform aquatic vegetation surveys according to a frequency, timing, and methodology that has been approved by the department prior to submittal of a permit application.
 - (l) Use chemical control methods for nuisance aquatic vegetation that are consistent with the approved vegetation management plan submitted separately or as part of a lake management plan. The department may approve modifications to the vegetation management plan upon receipt of a written request from the permittee that includes supporting documentation.
 - (m) Perform pretreatment monitoring of the target plant population according to a frequency, timing, and methodology that has been approved by the department prior to submittal of a permit application.

R 323.3107 Fluridone use.

Rule 7. (1) The department may issue permits for the use of a liquid formulation of fluridone as a spring treatment to control Eurasian watermilfoil, as follows:

- (a) A permit may be issued if the department determines that both of the following provisions apply:
 - (i) There is widespread distribution of Eurasian watermilfoil in the lake.
 - (ii) The abundance of Eurasian watermilfoil causes it to be an aquatic nuisance.
- (b) An application shall include information necessary for the department to make the determination under subdivision (a) of this subrule, including an aquatic vegetation survey performed in August or September of the year before the proposed fluridone application and corresponding survey data analysis. The aquatic vegetation survey and data analysis shall be performed according to methods that have been approved by the department before submittal of a permit application.
- (c) A permit or permit amendment shall not authorize a lake water fluridone concentration to be more than 6 parts per billion.
- (d) The department may amend a permit to authorize an additional treatment 14 to 21 days following initial treatment, if the average fluridone concentration of all surface samples taken 13 to 15 days after treatment is less than 5 parts per billion.

(2) The department may issue permits for the evaluation of uses of fluridone other than as a spring treatment to control Eurasian watermilfoil.

- (3) An applicant proposing chemical treatment of a waterbody using fluridone shall provide a lake management plan as described in R 323.3104(2).
- (4) As a condition of all permits authorizing the use of fluridone, the department shall require the permittee to perform the activities listed in R 323.3106(j), (k), and (l).
- (5) The department shall not issue a permit for the use of fluridone in the same waterbody more than once in any 3-year period, unless either of the following provisions applies:
- (a) The department determines, in the year of treatment, that a fluridone treatment failed to control Eurasian watermilfoil.
 - (b) A use of fluridone approved by the department pursuant to subrule (2) of this rule explicitly includes the use of fluridone in more than 1 year during a 3-year period.

R 323.3108 Denial of a permit or a certificate of coverage.

Rule 8. (1) The department shall deny a permit application, or a part of a permit application, in any of the following circumstances:

- (a) The proposed use of a pesticide is inconsistent with its label pursuant to FIFRA.
 - (b) The proposed use of a pesticide is not registered by the Michigan department of agriculture pursuant to part 83 of 1994 PA 451 and the EPA pursuant to FIFRA.
 - (c) The proposed use of a chemical, though in accordance with the label and otherwise in compliance with these rules or in combination with other aquatic management activities, is likely to result in economic loss, recreational damage, a public health hazard, unacceptable negative impacts to natural resources, or failure to provide control of the aquatic nuisance, as determined by the department.
 - (d) An application for chemical treatment of higher aquatic plants is postmarked after August 15 in the year for which treatment is proposed.
- (2) The department shall deny a certificate of coverage if the proposed project does not meet the requirements for the general permit under which the application is made.
- (3) The department shall deny a permit application or an application for a certificate of coverage if an applicant has committed 2 or more violations of other permits previously issued under the act, conditions of a permit, or these rules within 1 calendar year. For purposes of this subrule, "violation" means conviction in a court of law, or revocation of a permit or certificate of coverage by the department, pursuant to R 323.3109(b) and (c).

R 323.3109 Revocation of permit or certificate of coverage.

Rule 9. (1) The department may revoke a permit or certificate of coverage for cause, including any of the following:

- (a) The department determines, through information not available to the department at the time of permit issuance, that the use of a chemical, although otherwise in accordance with the label and these rules or in combination with other aquatic management activities, is likely to result in economic loss, recreational damage, a public health hazard, unacceptable negative impacts to natural resources, or failure to provide control of the aquatic nuisance, as determined by the department.
- (b) Failure to comply with any condition of a permit, the act, or these rules, as determined by the department.
- (c) Obtaining a permit or certificate of coverage by misrepresentation or failure to fully disclose relevant facts.

R 323.3110 Permit amendments.

Rule 10. (1) The department may make minor revisions, based on minimizing the impacts to the natural resources, public health, and safety, to a permit before permit expiration, if the proposed revisions do not involve a change in the scope of the project, and upon receipt of a written request from the permittee that includes all of the following information:

- (a) The proposed changes to the permit.
- (b) An explanation of the necessity for the proposed changes.
- (c) Maps that clearly delineate any proposed changes to the area or areas of impact.
- (d) Additional information that would help the department reach a decision on a permit amendment.

