CHAPTER 7050
MINNESOTA POLLUTION CONTROL AGENCY
WATER QUALITY DIVISION
WATERS OF THE STATE

7050.0100 [Repealed, 9 SR 913]

STANDARDS FOR THE PROTECTION OF THE QUALITY AND PURITY OF THE WATERS OF THE STATE

7050.0110 SCOPE.

Parts 7050.0130 to 7050.0220 apply to all waters of the state, both surface and underground, and include general provisions applicable to the maintenance of water quality and aquatic habitats; definitions of water use classes; standards for dischargers of sewage, industrial, and other wastes; and standards of quality and purity for specific water use classes. This chapter shall apply to both point source and nonpoint source discharges. Other water quality rules of general or specific application that include any more stringent water quality or effluent standards or prohibitions are preserved.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 12 SR 1810*

7050.0120 [Repealed, 9 SR 913]

7050.0130 DEFINITIONS.

The terms "waters of the state," "sewage," "industrial wastes," and "other wastes," as well as any other terms for which definitions are given in the pollution control statutes, as used herein have the meanings ascribed to them in Minnesota Statutes, sections 115.01 and 115.41, with the exception that disposal systems or treatment works operated under permit or certificate of compliance of the agency shall not be construed to be "waters of the state."

"Commissioner" means the commissioner of the Minnesota Pollution Control Agency or the commissioner's designee.

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"Nonpoint source" means a land management or land use activity that contributes or may contribute to ground and surface water pollution as a result of runoff, seepage, or percolation and that is not defined as a point source under Minnesota Statutes, section 115.01, subdivision 15.

"Surface waters" means waters of the state excluding groundwater as defined in Minnesota Statutes, section 115.01, subdivision 21.

Other terms and abbreviations used herein which are not specifically defined in applicable federal or state law shall be construed in conformance with the context, and in relation to the applicable section of the statutes pertaining to the matter at hand, and current professional usage.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 12 SR 1810; 15 SR 1057*

7050.0140 USES OF WATERS OF THE STATE.

The classifications are listed separately in accordance with the need for water quality protection, considerations of best use in the interest of the public, and other considerations, as indicated in Minnesota Statutes, section 115.44. The classifications should not be construed to be an order of priority, nor considered to be exclusive or prohibitory of other beneficial uses.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913*

7050.0150 DETERMINATION OF COMPLIANCE.

In making tests or analyses of the waters of the state, sewage, industrial wastes, or other wastes to determine compliance with the standards, samples shall be collected in a manner and place, and of such type, number, and frequency as may be considered necessary by the agency from the viewpoint of adequately reflecting the condition of the waters, the composition of the effluents, and the effects of the pollutants upon the specified uses. Reasonable allowance will be made for dilution of the effluents, which are in compliance with part 7050.0211, subpart 1, following discharge into waters of the state. The agency by allowing dilution may consider the effect on all uses of the waters of the state into which the effluents are discharged. The extent of dilution allowed regarding any specific discharge shall not violate the applicable water quality standards. The samples shall be preserved and analyzed according to procedures in Code of Federal Regulations, title 40, part 136. The agency may accept or may develop other methods, procedures, guidelines, or criteria for measuring, analyzing, and collecting samples.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 15 SR 1057*

7050.0160 [Repealed, 9 SR 913]

7050.0170 NATURAL WATER QUALITY.

The waters of the state may, in a state of nature, have some characteristics or properties approaching or exceeding the limits specified in the water quality standards. The standards shall be construed as limiting the addition of pollutants of human activity from either point or nonpoint source discharges to those of natural origin, where such be present, so that in total the specified limiting concentrations will not be exceeded in the waters by reason of such controllable additions. Where the background level of the natural origin is reasonably definable and normally of lower quality than the specified standard the natural level may be used as the standard for controlling the addition of pollutants of human activity which are comparable in nature and significance with those of natural origin. The natural background level may be used instead of the specified water

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quality standard as a maximum limit of the addition of pollutants, in those instances where the natural level is consistently of better quality than the specified standard and reasonable justification exists for preserving the quality to that found in a state of nature.

In the adoption of standards for individual waters of the state, the agency will be guided by the standards herein but may make reasonable modifications of the same on the basis of evidence brought forth at a public hearing if it is shown to be desirable and in the public interest to do so in order to encourage the best use of the waters of the state or the lands bordering such waters.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 12 SR 1810*

7050.0180 NONDEGRADATION FOR OUTSTANDING RESOURCE VALUE WATERS.

Subpart 1. **Policy.** The agency recognizes that the maintenance of existing high quality in some waters of outstanding resource value to the state is essential to their function as exceptional recreational, cultural, aesthetic, or scientific resources. To preserve the value of these special waters, the agency will prohibit or stringently control new or expanded discharges from either point or nonpoint sources to outstanding resource value waters.

Subp. 2. **Definitions.** For the purpose of this part, the following terms have the meanings given them:

A. "Outstanding resource value waters" are waters within the Boundary Waters Canoe Area Wilderness, Voyageur's National Park, and Department of Natural Resources designated scientific and natural areas, wild, scenic, and recreational river segments, Lake Superior, those portions of the Mississippi River from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981, and other waters of the state with high water quality, wilderness characteristics, unique scientific or ecological significance, exceptional recreational value, or other special qualities which warrant stringent protection from pollution.

B. "New discharge" means a discharge that was not in existence on the effective date the outstanding resource value water was designated as described in parts 7050.0460 and 7050.0470.

C. "Expanded discharge" means a discharge that changes in volume, quality, location, or any other manner after the effective date the outstanding resource value water was designated as described in parts 7050.0460 and 7050.0470, such that an increased loading of one or more pollutants results. In determining whether an increased loading of one or more pollutants would result from the proposed change in the discharge, the agency shall compare the loading that would result from the proposed discharge with the loading allowed by the agency as of the effective date of outstanding resource value water designation.

Subp. 3. **Prohibited discharges.** No person may cause or allow a new or expanded discharge of any sewage, industrial waste, or other waste to waters within the Boundary Waters Canoe Area Wilderness, Voyageur's National Park, or Department of Natural Resources designated scientific and natural areas, or to federal or state wild river segments.

Subp. 4. **DNR designated scientific and natural areas.** Department of Natural Resources designated scientific and natural areas include but are not limited to:

A. Boot Lake, Anoka County;

B. Kettle River in sections 15, 22, 23, T 41 N, R 20, Pine County;

C. Pennington Bog, Beltrami County;

D. Purvis Lake-Ober Foundation, Saint Louis County;

E. Waters within the borders of Itasca Wilderness Sanctuary, Clearwater County;

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F. Iron Springs Bog, Clearwater County;

G. Wolsfeld Woods, Hennepin County;

H. Green Water Lake, Becker County;

I. Blackdog Preserve, Dakota County;

J. Prairie Bush Clover, Jackson County;

K. Black Lake Bog, Pine County; and

L. Pembina Trail Preserve, Polk County.

Subp. 5. **State designated wild river segments.** State designated wild river segments include but are not limited to:

A. Kettle River from dam at Sandstone to its confluence with the Saint Croix River;

B. Rum River from Ogechie Lake spillway to the northernmost confluence with Lake Onamia.

Subp. 6. **Restricted discharges.** No person may cause or allow a new or expanded discharge of any sewage, industrial waste, or other waste to any of the following waters unless there is not a prudent and feasible alternative to the discharge:

A. Lake Superior;

B. those portions of the Mississippi River from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981;

C. lake trout lakes, both existing and potential, as determined by the agency in conjunction with the Minnesota Department of Natural Resources, outside the boundaries of the Boundary Waters Canoe Area Wilderness and Voyageurs National Park and identified in parts 7050.0460 to 7050.0470;

D. federal or state designated scenic or recreational river segments; and

E. calcareous fens identified in part 7050.0180, subpart 6b.

If a new or expanded discharge to these waters is permitted, the agency shall restrict the discharge to the extent necessary to preserve the existing high quality, or to preserve the wilderness, scientific, recreational, or other special characteristics that make the water an outstanding resource value water.

Subp. 6a. **Federal or state designated scenic or recreational river segments.** Waters with a federal or state scenic or recreational designation include but are not limited to:

A. Saint Croix River, entire length;

B. Cannon River from northern city limits of Faribault to its confluence with the Mississippi River;

C. North Fork of the Crow River from Lake Koronis outlet to the Meeker-Wright county line;

D. Kettle River from north Pine County line to dam at Sandstone;

E. Minnesota River from Lac qui Parle dam to Redwood County state aid highway 11;

F. Mississippi River from county state aid highway 7 bridge in Saint Cloud to northwestern city limits of Anoka; and

G. Rum River from state highway 27 bridge in Onamia to Madison and Rice Streets in Anoka.

Subp. 6b. **Calcareous fens.** The following calcareous fens are designated outstanding resource value waters:

A. Spring Creek fen, Becker County;

B. B-B Ranch fen, Clay County;

C. Barnesville WMA fen, Clay County;

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D. Felton fen, Clay County;
E. Spring Prairie fen, Clay County;
F. Clearbrook fen, Clearwater County;
G. Fort Snelling State Park fen, Dakota County;
H. Minnesota Valley fen, Dakota County;
I. Nicols Meadow, Dakota County;
J. Perched Valley WMA fen, Goodhue County;
K. Heron Lake fen, Jackson County;
L. Thompson fen, Jackson County;
M. Fish Hatchery fen, Le Sueur County;
N. St. Peter fen, Le Sueur County;
O. Altona State Wildlife Management Area fen, Lincoln and Pipestone Counties;
P. Waubun fen, Mahnomen County;
Q. Truman fen, Martin County;
R. Fort Ridgely fen, Nicollet County;
S. Le Sueur fen, Nicollet County;
T. Adrian fen, Nobles County;
U. Primula Meadow (Faith fen), Norman County;
V. Rock Dell fen, Olmsted County;
W. Burke State Wildlife Management Area fen, Pipestone County;
X. Chicog WMA fen, Polk County;
Y. Kertsonville WMA fen, Polk County;
Z. Pankratz fen (Svedarsky's fen), Polk County;
AA. Ordway fen, Pope County;
BB. Cannon River fen, Rice County;
CC. Savage fen, Scott County;
DD. Kennedy fen, Winona County; and
EE. Sioux Nation fen, Yellow Medicine County.