DEQ
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER DIVISION

This Table contains information concerning the herbicides permitted for aquatic plant control in Michigan and the plant species for which they may serve as potential control agents. Refer to product labels for additional details.

Plant Species	Copper Sulfate	Chelated Copper	Hydrothol 191 (Amine Salts of Endothal)	Aquathol K (Dipotassium Salts of Endothal)	Reward (Diquat dibromide)*	2,4-D	Glyphosate (Rodeo, Eagre, AquaNeat)	Komeen	Nautique	Fluridone (Sonar, AVASTI)
Algae										
Planktonic	X	X	X							
Filamentous	X	X	X		X					
Macroalgae	X	X	X							
Macrophytes										
Submergents										
Curly leaf pondweed			X	X	X					
Sago pondweed			X	X	X			X		
Large leaf pondweed			X	X	X					
Naiad			X	X	X			X	X	
Buttercup					X					
Coontail			X	X	X	X		X		
Milfoil			X	X	X	X		X		X**
Elodea			X		X			X		
Wild Celery			X		X				X	
Emergents										
Water lily						X	X			
Arrow leaf						X				
Cattails						X	X			
Bulrush						X				
Free Floating										
Duckweed										X

* Diquat products are restricted for all aquatic uses, except in small ponds, such as farm ponds that have not outflow and are under the control of the user. This means that you must be licensed by the Michigan Department of Agriculture as a certified pest control applicator to purchase and use this material in all waterbodies except small ponds. Diquat is the only "Restricted Use" pesticide on the chart. All others are "Unclassified". Permits may be required prior to use of any pesticide, including "unclassified" pesticides. Contact the DEQ, Inland Lakes & Remedial Action unit at 517-241-1300, by e-mail at DEQ-LWM-ANC@michigan.gov, or visit our website at www.michigan.gov/deg.

** At 6 ppb

DEQ
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER DIVISION

Requirements and Restrictions on Chemical Treatments for Aquatic Nuisance Control.
 Prior to applying any kind of pesticide, permission to do so must be obtained from the property owner.

Trade Name (Active Ingredient)	Notification Requirements	Posting Requirements	Use Restriction
Copper Sulfate (Copper)	Occupants of adjacent riparian dwellings whose bottomlands are within the treatment area, or within 100 feet of treatment area, must be notified in writing at least 7 days prior to treatment. Same as above	None	None**
Chelated Copper Products (Copper)	Same as above	None	None**
2,4-D (2,4-Dichlorophenoxyacetic acid)	Same as above	(a) For treatment areas less than 2 acres, Department approved signs posted along shoreline of treatment area not more than 100 feet apart. (b) For treatment of areas greater than 2 acres, post as in (a) and post all access sites, boat launching areas, and public and private parks. Same as above	(a) 24-hour restriction on swimming in treatment area. (b) Indefinite restriction on use for irrigation, agricultural sprays, watering dairy animals, or domestic water supplies.
Sonar, AVASTI (Fluridone)	Same as above	Same as above	(c) 24-hour restriction on swimming in treatment area. (d) 14-day restriction on watering established row crops/turf/plants/trees. (e) 30-day restriction on watering newly seeded crops/seedbeds or areas to be planted. NOTE: Some restrictions are dependent on fluridone concentration - see label for details
Shades and Dyes	Same as above	Same as above	(a) 24-hour restriction on swimming in treatment area. (b) Not appropriate for waterbodies used for swimming
Reward (Diquat dibromide)	Same as above	Same as above	(c) 24-hour restriction on swimming in treatment area. (d) 5-day restriction on crop irrigation (e) 1-day animal consumption of treated water (f) 3-day restriction of domestic water supplies
Rodeo, Eagre, AquaNeat (Glyphosate)	Same as above	Same as above	24-hour restriction on swimming in treatment area.
Aquathol K, Hydrothol 191 (Endothall)	All riparian residents of the waterbody to be treated must receive written notice of the treatment and subsequent fish consumption restriction, at least 7 days prior to treatment (required for treatments in excess of 2 acres).	As above, except	(a) 24-hour restriction on swimming in treatment area. (b) 3-day restriction on taking fish for food or feed. (c) 14-day restriction on using treated water for irrigation, agricultural sprays, or domestic purposes. NOTE: Amine salts of endothall may require extended restrictions on livestock watering and domestic uses depending on dosage - see label for details.

** Although there are no use restrictions on copper treated water, the treatment is most effective if water is not disturbed so swimming, boating, etc., is not recommended for 24 hours after application.
 Revised 11/02