Subp. 7. **Unlisted outstanding resource value waters.** The agency shall prohibit or stringently control new or expanded discharges to outstanding resource value waters not specified in subparts 3 to 6b to the extent that this stringent protection is necessary to preserve the existing high quality, or to preserve the wilderness, scientific, recreational, or other special characteristics that make the water an outstanding resource value water.

Subp. 8. **Public hearing.** The agency shall provide an opportunity for a hearing before identifying and establishing additional outstanding resource value waters, before determining the existence or lack of prudent and feasible alternatives under subpart 6, and before prohibiting or restricting new or expanded discharges to outstanding resource value waters under subparts 3, 6, 6a, 6b, and 7.

Subp. 9. **Impact from upstream discharges.** The agency shall require new or expanded discharges to waters that flow into outstanding resource value waters be controlled so as to assure no deterioration in the quality of the downstream outstanding resource value water.

Subp. 10. **Thermal discharges.** If a thermal discharge causes potential water quality impairment, the agency shall implement the nondegradation policy consistent with section 316 of the Clean Water Act, United States Code, title 33, section 1326.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 12 SR 1810; 15 SR 1057*

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7050.0185 NONDEGRADATION FOR ALL WATERS.

Subpart 1. **Policy.** The potential capacity of the water to assimilate additional wastes is a valuable public resource. It is the policy of the state of Minnesota to protect all waters from significant degradation from point and nonpoint sources and to maintain existing water uses, aquatic habitats, and the level of water quality necessary to protect these uses.

Subp. 2. **Definitions.** For the purpose of this part, the following terms have the meanings given them:

A. "New discharge" means a discharge that was not in existence before January 1, 1988.

B. "Expanded discharge" means a discharge that changes in volume, quality, location, or any other manner after January 1, 1988, such that an increased loading of one or more pollutants results. In determining whether an increased loading of one or more pollutants would result from the proposed change in discharge, the agency shall compare the loading that would result from the proposed discharge with the loading allowed by the agency on January 1, 1988.

C. "Baseline quality" means the quality consistently attained by January 1, 1988.

D. "Existing" means in existence before January 1, 1988.

E. "Economic or social development" means the jobs, taxes, recreational opportunities, and other impacts on the public at large that will result from a new or expanded discharge.

F. "Toxic pollutant" means a pollutant listed as toxic under section 307(a)(1) of the Clean Water Act, United States Code, title 33, section 1317(a)(1), or as defined by Minnesota Statutes, section 115.01, subdivision 14.

G. "Significant discharge" means:

(1) a new discharge of sewage, industrial, or other wastes greater than 200,000 gallons per day to any water other than a class 7, limited resource value water; or

(2) an expanded discharge of sewage, industrial, or other wastes that expands by more than 200,000 gallons per day and that discharges to any water other than a class 7, limited resource value water; or

(3) a new or expanded discharge containing any toxic pollutant at a mass loading rate likely to increase the concentration of the toxicant in the receiving water by greater than one percent over the baseline quality. This determination shall be made using:

(a) data collected from the receiving water or from a water representative of the receiving water;

(b) the entire once in ten-year, seven-day low flow of the receiving water as defined in part 7050.0210, subpart 7; and

(c) a mass balance equation that treats all toxic pollutants as conservative substances.

Subp. 3. **Minimum treatment.** Any person authorized to maintain a new or expanded discharge of sewage, industrial waste, or other waste, whether or not the discharge is significant, shall comply with applicable effluent limitations and water quality standards of this chapter and shall maintain all existing, beneficial uses in the receiving waters.

Subp. 4. **Additional requirements for significant discharges.** If a person proposes a new or expanded significant discharge from either a point or nonpoint source, the agency shall determine whether additional control measures beyond those required by subpart 3 can reasonably be taken to minimize the impact of the discharge on the receiving water. In making the decision, the agency shall consider the importance of economic and social development and impacts of the

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project, the impact of the discharge on the quality of the receiving water, the characteristics of the receiving water, the cumulative impacts of all new or expanded discharges on the receiving water, the costs of additional treatment beyond what is required of nonsignificant dischargers, and other matters as shall be brought to the agency's attention.

Subp. 5. **Determination of significance.** A person proposing a new or expanded discharge of sewage, industrial waste, or other wastes shall submit to the commissioner the information required to determine whether the discharge is significant under subpart 2. If the discharge is sewage or industrial waste, the flow rate used to determine significance under this part is the design average wet weather flow for the wettest 30-day period. For discharges of other wastes, the flow rate to be used is the design maximum daily flow rate. In determining the significance of a discharge to a lake or other nonflowing receiving water, a mixing zone may be established under the guidelines of part 7050.0210, subpart 5.

Subp. 6. **Baseline quality.** If an existing discharge to a water of the state is eliminated or significantly reduced, baseline quality for purposes of this part shall be adjusted to account for the water quality impact associated with that particular discharge.

If no data are available to determine baseline quality or the data collected after January 1, 1988, are of better quality, then the commissioner shall authorize the use of data collected after January 1, 1988. If no data are available, the person proposing the discharge may collect new data in accordance with agency protocols.

Subp. 7. **Incremental expansions.** If a new or expanded discharge is proposed in increments, the increments must be added together to determine whether the discharge is a significant discharge. Once the criteria for a significant discharge are satisfied by adding together the increments, the requirements of this part shall apply to the discharge.

Subp. 8. **Determination of reasonable control measures for significant discharges.** The person proposing a new or expanded significant discharge of sewage, industrial waste, or other wastes shall submit to the commissioner information pertinent to those factors specified in subpart 4 for determining whether and what additional control measures are reasonable.

The commissioner shall provide notice and an opportunity for a public hearing in accordance with the permit requirements in chapter 7001 before establishing reasonable control requirements for a new or expanded significant discharge.

Statutory Authority: *MS s 115.03; 115.44*

History: *12 SR 1810; 15 SR 1057*

7050.0190 VARIANCE FROM STANDARDS.

Subpart 1. **Standard.** In any case where, upon application of the responsible person or persons, the agency finds that by reason of exceptional circumstances the strict enforcement of any provision of these standards would cause undue hardship, that disposal of the sewage, industrial waste, or other waste is necessary for the public health, safety, or welfare; and that strict conformity with the standards would be unreasonable, impractical, or not feasible under the circumstances; the agency in its discretion may grant a variance therefrom upon such conditions as it may prescribe for prevention, control, or abatement of pollution in harmony with the general purposes of these classifications and standards and the intent of the applicable state and federal laws. The United States Environmental Protection Agency will be advised of any permits which may be issued under this clause together with information as to the need therefor.

Subp. 2. **Listing.** By October 1 each year, the commissioner shall prepare a list of the variances in effect granted by the agency under this part. This list shall be available for public inspection and shall be provided to the United States

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Environmental Protection Agency. This list shall identify the person granted the variance, the rule from which the variance was granted, the water affected, the year granted, and any restrictions that apply in lieu of the rule requirement.

Subp. 3. **Review.** Variances granted by the agency under this part shall be subject to agency and public review at least every three years. Variances may be modified or suspended under the procedures in part 7000.0700.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 12 SR 1810*

7050.0200 WATER USE CLASSIFICATIONS FOR WATERS OF THE STATE.

Based on considerations of best usage in the interest of the public and in conformance with the requirements of the applicable statutes, the waters of the state shall be grouped into one or more of the following classes:

1. Domestic consumption includes all waters of the state which are or may be used as a source of supply for drinking, culinary or food processing use or other domestic purposes, and for which quality control is or may be necessary to protect the public health, safety, or welfare.

2. Fisheries and recreation includes all waters of the state which are or may be used for fishing, fish culture, bathing, or any other recreational purposes, and for which quality control is or may be necessary to protect aquatic or terrestrial life or their habitats, or the public health, safety, or welfare.

3. Industrial consumption includes all waters of the state which are or may be used as a source of supply for industrial process or cooling water, or any other industrial or commercial purposes, and for which quality control is or may be necessary to protect the public health, safety, or welfare.

4. Agriculture and wildlife includes all waters of the state which are or may be used for any agriculture purposes, including stock watering and irrigation, or by waterfowl or other wildlife, and for which quality control is or may be necessary to protect terrestrial life and its habitat or the public health, safety, or welfare.

5. Aesthetic enjoyment and navigation includes all waters of the state which are or may be used for any form of water transportation or navigation, or fire prevention, and for which quality control is or may be necessary to protect the public health, safety, or welfare.

6. Other uses includes all waters of the state which are or may serve the above listed uses or any other beneficial uses not listed herein, including without limitation any such uses in this or any other state, province, or nation of any waters flowing through or originating in this state, and for which quality control is or may be necessary for the above declared purposes, or to conform with the requirements of the legally constituted state or national agencies having jurisdiction over such waters, or any other considerations the agency may deem proper.

7. Limited resource value waters includes surface waters of the state which are of limited value as a water resource and where water quantities are intermittent or less than one cubic foot per second at the once in ten year, seven-day low flow as defined in part 7050.0210, subpart 7. These waters shall be protected so as to allow secondary body contact use, to preserve the groundwater for use as a potable water supply, and to protect aesthetic qualities of the water. It is the intent of the agency that very few waters be classified as limited resource value waters. In conjunction with those factors listed in Minnesota Statutes, section 115.44, subdivisions 2 and 3, the agency, in cooperation and agreement with the Department of Natural Resources with respect to determination of fisheries values and potential, shall determine the extent to which the waters of the state demonstrate the conditions set forth below:

a. the existing fishery and potential fishery are severely limited by natural

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conditions as exhibited by poor water quality characteristics, lack of habitat, or lack of water; or

b. the quality of the resource has been significantly altered by human activity and the effect is essentially irreversible; and

c. there are limited recreational opportunities (such as fishing, swimming, wading, or boating) in and on the water resource.

Conditions "a" and "c" or "b" and "c" must be established by the agency water assessment procedure before the waters can be classified as limited resource value waters.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 12 SR 1810*

7050.0210 GENERAL STANDARDS FOR DISCHARGERS TO WATERS OF THE STATE.

Subpart 1. **Untreated sewage.** No untreated sewage shall be discharged into any waters of the state. Effective disinfection of any discharges, including combined flows of sewage and storm water, will be required where necessary to protect the specified uses of the waters of the state.

Subp. 2. **Nuisance conditions prohibited.** No sewage, industrial waste, or other wastes shall be discharged from either point or nonpoint sources into any waters of the state so as to cause any nuisance conditions, such as the presence of significant amounts of floating solids, scum, visible oil film, excessive suspended solids, material discoloration, obnoxious odors, gas ebullition, deleterious sludge deposits, undesirable slimes or fungus growths, aquatic habitat degradation, excessive growths of aquatic plants, or other offensive or harmful effects.

Subp. 3. **Inadequate treatment.** Existing discharges of inadequately treated sewage, industrial waste, or other wastes shall be abated, treated, or controlled so as to comply with the applicable standards. Separation of sanitary sewage from natural runoff may be required where necessary to ensure continuous effective treatment of sewage.

Subp. 4. **Highest levels of water quality.** The highest levels of water quality, including, but not limited to, dissolved oxygen, which are attainable in the waters of the state by continuous operation at their maximum capability of all primary and secondary units of treatment works or their equivalent discharging effluents into the waters of the state shall be maintained in order to enhance conditions for the specified uses.

Subp. 5. **Mixing zones.** Means for expediting mixing and dispersion of sewage, industrial waste, or other waste effluents in the receiving waters are to be provided so far as practicable when deemed necessary by the agency to maintain the quality of the receiving waters in accordance with applicable standards. Mixing zones must be established by the agency on an individual basis, with primary consideration being given to the following guidelines:

A. mixing zones in rivers shall permit an acceptable passageway for the movement of fish;

B. the total mixing zone or zones at any transect of the stream should contain no more than 25 percent of the cross sectional area and/or volume of flow of the stream, and should not extend over more than 50 percent of the width;

C. mixing zone characteristics shall not be lethal to aquatic organisms;

D. for contaminants other than heat, the FAV, as defined in part 7050.0218, subpart 3, item O, for toxic pollutants should not be exceeded as a one-day mean concentration at any point in the mixing zone;

E. mixing zones should be as small as possible, and not intersect spawning or nursery areas, migratory routes, water intakes, nor mouths of rivers; and

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F. overlapping of mixing zones should be minimized and measures taken to prevent adverse synergistic effects.

This subpart applies in cases where a Class 7 water is tributary to a Class 2 water.

Subp. 6. [Renumbered 7050.0211, subpart 1]

Subp. 6a. [Renumbered 7050.0211, subpart 2]

Subp. 6b. [Renumbered 7050.0211, subpart 3]

Subp. 6c. **Other requirements preserved.** The requirements of this chapter and specifically the requirements in parts 7050.0211 to 7050.0212 are in addition to any requirement imposed on a discharge by the Clean Water Act, United States Code, title 33, sections 1251 et seq., and its implementing regulations. In the case of a conflict between the requirements of parts 7050.0110 to 7050.0220 and the requirements of the Clean Water Act or its implementing regulations, the more stringent requirement controls.

Subp. 7. **Minimum stream flow.** Dischargers of sewage, industrial waste, or other wastes shall be controlled so that the water quality standards will be maintained at all stream flows which are equal to or exceeded by 90 percent of the seven consecutive daily average flows of record (the lowest weekly flow with a once in ten-year recurrence interval) for the critical month(s). The period of record for determining the specific flow for the stated recurrence interval, where records are available, shall include at least the most recent ten years of record, including flow records obtained after establishment of flow regulation devices, if any. The calculations shall not be applied to lakes and their embayments which have no comparable flow recurrence interval. Where stream flow records are not available, the flow may be estimated on the basis of available information on the watershed characteristics, precipitation, run-off, and other relevant data.

Allowance shall not be made in the design of treatment works for low stream flow augmentation unless the flow augmentation of minimum flow is dependable and controlled under applicable laws or regulations.

Subp. 8. [Renumbered 7050.0213]

Subp. 9. **Water quality based effluent limitations.** Notwithstanding parts 7050.0213 and 7050.0214, the agency may require a specific discharger to meet effluent limitations which are necessary to maintain the water quality of the receiving water at the standards of quality and purity established by this chapter. Any effluent limitation determined to be necessary under this section shall only be required of a discharger after the discharger has been given notice of the specific effluent limitations and an opportunity for public hearing provided that compliance with the requirements of chapter 7001 regarding notice of National Pollutant Discharge Elimination System and State Disposal System permits shall satisfy the notice and opportunity for hearing requirements of this subpart.

Subp. 10. **Alternative waste treatment.** After providing an opportunity for public hearing the agency shall accept effective loss prevention and/or water conservation measures or process changes or other waste control measures or arrangements if it finds that such measures, changes, or arrangements are equivalent to the waste treatment measures required for compliance with applicable effluent and/or water quality standards or load allocations.

Subp. 11. [Repealed, 12 SR 1810]

Subp. 12. **Liquid substances.** Liquid substances which are not commonly considered to be sewage or industrial waste but which could constitute a pollution hazard shall be stored in accordance with parts 7100.0010 to 7100.0090, and any revisions or amendments thereto. Other wastes as defined by law or other substances which could constitute a pollution hazards, including substances from nonpoint sources and households, shall not be deposited in any manner such that the same may be likely to gain entry into any waters of the state in excess of or contrary to any of the standards herein adopted, or cause pollution as defined by law.

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Subp. 13. **Pollution prohibited.** No sewage, industrial waste, or other wastes shall be discharged from either a point or a nonpoint source into the waters of the state in such quantity or in such manner alone or in combination with other substances as to cause pollution as defined by law. In any case where the waters of the state into which sewage, industrial waste, or other waste effluents discharge are assigned different standards than the waters of the state into which the receiving waters flow, the standards applicable to the waters into which the sewage, industrial waste, or other wastes discharged shall be supplemented by the following:

The quality of any waters of the state receiving sewage, industrial waste, or other waste effluents shall be such that no violation of the standards of any waters of the state in any other class shall occur by reason of the discharge of the sewage, industrial waste, or other waste effluents.

Subp. 14. [Repealed, 15 SR 1057]

Subp. 15. **Point source dischargers must report to agency.** All persons operating or responsible for sewage, industrial waste, or other waste disposal systems which are adjacent to or which discharge effluents to these waters or to tributaries which affect the same, shall submit a report to the agency upon request on the operation of the disposal system, the effluent flow, and the characteristics of the effluents and receiving waters. Sufficient data on measurements, observations, sampling, and analyses, and other pertinent information shall be furnished as may be required by the agency to adequately evaluate the condition of the disposal system, the effluent, and the waters receiving or affected by the effluent.

Subp. 16. [Renumbered 7050.0214]

Subp. 17. **Compliance with permit conditions.** No person who is in compliance with the terms and conditions of its permit issued under chapter 7001 shall be deemed in violation of any water quality standard in this rule for which a corresponding effluent limitation is established in the permit. However, exceedances of the water quality standards in a receiving water shall constitute grounds for modification of a permit(s) for any discharger(s) to the receiving water who is (are) causing or contributing to the exceedances. Chapter 7001 shall govern the modification of any such permit.

Subp. 18. **Water quality standard based ammonia effluent limitations.** For the purpose of establishing limitations to meet the ammonia water quality standard, a statistic which estimates the central value (such as the mean or median) for ambient pH and temperature of the receiving water for the critical months shall be used.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 9 SR 2756; L 1987 c 186 s 15; 12 SR 1810; 15 SR 1057*

7050.0211 FACILITY STANDARDS.

Subpart 1. **Minimum secondary treatment for municipal point source and other point source dischargers of sewage.** It is established that the agency shall require secondary treatment as a minimum for all municipal point source dischargers and other point source dischargers of sewage. For purposes of this part, municipal has the adjective meaning of municipality as defined in part 7001.1020, subpart 18. Secondary treatment facilities are defined as works which will provide effective sedimentation, biochemical oxidation, and disinfection, or the equivalent, including effluents conforming to the following:

Substance or Characteristic	Limiting Concentration or Range*
5-Day carbonaceous biochemical oxygen demand*	25 milligrams per liter
Fecal coliform group organisms ***	200 organisms per 100 milliliters

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Total suspended solids*	30 milligrams per liter
Oil	Essentially free of visible oil
Phosphorus**	1 milligram per liter
pH range	6.0 - 9.0
Toxic or corrosive pollutants	

Concentrations of toxic or corrosive pollutants shall not cause acute toxicity to humans or other animals or plant life or directly damage real property or exceed the final acute value unless the effluent satisfies the whole effluent toxicity test below. If a whole effluent toxicity test performed on the effluent results in less than 50 percent mortality of the test organisms, the effluent will not be considered acutely toxic unless the commissioner finds that the test species do not represent sensitive organisms in the affected surface water body or the whole effluent test was performed on a sample not representative of the effluent quality. The final acute value and whole effluent toxicity test are defined in part 7050.0218, subpart 3, items O and FF, respectively.

*The arithmetic mean for concentrations of five-day carbonaceous biochemical oxygen demand and total suspended solids shall not exceed the stated values in any calendar month. In any calendar week, the arithmetic mean for concentrations of five-day carbonaceous biochemical oxygen demand shall not exceed 40 milligrams per liter and total suspended solids shall not exceed 45 milligrams per liter.

**Where the discharge of effluent is directly to or affects a lake or reservoir, phosphorus removal to one milligram per liter shall be required. In addition, removal of nutrients from all wastes shall be provided to the fullest practicable extent wherever sources of nutrients are considered to be actually or potentially detrimental to preservation or enhancement of the designated water uses. Dischargers required to control nutrients by this subpart are subject to the variance provisions of part 7050.0190.

***Disinfection of wastewater effluents to reduce the levels of fecal coliform organisms to the stated value is required from March 1 through October 31 (Class 2 waters) and May 1 through October 31 (Class 7 waters) except that where the effluent is discharged 25 miles or less upstream of a water intake supplying a potable water system, the reduction to the stated value is required year around. The stated value is not to be exceeded in any calendar month as determined by the geometric mean of all the samples collected in a given calendar month. The application of the fecal coliform group organism standards shall be limited to sewage or other effluents containing admixtures of sewage and shall not apply to industrial wastes except where the presence of sewage, fecal coliform organisms, or viable pathogenic organisms in such wastes is known or reasonably certain. Analysis of samples for fecal coliform group organisms by either the multiple tube fermentation or the membrane filter techniques is acceptable.

Subp. 2. **Exception for existing trickling filter facilities.** The exception for existing trickling filter facilities is:

A. The secondary treatment effluent limitations in part 7050.0210, subpart 1, for 5-day carbonaceous biochemical oxygen demand and total suspended solids does not apply to municipal point source dischargers and other point source dischargers of sewage that meet all of the following conditions:

(1) The treatment facility was in operation on January 1, 1987;

(2) The treatment facility uses a trickling filter as the principal method of biologically treating the wastewater; and

(3) The discharger has been incapable of consistently meeting the effluent limitations for 5-day carbonaceous biochemical oxygen demand or total suspended solids contained in part 7050.0210, subpart 1.

B. For those municipal point source dischargers and other point source

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dischargers of sewage that meet the conditions of item A, the following effluent limitations for 5-day carbonaceous biochemical oxygen demand and total suspended solids apply as the arithmetic mean of all samples collected during a calendar month.

5-day carbonaceous biochemical oxygen demand	40 milligrams per liter*
Total suspended solids	45 milligrams per liter**

*In any calendar week, the arithmetic mean for 5-day carbonaceous biochemical oxygen demand shall not exceed 60 milligrams per liter.

**The arithmetic mean for any calendar week shall not exceed 65 milligrams per liter for total suspended solids.

C. The other effluent limitations in part 7050.0210, subpart 1, apply to those municipal point source dischargers and other point source dischargers of sewage whose limitations for 5-day carbonaceous biochemical oxygen demand and total suspended solids are established by this subpart.

Subp. 3. **Exception for pond facilities.** The exception for pond facilities is:

A. The secondary treatment effluent limitations in part 7050.0210, subpart 1, for total suspended solids does not apply to municipal point source dischargers and other point source dischargers of sewage that operate stabilization ponds or aerated ponds as the principal method of biologically treating the wastewater.

B. For such treatment works the effluent limitation for total suspended solids for a discharge from the pond is as follows:

Total suspended solids	45 milligrams per liter* (arithmetic mean of all samples collected during any calendar month)

*The arithmetic mean for any calendar week shall not exceed 65 milligrams per liter for total suspended solids.

C. The other effluent limitations in part 7050.0210, subpart 1, apply to those municipal point source dischargers and other point source dischargers of sewage whose limitations for total suspended solids are established by this subpart.

Statutory Authority: *MS s 115.03; 115.44*

History: *12 SR 1810; 15 SR 1057*

7050.0212 REQUIREMENTS FOR POINT SOURCE DISCHARGERS OF INDUSTRIAL OR OTHER WASTES.

Subpart 1. **Applicable effluent limitations.** Any person discharging industrial or other wastes from a point source shall comply with the following requirements:

A. Point source dischargers of industrial or other wastes shall comply with all applicable federal standards promulgated by the United States Environmental Protection Agency under sections 301, 306, and 307 of the Clean Water Act, United States Code, title 33, sections 1311, 1316, and 1317. Code of Federal Regulations, title 40, parts 401 through 469, are incorporated by reference.

B. If effluent limitations for five-day carbonaceous biochemical oxygen demand, total suspended solids, pH, or oil are not established under item A for any point source discharger of industrial or other wastes, that point source discharger shall comply with the effluent limitations for those substances established in part 7050.0211, subpart 1, or with such other equivalent mass limitations established under part 7050.0210, subpart 9, if applicable.

C. Point source dischargers of industrial or other wastes shall comply

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with all additional effluent limitations established by the agency in any permit proceeding for that discharger through application of the criteria provided by Code of Federal Regulations, title 40, part 125, subpart A.

Subp. 2. **Feedlot exemption.** The requirements of subpart 1, items B and C, do not apply to animal feedlots.

Subp. 3. **Antibacksliding.**

A. Any point source discharger of industrial or other wastes for which a National Pollutant Discharge Elimination System permit has been issued by the agency that contains effluent limitations more stringent than those that would be established by subparts 1 and 2 shall continue to meet the effluent limitations established by the permit, unless the permittee establishes that less stringent effluent limitations are allowable pursuant to federal law, under section 402(o) of the Clean Water Act, United States Code, title 33, section 1342.

B. If a permittee establishes that it is entitled to less stringent effluent limitations under item A, the agency shall establish new effluent limitations in accordance with the following criteria:

(1) If past treatment performance data are representative of future performance, the new effluent limitations shall reflect the level of pollutant control that has been consistently achieved by the permittee in the past.

(2) If changes in the rate of production or in other operational aspects of the facility make past treatment performance data unrepresentative of future performance, in establishing new effluent limitations the agency shall consider (a) the performance capabilities of the existing treatment facility under the changed factors, and (b) the performance capabilities of any additional treatment facilities that may be required by the agency as a result of the changed factors. The new effluent limitations shall be as stringent as is reasonable applying good engineering design practices and operational and maintenance practices for the existing treatment facilities and any additional treatment facilities that may be required.

(3) The new effluent limitations shall reflect the performance capabilities of all treatment facilities under proper operation and maintenance practices.

(4) In no event shall the new effluent limitations be less stringent than the effluent limitations established under subparts 1 and 2.

(5) In all cases, the beneficial uses and the water quality standards shall be maintained in the receiving water.

(6) If less stringent effluent limitations are established in the permit, the agency may also establish other reasonable and necessary conditions for the new permit.

A request for less stringent effluent limitations in a permit shall be made in accordance with part 7001.0190, subpart 1. The agency shall follow the procedures in part 7001.0190, subpart 1, in acting upon a request for new effluent limitations.

Subp. 4. **Nutrient control requirements.** In addition to the requirements of subpart 1, a person discharging industrial or other wastes from a point source shall comply with the nutrient control requirements of part 7050.0211, subpart 1, if the discharge of effluent is directly to or affects a lake or reservoir.

Subp. 5. **Exception for total suspended solids limitations for ponds.** A point source discharger of industrial or other wastes that uses a stabilization or aerated pond as the principal method of biologically treating the waste shall comply with subparts 1 to 4, except that the total suspended solids effluent limitations applicable to a discharger under subpart 1, item B, shall be those limitations in part 7050.0211, subpart 3, rather than the total suspended solids limitations in part 7050.0211, subpart 1.

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Subp. 6. **Toxic or corrosive pollutants.** In addition to the requirements of subpart 1, a person discharging industrial or other wastes from a point source shall comply with the control requirements of part 7050.0211, subpart 1, for toxic or corrosive pollutants.

Statutory Authority: *MS s 115.03; 115.44*

History: *12 SR 1810; 15 SR 1057*

7050.0213 ADVANCED WASTEWATER TREATMENT REQUIREMENTS.

In any instance where it is evident that the minimal treatment specified in part 7050.0211, subpart 1, or 7050.0212 and dispersion are not effective in preventing pollution, or if at the applicable flows it is evident that the specified stream flow is inadequate to protect the specified water quality standards, the specific standards may be interpreted as effluent standards for control purposes. In addition, the following effluent standards may be applied without any allowance for dilution where stream flow or other factors are such as to prevent adequate dilution, or where it is otherwise necessary to protect the waters of the state for the stated uses:

Item*	Limits**
5-day carbonaceous biochemical oxygen demand	5 milligrams per liter (arithmetic mean of all samples taken during any calendar month)

*The concentrations specified in part 7050.0211, subpart 1, or, if applicable, part 7050.0212 may be used in lieu thereof if the discharge of effluent is restricted to the spring flush or other high runoff periods when the stream flow rate above the discharge point is sufficiently greater than the effluent flow rate to insure that the applicable water quality standards are met during such discharge period. If treatment works are designed and constructed to meet the specified limits given above for a continuous discharge, at the discretion of the agency the operation of such works may allow for the effluent quality to vary between the limits specified above and in part 7050.0211, subpart 1, or, if applicable, part 7050.0212, provided the water quality standards and all other requirements of the agency and the United States Environmental Protection Agency are being met. Such variability of operation must be based on adequate monitoring of the treatment works and the effluent and receiving waters as specified by the agency.

**If a discharger is required by the commissioner to implement a pretreatment program for the control of toxic pollutants from industrial contributors and the program has not yet been implemented, the discharger's effluent limitation for total suspended solids shall be five milligrams per liter until such time as the program has been implemented.

This section shall not apply to discharges to surface waters classified as limited resource value waters pursuant to parts 7050.0200, number 7 and 7050.0400 to 7050.0470.

Statutory Authority: *MS s 115.03; 115.44*

History: *12 SR 1810*

7050.0214 REQUIREMENTS FOR POINT SOURCE DISCHARGERS TO LIMITED RESOURCE VALUE WATERS.

Subpart 1. **Effluent limitations.** For point source discharges of sewage, industrial, or other wastes to surface waters classified as limited resource value waters pursuant to parts 7050.0200, number 7 and 7050.0400 to 7050.0470, the agency shall require treatment facilities which will provide effluents conforming to the following limitations:*

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Substance or Characteristic	Limiting Concentration
5-Day carbonaceous biochemical oxygen demand	15 milligrams per liter (arithmetic mean of all samples taken during any calendar month)

*All effluent limitations specified in part 7050.0211, subpart 1, shall also be applicable to dischargers of sewage to Class 7 waters, provided that toxic or corrosive pollutants shall be limited to the extent necessary to protect the designated uses of the receiving water or affected downstream waters.

Subp. 2. **Alternative secondary treatment effluent limitations.** The agency shall allow treatment works to be constructed and/or operated to produce effluents to limited resource value waters at levels up to those stated in part 7050.0211, subpart 1, provided that it is demonstrated that the water quality standards for limited resource value waters will be maintained during all periods of discharge from the treatment facilities.

Subp. 3. **Protection of downstream waters.** Notwithstanding the effluent limitations established by this section the quality of limited resource value waters shall not be such as to allow a violation of applicable water quality standards in waters of the state which are connected to or affected by water classified as limited resource value waters.

Subp. 4. **Public waters designation unaffected.** The classification of surface waters as limited resource value waters pursuant to parts 7050.0200, number 7 and 7050.0400 to 7050.0470 shall not supersede, alter, or replace the classification and designation of such waters as public waters pursuant to applicable provisions and requirements of Minnesota Statutes, chapter 105.

Statutory Authority: *MS s 115.03; 115.44*

History: *12 SR 1810; 15 SR 1057*

7050.0215 REQUIREMENTS FOR ANIMAL FEEDLOTS.

Subpart 1. **Definitions.** For the purpose of this part, the following terms have the meanings given them:

A. "Animal feedlot" has the meaning given in part 7020.0300, subpart 3.

B. "Animal manure" has the meaning given in part 7020.0300, subpart 4.

C. "Manure storage area" has the meaning given in part 7020.0300, subpart 14.

D. "Treatment works" has the meaning given in Minnesota Statutes, section 115.01, subdivision 7, and includes a vegetated filter or buffer strip located between an animal feedlot or a manure storage area and a receiving water.

Subp. 2. **Effluent limitations for a discharge.**

A. Any person discharging pollutants to surface waters of the state from an animal feedlot or manure storage area who is not regulated by federal requirements under part 7050.0212, subpart 1, shall comply with the following limitations after allowance for pollutant removal by a treatment works:

5-day biochemical oxygen demand	25 milligrams per liter (arithmetic mean of all samples taken during any calendar month)

If the discharge is directly to or affects a lake or reservoir, the person discharging the pollutants shall comply with the nutrient control requirements of part 7050.0211, subpart 1.

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B. The effluent limitations in item A are not applicable whenever rainfall events, either chronic or catastrophic, cause an overflow from an animal feedlot or manure storage area designed, constructed, and operated:

(1) to meet the effluent limitations in item A for rainfall events less than or equal to a 25-year, 24-hour rainfall event for that location; or

(2) to collect and contain the runoff from a 25-year, 24-hour rainfall event for that location.

Statutory Authority: *MS s 115.03; 115.44*

History: *12 SR 1810*

7050.0217 OBJECTIVES FOR PROTECTION OF SURFACE WATERS FROM TOXIC POLLUTANTS.

Subpart 1. **Purpose and applicability.** The purpose of parts 7050.0217 and 7050.0218 are to establish methods for developing site-specific water quality criteria for toxic pollutants in the absence of numerical standards listed in part 7050.0220. The site-specific numerical criteria established by these methods protect Class 1 surface waters for public and private domestic comsumption and Class 2 waters for the propagation and maintenance of fish and aquatic life, the consumption of fish and edible aquatic life by humans, and the consumption of aquatic organisms by wildlife. These criteria also protect the uses assigned to Class 7, limited resource value, waters as described in part 7050.0220.

Subp. 2. **Objectives.** Protection of the aquatic community from the toxic effects of pollutants means the protection of no less than 95 percent of all the species in any aquatic community. Greater protection may be applied to a community if economically, recreationally, or ecologically important species are very sensitive.

Protection of human consumers of fish, other edible aquatic organisms, and water for drinking from surface waters means that exposure from noncarcinogenic chemicals shall be below levels expected to produce known adverse effects; and the incremental cancer risk from exposure to carcinogenic chemicals, singly or in mixtures, shall not exceed one in 100,000. The combined risk from mixtures of carcinogens will be determined as described in part 7050.0220, subpart 3, item G.

Protection of wildlife that eat aquatic organisms means the protection of the most sensitive wildlife species or populations. Greater protection may be applied if the exposed animals include endangered or threatened wildlife species listed in chapter 6134, or in the Code of Federal Regulations, title 50, part 17, under the Endangered Species Act of 1973, United States Code, title 16, sections 1531 to 1543.

Statutory Authority: *MS s 115.03; 115.44*

History: *15 SR 1057*

7050.0218 METHODS FOR PROTECTION OF SURFACE WATERS FROM TOXIC POLLUTANTS FOR WHICH NUMERICAL STANDARDS NOT PROMULGATED.

Subpart 1. **Purpose.** The numerical water quality standards for toxic pollutants in part 7050.0220 do not address all pollutants which may be discharged to surface waters and cause toxic effects. Therefore, methods are established in this part to address on a site-by-site and case-by-case basis the discharge into surface waters of toxic pollutants not listed in part 7050.0220.

The agency may also adopt new standards according to Minnesota Statutes, chapter 14, to replace those listed in part 7050.0220 that are more stringent or less stringent if new scientific evidence shows that a change in the standard is justified.

Subp. 2. **Site-specific criteria for pollutants not listed in part 7050.0220.** Site-

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specific criteria for toxic pollutants not listed in part 7050.0220 shall be derived by the commissioner using the procedures in this part.

A. A site-specific criterion so derived is specific to the point source being addressed. Any effluent limitation derived from a site-specific criterion under this subpart shall only be required after the discharger has been given notice of the specific proposed effluent limitations and an opportunity to request a hearing as provided in parts 7000.1000 and 7001.0130.

B. A site-specific criterion so derived for remedial action cleanup activities is specific to the affected surface water body.

Subp. 3. **Definitions.** For the purposes of parts 7050.0217 to 7050.0220, the following terms have the meanings given them.

A. "Acute-chronic ratio" or "ACR" means the ratio of the acute toxicity, expressed as a LC50 or EC50, of a toxicant to its chronic toxicity expressed as the chronic value. The ACR is used as a factor for estimating chronic toxicity on the basis of acute toxicity.

B. "Acute toxicity" means a stimulus severe enough to rapidly induce a response. In toxicity tests, a response is normally observed in 96 hours or less. Acute effects are often measured in terms of mortality or other debilitating effects.

C. "Available scientific data" means information derived from scientific literature including: published literature in peer reviewed scientific journals, USEPA ambient water quality criteria documents, and other reports or documents published by the USEPA or other governmental agencies.

D. "Bioaccumulation factor" or "BAF" means the concentration of a pollutant in one or more tissues of an aquatic organism, exposed from any source of the pollutant but primarily from the diet and bottom sediments in addition to the water column, divided by the average concentration in the solution in which the organism had been living.

E. "Bioconcentration factor" or "BCF" means the concentration of a pollutant in one or more tissues of an aquatic organism, exposed only to the water as the source of the pollutant, divided by the average concentration in the solution in which the organism had been living.

F. "Cancer potency factor" or "ql*" means a factor indicative of a chemical's human cancer causing potential. The ql* is the upper 95 percent confidence limit (one-sided) of the slope from a linear nonthreshold dose-response model used by the USEPA to provide an upper bound estimate of incremental cancer risk. The ql* assumes a lifetime exposure and is expressed in days times kilogram body weight per milligram toxicant (d x kg/mg).

G. "Chronic toxicity" means a stimulus that lingers or continues for a long period of time, often one-tenth the life span or more. A chronic effect can be mortality, reduced growth, reproduction impairment, harmful changes in behavior, and other nonlethal effects.

H. "Chronic criterion" or "CC" means the highest water concentration of a toxicant to which organisms can be exposed indefinitely without causing chronic toxicity.

I. "Chronic standard" or "CS" means the highest water concentration of a toxicant to which organisms can be exposed indefinitely without causing chronic toxicity. Chronic standards are listed in part 7050.0220, subpart 3.

J. "Chronic value" means the geometric mean of the highest tested concentration that did not cause an unacceptable adverse effect and the lowest tested concentration that did cause an unacceptable adverse effect, and in which all higher test values cause an effect, in an approved chronic test.

K. "Cold water fisheries" means a community of fish including species of trout and salmon from the Salmonidae family that inhabit trout waters as defined in part 7050.0420.

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L. "Criterion" means a number or numbers established for a pollutant derived under this part, or issued by the USEPA, to protect aquatic life, humans, or wildlife.

M. "Duration" means the time over which the instream concentration of a pollutant is averaged for comparison with the standard or criterion.

N. "Effect concentration" or "EC50" means the toxicant concentration that causes equilibrium loss, immobilization, mortality, or other debilitating effects in 50 percent of the exposed organisms during a specific time of observation.

O. "Final acute value" or "FAV" means an estimate of the concentration of a pollutant corresponding to the cumulative probability of 0.05 in the distribution of all the acute toxicity values for the genera or species from the acceptable acute toxicity tests conducted on a pollutant. The FAV is the acute toxicity limitation applied to mixing zones in part 7050.0210, subpart 5; and to dischargers in parts 7050.0211, subpart 1; 7050.0212, subpart 6; and 7050.0214, subpart 1.

P. "Genus mean acute value" or "GMAV" means the geometric mean of the SMAVs available for the genus.

Q. "K value" means the fraction of the total allowable daily dose of a toxic pollutant that is attributed to drinking water and fish consumption relative to other sources of the pollutant to humans, such as air or food, in the calculation of criteria. In the absence of sufficient data to establish a chemical-specific K value, the K value will be 0.2.

R. "Lethal concentration" or "LC50" means the toxicant concentration killing 50 percent of the exposed organisms in a specific time of observation.

S. "Lowest observable adverse effect level" or "LOAEL" means the lowest tested concentration that caused a statistically significant occurrence of an adverse effect in comparison with a control when all higher test concentrations caused adverse effects.

T. "Maximum criterion" or "MC" means the highest concentration of a toxicant in water to which aquatic organisms can be exposed for a brief time with zero to slight mortality. The MC equals the FAV divided by two.

U. "Maximum standard" or "MS" means the highest concentration of a toxicant in water to which aquatic organisms can be exposed for a brief time with zero to slight mortality. The MS equals the FAV divided by two. Maximum standards are listed in part 7050.0220, subpart 3.

V. "National methods" means the methods the USEPA uses to develop aquatic life criteria as described in Stephan, C.E., D.J. Mount, D.J. Hansen, J.H. Gentile, G.A. Chapman, and W.A. Brungs, 1985, "Guidelines for deriving numerical national water quality criteria for the protection of aquatic organisms and their uses," USEPA, Office of Research and Development, Environmental Research Laboratories, Duluth MN; Narragansett, RI, Corvallis, OR. 98 p; available through the National Technical Information Service, Springfield, VA.

W. "No observable adverse effect level" or "NOAEL" means the highest tested concentration that did not cause a statistically significant occurrence of an adverse effect in comparison with a control when no lower test concentration caused an injurious or adverse effect.

X. "Octanol to water partition coefficient" or "K_{ow}" means the ratio of the concentration of a substance in the octanol phase to its concentration in the aqueous phase of a two-phase octanol to water system after equilibrium of the substance between the two phases has been achieved. The $\log_{10} K_{ow}$ has been shown to be proportional to the bioconcentration potential of lipophilic organic chemicals.

Y. "Parachor" means the surface tension adjusted molar volume, and specifically is the molecular weight of a liquid times the fourth root of its surface tension, divided by the difference between the density of the liquid and the den-

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sity of the vapor in equilibrium with it; essentially constant over wide ranges of temperature. Parachor relates to the physical properties of a molecule that affect its potential to bioaccumulate in aquatic organisms.

Z. "Reference dose" or "RfD" means an estimate of a daily exposure to the human population, including sensitive subpopulations, that is likely to be without appreciable risk or deleterious effects over a lifetime. The RfD is expressed in units of daily dose and was formerly known as the acceptable daily intake.

AA. "Species mean acute value" or "SMAV" means the geometric mean of all the available and acceptable acute values for a species.

BB. "Standard" means a number or numbers established for a pollutant or water quality characteristic to protect a specified beneficial use as listed in part 7050.0220. The standard for a toxic pollutant includes the CS, MS, and FAV. Some pollutants do not have an MS or an FAV due to insufficient data. For these pollutants, the CS alone is the standard.

CC. "Toxic pollutant" has the meaning given it in part 7050.0185, subpart 2, item F.

DD. "USEPA" means the United States Environmental Protection Agency.

EE. "Water quality characteristic" means a characteristic of natural waters, such as total hardness or pH. Some water quality characteristics can affect the toxicity of pollutants to aquatic organisms.

FF. "Whole effluent toxicity test" means the aggregate toxic effect of an effluent measured directly by a toxicity test.

Subp. 4. **Adoption of USEPA national criteria.** The USEPA establishes aquatic life criteria under section 304(a)(1) of the Clean Water Act, United States Code, title 33, section 1314. The USEPA criteria, subject to modification as described in this subpart, are applicable to Class 2 waters of the state. The USEPA has described the national methods for developing aquatic life criteria in "Guidelines for deriving national numerical water quality criteria for the protection of aquatic organisms and their uses," available through the National Technical Information Service, Springfield, VA.

USEPA criteria that vary with an ambient water quality characteristic such as total hardness or pH will be established for specific waters or reaches using data available to the commissioner. Central values such as the means or medians for the characteristic will be used unless there is evidence to support using different values. Values for water quality characteristics can be estimated for specific waters or reaches that have no data by using data from a nearby watershed with similar chemical properties.

A. The USEPA criteria are adopted unchanged by the agency, unless modified under item C, as the criteria applicable to designated trout waters. Trout (Class 2A) waters are listed in parts 7050.0420 and 7050.0470.

B. The USEPA criteria are adopted, subject to modification as described in this item or item C, for application to the cool and warm water fisheries habitats. Cool and warm water fisheries (Class 2Bd, 2B, and 2C) waters are defined in part 7050.0430 or listed in part 7050.0470.

(1) Acute data, in the form of the ranked genus mean acute values used by the USEPA to determine the national criteria, are the data used to determine the Class 2Bd, 2B, and 2C criteria.

(2) GMAVs for fish in the family Salmonidae are deleted from the lowest of the ranked GMAVs so that all of the lowest four GMAVs in the USEPA data set are for nonsalmonid species. Following these deletions, no other salmonid GMAVs are deleted. If none of the lowest four GMAVs in the USEPA data set are for salmonid species, no GMAVs are deleted. The minimum of eight GMAVs specified in the national methods must be met, except that nonsalmonid

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fish can take the place of the salmonid requirement if the prescribed deletions eliminate all salmonids from the national data set.

(3) The number of GMAVs in the USEPA criteria data set is reduced by the number of salmonid GMAVs deleted.

(4) The FAV is determined according to the national methods as follows:

(a) for each species for which one or more acute value is available, a SMAV is calculated as the geometric mean of all the acceptable acute values;

(b) for each genus for which one or more SMAV is available, a GMAV is calculated as the geometric mean of all the SMAVs;

(c) the GMAVs are ranked from the lowest to the highest;

(d) a rank is assigned to the GMAVs from "1" for the lowest to "N" for the highest, and if two or more GMAVs are identical, successive ranks are arbitrarily assigned;

(e) the cumulative probability (P) for each GMAV is calculated as rank/(N+1);

(f) the four GMAVs that have cumulative probabilities closest to 0.05 are selected, and if there are less than 59 GMAVs, these will always be the lowest four GMAVs; and

(g) using the selected GMAVs and their respective cumulative probabilities, calculate:

$$S^2 = \frac{\Sigma((\ln GMAV)^2) - ((\Sigma(\ln GMAV))^2/4)}{\Sigma(P) - ((\Sigma(\sqrt{P}))^2/4)}$$

$$L = (\Sigma(\ln GMAV) - S(\Sigma(\sqrt{P})))/4$$

$$A = S(\sqrt{0.05}) + L$$

$$FAV = e^A$$

where: FAV = final acute value
N = number of GMAVs
P = rank/N+1
ln = natural logarithm
S,L, and A are intermediate steps

(5) If, as a result of the recalculation of the USEPA criterion for application to Class 2Bd, 2B, and 2C waters, the FAV for the Class 2Bd, 2B, and 2C water is lower than the FAV for Class 2A waters, the Class 2Bd, 2B, and 2C FAV will be changed to equal the Class 2A FAV, unless the lower Class 2Bd, 2B, and 2C FAV is justified based on the available toxicological data.

(6) The MC is the FAV divided by two.

(7) The CC is determined using the national methods. If sufficient chronic data is available to determine the CC directly from chronic values, salmonid chronic values will be deleted from the national data set following the same procedures used for acute data in this item. If sufficient chronic data is not available, the USEPA ACR, subject to modification under item C, is divided into the FAV to determine the CC.

C. If the commissioner finds that the information that supports a

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USEPA criterion is no longer current or complete for reasons including, but not limited to, changes to the relationship between a water quality characteristic and toxicity; the ACR; the weight given to toxicity data for a commercially or recreationally important species; the RfD; the ql*; or the BAF; then the commissioner shall evaluate all available information and modify the criterion according to the information and with the objectives in part 7050.0217. Any effluent limitation determined to be necessary based on criteria derived under this item shall only be required after the discharger has been given notice to the specific proposed effluent limitations and an opportunity to request a hearing as provided in parts 7000.1000 and 7001.0130.

Subp. 5. **Toxicity-based criteria.** Toxicity-based aquatic life criteria shall be determined using the methods in this subpart when no USEPA criterion is available.

A. Criteria shall be determined using the USEPA national method if the minimum data required in this item and item B are met. Data for saltwater organisms can be used for nonionizable organic chemicals. Data for saltwater organisms cannot be used for ionizable organic or inorganic chemicals. Data for all North American species can be used. A minimum of eight GMAVs representing the following groups must be available:

(1) species in three families in the phylum Chordata, one of which must be a salmonid;

(2) a freshwater or saltwater crustacean;

(3) a freshwater cladoceran;

(4) a family in a phylum other than Chordata or Arthropoda; and

(5) two other families not in the phylum Chordata.

B. The additional acute data requirements in subitems (1) and (2) apply when developing criteria for pesticides.

(1) If the chemical is an insecticide, one of the eight GMAVs required in item A, subitem (5), must be for an insect.

(2) If the chemical is a herbicide, the eight GMAVs required in item A must be supplemented with acute data for two plant species, one of which is an algal species.

C. The FAV is calculated as described in subpart 4, item B, subitem (4). No more than two of the lowest four GMAVs may be for a saltwater species.

D. The MC is the FAV divided by two.

E. The CC is the FAV divided by an ACR. Available chronic data are used to determine ACRs as described in item F and measured chronic values are compared to the CC. If an approved chronic value for a commercially, recreationally, or ecologically important freshwater species is lower than the CC, the CC will be set to equal that chronic value.

F. The ACR is determined according to subitems (1) to (3).

(1) A measured ACR is determined by dividing the acute value by the chronic value for the same species from tests that meet the requirements for determining ACRs in the national method. If more than one ACR is available for a species, a species mean ACR is calculated as the geometric mean of the available ACRs.

(2) A minimum of three measured ACRs, each for a different species, must be available to determine a final measured ACR. The final measured ACR is the geometric mean of all the available species mean ACRs.

(3) If no measured ACRs are available, the following default ACRs shall be used:

(a) an ACR of 20 is used with nonpesticide, nonbioaccumulative organic chemicals with log K_{ow} values of three or less; and

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(b) an ACR of 55 is used with pesticides, inorganic chemicals, or bioaccumulative organic chemicals with log K_{ow} values greater than three.

(4) If two or fewer measured ACRs are available, the default ACRs in subitem (3) are incorporated into the calculation of the final ACR as follows:

(a) if two measured ACRs are available, the final ACR is the geometric mean of the two measured ACRs and the appropriate default ACR; and

(b) if one measured ACR is available, the final ACR is the geometric mean of the measured ACR and two appropriate default ACRs.

G. If the acute data available do not meet the requirements in items A and B, toxicity-based criteria can be determined by the method in this item. This method is not applicable to ionizable organic chemicals, or to bioaccumulative organic chemicals and pesticides with BCFs greater than 5,000 or log K_{ow} values greater than 5.19.

(1) Acute data are assembled. A minimum of three acute values in the following groups must be available:

(a) a member of the class Osteichthyes (fish);

(b) a member of the class Crustacea, such as a water flea, amphipod, or crayfish; and

(c) a third animal species.

(2) For insecticides, a fourth acute value must be available for an insect species in addition to the acute values required in subitem (1).

(3) For herbicides, two acute values for plant species, one of which is an algal species, must be available in addition to the acute values required in subitem (1).

(4) Data for saltwater species can be used for nonionizable organic chemicals, except that the lowest acute value must be for a North American freshwater species.

(5) SMAVs are calculated as the geometric mean of all the acute values for one species.

(6) GMAVs are calculated as the geometric mean of the SMAVs.

(7) The lowest GMAV from among the available GMAVs is selected.

(8) The FAV is calculated by dividing the lowest GMAV by the appropriate factor listed below, depending on the number of GMAVs available.

Number of GMAVs	Factor	Number of GMAVs	Factor
3	11	12	3.6
4	10	13	3.4
5	9	14	3.2
6	8	15	3.0
7	7	16	2.8
8	6	17	2.6
9	5	18	2.4
10	4	19	2.2
11	3.8	20 or more	2.0

(9) The MC is calculated by dividing the FAV by two.

(10) A final ACR is determined as described in item F.

(11) The CC is calculated by dividing the FAV by the appropriate ACR.

(12) If chronic data are available, they are used to determine measured ACRs as described in item F, and chronic data are compared to the CC.

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Subp. 6. **Human health-based criteria.** Human health-based aquatic life criteria protect humans from potential adverse effects of eating fish and edible aquatic organisms from Class 2 waters and from the consumption of drinking water from Class 1 surface waters.

The RfDs used to calculate criteria for noncarcinogenic chemicals and the ql*s used to calculate criteria for carcinogenic chemicals are obtained from the Integrated Risk Information System (IRIS), online, maintained and made available by the USEPA, Office of Health and Environmental Assessment, Environmental Criteria and Assessment Office, Cincinnati, OH.

A. Criteria for noncarcinogenic chemicals applicable to surface waters designated Class 2A or 2Bd are calculated as follows:

$$\text{dfCC mg/l} = \frac{\text{RfD mg/kg/day} \times 70 \text{ kg} \times \text{K}}{2 \text{ l/day} + [0.030 \text{ kg/day (BAF)}]}$$

where dfCC = drinking water plus fish consumption criterion in mg/l
RfD = reference dose in mg/kg/day
70 kg = standard weight of an adult
K = exposure attributed to drinking water and fish consumption (see item E)
2 l/day = two liters of water consumed per day
0.030 kg/day = amount of fish assumed to be consumed per day
BAF = final BAF in liters per kg.

B. Criteria for noncarcinogenic chemicals applicable to Class 2B or 2C surface waters are calculated as follows:

$$\text{fCC mg/l} = \frac{\text{RfD mg/kg/day} \times 70 \text{ kg} \times \text{K}}{0.01 \text{ l/day} + [0.030 \text{ kg/day (BAF)}]}$$

where fCC = fish consumption criterion in mg/l
0.01 l/day = assumed incidental ingestion of water.

C. Criteria for carcinogenic chemicals applicable to surface waters designated Class 2A or 2Bd are calculated as follows:

$$\text{dfCC mg/l} = \frac{70 \text{ kg} \times 10^{-5}}{\text{q1*} [2 \text{ l/day} + 0.030 \text{ kg/day (BAF)}]}$$

where 10^{-5} = a risk level of one chance in 100,000
q1* = the cancer potency factor in days x kg/mg.

D. Criteria for carcinogenic chemicals applicable to Class 2B or 2C surface waters are calculated as follows:

$$\text{fCC mg/l} = \frac{70 \text{ kg} \times 10^{-5}}{\text{q1*} [0.01 \text{ l/day} + 0.030 \text{ kg/day (BAF)}]}$$

E. A default exposure value (K) of 0.2 will be used unless the Minnesota Department of Health uses a different exposure value in the calculation of a drinking water criterion, or sufficient exposure data is available to support an alternative value.

Subp. 7. **Bioaccumulation.** A final BAF can be determined either from bioaccumulation measurements in the field or from laboratory bioconcentration experiments. Laboratory tests should have a duration of at least 28 days, or the bioconcentration should have achieved steady state. Bioconcentration tests should meet the requirements in the national methods.

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If measured BAFs and BCFs are not available for lipophilic organic chemicals, a final BAF can be estimated using the relationship between bioconcentration and the log of the octanol to water partition coefficient (log K_{ow}) as described in item D.

A. A final BAF for inorganic chemicals is equal to the geometric mean of the available BCFs and BAFs. The BCFs and BAFs can be for either whole body or edible tissue, or both.

B. A final BAF for lipophilic organic chemicals is determined when measured BAFs or BCFs and percent lipid data are available according to subitems (1) to (10).

(1) Measured BAFs and BCFs are assembled from USEPA documents, scientific literature, and other available sources of scientific data. BAFs and BCFs may be for edible portions of aquatic organisms or for the whole body.

(2) Normalized BAFs and BCFs are obtained by dividing the BAFs and BCFs by the arithmetic average percent lipid for the test organisms.

(3) Species mean BAFs are calculated as the geometric mean of all the normalized BAFs for a species. Species mean BCFs are calculated as the geometric mean of all the normalized BCFs for a species.

(4) A chemical-specific mean BAF or BCF is calculated as the geometric mean of the species mean BAFs or BCFs. The species mean normalized BAFs and BCFs for chemicals with log K_{ow} values less than three are averaged together. The species mean normalized BAFs and BCFs for chemicals with log K_{ow} values of three or more are averaged separately.

(5) A final BAF for a chemical with a log K_{ow} value of less than three is determined as follows:

(a) for cold water fish, the normalized mean of the combined BAFs and BCFs is multiplied by six percent lipid; and

(b) for cool and warm water fish, the normalized mean of the combined BAFs and BCFs is multiplied by 1.5 percent lipid.

(6) A final BAF for a chemical with a log K_{ow} value of three or more, for which measured BAFs and percent lipid data are available, is determined by multiplying the normalized mean BAF by six percent lipid for Class 2A waters or 1.5 percent lipid for Class 2Bd, 2B, and 2C waters.

(7) The final BAF for chemicals with a log K_{ow} value of three or more, for which BCF and percent lipid data are available, is the value determined in subitem (6), multiplied by the appropriate factor from subitem (8).

(8) The BCF to BAF adjustment factor is applicable to lipophilic organic chemicals with log K_{ow} values of three or more, unless chemical-specific data indicates the application of the factor is not appropriate. A value of six is used to calculate the factor for chemicals with log K_{ow} values greater than six. The BCF to BAF adjustment factor is calculated using the following equation; the results shall not be less than one nor greater than 15: $\log_{10}$ (BCF to BAF factor) = 0.384 $\log_{10}$ K_{ow} - 0.00055 Parachor - 1.128.

(9) The following are representative factors from the equation in subitem (8):

log K_{ow}	Factor (at Parachor = 500)
3.0	0.6 (1.0 is used)
3.5	0.9 (1.0 is used)
4.0	1.4
4.5	2.1
5.0	3.3
5.5	5.1
6.0	8.0

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(10) When both measured BAFs and BCFs are available for chemicals with log K_{ow} values of three or more, the commissioner will evaluate both BCFs and BAFs and other available scientific data to select the appropriate values to use.

C. A final BAF is determined for lipophilic organic chemicals having measured BAF or BCF data, but no percent lipid data, as follows:

(1) the geometric mean of the species mean BAFs is the final BAF;

(2) the geometric mean of the species mean BCFs and BAFs is the final BAF for chemicals having log K_{ow} values less than three; and

(3) the final BAF for chemicals having log K_{ow} values of three or more is the geometric mean of the species mean BCFs multiplied by the appropriate factor from the equation in item B, subitem (8). Chemicals may have both BAF and BCF data. The geometric mean BCF will be adjusted by the factor from the equation in item B, subitem (8), and the results compared to the measured BAFs. The commissioner will evaluate both BCFs and BAFs and other available scientific data to select a final BAF. BAF data are usually preferred over BCF data.

D. A final BAF for lipophilic organic chemicals is determined according to subitems (1) to (4) when no measured BAFs or BCFs are available.

(1) A BCF can be estimated based on the relationship between BCFs and the log K_{ow}. A value of six is used to calculate the BCF for chemicals with log K_{ow} values greater than six. The equation is: $\log_{10}$ BCF = 0.79 $\log_{10}$ K_{ow} value - 0.40.

Where $\log_{10}$ K_{ow} = the log of the octanol to water partition coefficient. If measured log K_{ow} values are not available in the scientific literature, they may be estimated using quanititative structure activity relationships. The average percent lipid of the organisms used to establish this relationship is 7.6.

(2) BCFs estimated from the equation in subitem (1) are adjusted for the percent lipid of edible portions.

(a) The BCF for cold water fish equals the estimated BCF from the equation in subitem (1) times 6/7.6.

(b) The BCF for cool and warm water fish equals the estimated BCF from the equation in subitem (1) times 1.5/7.6.

(3) The final BAF for chemicals with log K_{ow} values less than three equals the estimated BCF from subitem (2).

(4) The final BAF for chemicals with log K_{ow} values of three or more equals the estimated BCF from subitem (2), multiplied by the factor from the equation in item B, subitem (8).

Subp. 8. **Taste and odor criteria.** The agency shall limit the addition of pollutants to surface waters to the extent necessary to protect fish and other edible freshwater organisms from acquiring objectionable tastes and odors. The agency will use the USEPA national organoleptic criteria, established under section 304(a)(1) of the Clean Water Act, United States Code, title 33, section 1314, when establishing concentrations above which unacceptable tastes and odors could be imparted to aquatic organisms.

Subp. 9. **Wildlife-based criteria.** The agency shall use the procedures in this subpart to establish wildlife-based criteria. Wildlife criteria shall protect wildlife consumers of freshwater aquatic organisms from adverse effects of toxic pollutants. Wildlife criteria are applicable to all surface waters, subject to the exceptions in subpart 10, item B, subitem (1).

A. Wildlife-based criteria shall be determined using toxicological information from available sources of scientific data for wildlife or domestic animal species, exposed to toxic pollutants through ingestion including gavage.

B. Wildlife-based criteria are calculated using the following formula:

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$$\text{WCC mg/l} = \frac{\text{NOAEL x BWt x SSF}}{\text{DW + (F x BAF)}}$$

where: WCC = wildlife CC mg/l

NOAEL = no observable adverse effect level in mg of substance per kg of body weight per day (mg/kg BWt/day) as derived from mammalian or avian toxicity studies. If the NOAEL is in mg/l, the NOAEL will be multiplied by the average daily volume of water consumed by the test animals in liters per day and divided by the average weight of the test animals in kg. If the NOAEL is in mg/kg of food consumed, the NOAEL will be multiplied by the average amount of food consumed daily by the test animals and divided by the average weight of the test animals in kg.

BWt = average body weight of test organisms in kg.

SSF = species sensitivity factor to account for difference in the sensitivity in test species. This factor will vary between 1 and 0.1. The appropriate factor will be determined by the commissioner based on available scientific data on the relative sensitivity of the test organism compared to other wildlife species.

DW = average volume of water consumed per day by the test animals in liters.

F = average amount of food consumed per day by test animals in kg.

BAF = BAF in liters per kg.

C. Drinking (DW) and feeding (F) rates for test organisms can be estimated using the following equations if these rates are not available from the original study:

(1) for mammalian species:

(a) $DW = 0.099 \times (BWt)^{0.90}$; and

(b) $F = 0.0687 \times (BWt)^{0.82}$; and

(2) for avian species:

(a) $DW = 0.059 \times (BWt)^{0.67}$; and

(b) $F = 0.058 \times (BWt)^{0.65}$.

D. A final BAF for calculating a wildlife chronic criterion (WCC) is determined as in subpart 7, except that the BCFs and BAFs are adjusted to represent whole body BCFs and BAFs.

(1) Normalized BCFs and BAFs are multiplied by 12 percent lipid for WCC applicable to Class 2A waters.

(2) Normalized BCFs and BAFs are multiplied by five percent lipid for WCC applicable to Class 2Bd, 2B, and 2C waters.

(3) If percent lipid data is not available, whole body BCFs and BAFs are used as reported.

(4) BCFs estimated using the relationship between BCFs and the log K_{ow} are normalized by dividing the estimated BCF by 7.6 and then multiplying by 12 for Class 2A waters or by five for Class 2Bd, 2B, and 2C waters.

(5) Measured or estimated BCFs for lipophilic organic chemicals with log K_{ow} values in the range of three or more are multiplied by the factor from subpart 7, item B, subitem (8).

Subp. 10. **Applicable criteria.** The criterion for a pollutant includes: the CC, the MC, and the FAV. The criteria for toxic pollutants for surface waters are the lowest of the applicable criteria derived under this part.

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A. Applicable criteria for Class 2A, 2Bd, 2B, and 2C surface waters are the lowest of the following:

(1) a CC and MC based on toxicity to aquatic organisms from subpart 4 or 5;

(2) a CC based on plant toxicity from subpart 4 or 5;

(3) a dfCC or fCC from subparts 6 and 7;

(4) a concentration that will prevent unacceptable taste or odor in water, fish, or other edible aquatic organisms from subpart 8; or

(5) a WCC from subpart 9.

B. Applicable criteria for Class 7 waters are the lowest of the following:

(1) a WCC from subpart 9, if aquatic organisms can be sustained in the Class 7 water so that they are subject to predation by wildlife; or

(2) other drinking water or aquatic life standards for toxic pollutants, consistent with the uses Class 7 waters are protected for under part 7050.0200.

C. In the site-specific application of criteria developed in this subpart to establish an effluent limitation for National Pollutant Discharge Elimination System and State Disposal System permits or to establish the degree of remedial action cleanup activities, the provisions of part 7050.0220, subpart 3, items E to H shall apply.

Statutory Authority: *MS s 115.03; 115.44*

History: *15 SR 1057*

7050.0220 SPECIFIC STANDARDS OF QUALITY AND PURITY FOR DESIGNATED CLASSES OF WATERS OF THE STATE.

Subpart 1. **General.** The numerical water quality standards in subparts 2 to 8 prescribe the qualities or properties of the waters of the state that are necessary for the designated public uses and benefits. If the standards in this part are exceeded, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to designated uses or established classes of the waters of the state.

Subp. 2. **Class 1. Domestic consumption.**

A. Class 1A. The quality of this class of the waters of the state shall be such that without treatment of any kind the raw waters will meet in all respects both the mandatory and recommended requirements of the Public Health Service Drinking Water Standards-1962 for drinking water as specified in Publication No. 956 published by the Public Health Service of the United States Department of Health, Education and Welfare, and any revisions, amendments, or supplements to it. This standard will ordinarily be restricted to underground waters with a high degree of natural protection. The basic requirements are given below:

Substance or Characteristic	Limit or Range
Total coliform organisms	1 most probable number per 100 milliliters
Turbidity value	5 NTUs
Color value	15 Pt.-Co. units
Threshold odor number	3
Methylene blue active substance (MBAS)	0.5 milligram per liter
Arsenic (As)	0.01 milligram per liter
Chlorides (Cl)	250 milligrams per liter
Copper (Cu)	1 milligram per liter
Carbon chloroform extract	0.2 milligram per liter

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Cyanides (CN)	0.01 milligram per liter
Fluorides (F)	1.5 milligrams per liter
Iron (Fe)	0.3 milligram per liter
Manganese (Mn)	0.05 milligram per liter
Nitrates as N	10 milligrams per liter
Phenol as phenol	0.001 milligram per liter
Sulfates (SO_4)	250 milligrams per liter
Total dissolved solids	500 milligrams per liter
Zinc (Zn)	5 milligrams per liter
Barium (Ba)	1 milligram per liter
Cadmium (Cd)	0.01 milligram per liter
Chromium (Hexavalent, Cr)	0.05 milligram per liter
Lead (Pb)	0.05 milligram per liter
Selenium (Se)	0.01 milligram per liter
Silver (Ag)	0.05 milligram per liter
Radioactive material	Not to exceed the lowest concentrations permitted to be discharged to an uncontrolled environment as prescribed by the appropriate authority having control over their use.

B. Class 1B. The quality of this class of the waters of the state shall be such that with approved disinfection, such as simple chlorination or its equivalent, the treated water will meet in all respects both the mandatory and recommended requirements of the Public Health Service Drinking Water Standards-1962 for drinking water as specified in Publication No. 956 published by the Public Health Service of the United States Department of Health, Education and Welfare, and any revisions, amendments, or supplements to it. This standard will ordinarily be restricted to surface and underground waters with a moderately high degree of natural protection. The physical and chemical standards quoted above for Class 1A waters shall also apply to these waters in the untreated state.

C. Class 1C. The quality of this class of the waters of the state shall be such that with treatment consisting of coagulation, sedimentation, filtration, storage, and chlorination, or other equivalent treatment processes, the treated water will meet in all respects both the mandatory and recommended requirements of the Public Health Service Drinking Water Standards-1962 for drinking water specified in Publication No. 956 published by the Public Health Service of the United States Department of Health, Education and Welfare, and any revisions, amendments, or supplements to it. This standard will ordinarily be restricted to surface waters, and groundwaters in aquifers not considered to afford adequate protection against contamination from surface or other sources of pollution. Such aquifers normally would include fractured and channeled limestone, unprotected impervious hard rock where water is obtained from mechanical fractures or joints with surface connections, and coarse gravels subjected to surface water infiltration. The physical and chemical standards quoted above for Class 1A waters shall also apply to these waters in the untreated state, except as listed below:

Substance or Characteristic	Limit or Range
Turbidity value	25 NTUs

D. Class 1D. The quality of this class of the waters of the state shall be such that after treatment consisting of coagulation, sedimentation, filtration, storage, and chlorination, plus additional pre, post, or intermediate stages of treatment, or other equivalent treatment processes, the treated water will meet in all respects the recommended requirements of the Public Health Service

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Drinking Water Standards-1962 for drinking water as specified in Publication No. 956 published by the Public Health Service of the United States Department of Health, Education and Welfare, and any revisions, amendments, or supplements to it. This standard will ordinarily be restricted to surface waters, and groundwaters in aquifers not considered to afford adequate protection against contamination from surface or other sources of pollution. Such aquifers normally would include fractured and channeled limestone, unprotected impervious hard rock where water is obtained from mechanical fractures or joints with surface connections, and coarse gravels subjected to surface water infiltration. The concentrations or ranges given below shall not be exceeded in the raw waters before treatment:

Substance or Characteristic	Limit or Range
Arsenic (As)	0.05 milligram per liter
Barium (Ba)	1 milligram per liter
Cadmium (Cd)	0.01 milligram per liter
Chromium (Hexavalent, Cr)	0.05 milligram per liter
Cyanide (CN)	0.2 milligram per liter
Fluoride (F)	1.5 milligrams per liter
Lead (Pb)	0.05 milligram per liter
Selenium (Se)	0.01 milligram per liter
Silver (Ag)	0.05 milligram per liter
Radioactive material	Not to exceed the lowest concentrations permitted to be discharged to an uncontrolled environment as prescribed by the appropriate authority having control over their use.

In addition to the above listed standards, no sewage, industrial waste, or other wastes from point or nonpoint sources, treated or untreated, shall be discharged into or permitted by any person to gain access to any waters of the state classified for domestic consumption so as to cause any material undesirable increase in the taste, hardness, temperature, chronic toxicity, corrosiveness, or nutrient content, or in any other manner to impair the natural quality or value of the waters for use as a source of drinking water.

Subp. 3. **Class 2. Fisheries and recreation.**

A. Class 2A. The quality of this class of surface waters shall be such as to permit the propagation and maintenance of warm or cold water sport or commercial fishes and their habitats and be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. This class of surface waters is also protected as a source of drinking water. The applicable standards are given below, with substances considered carcinogenic and having human health-based standards followed by a (c). Part 7050.0220, subpart 3, item H, should be referenced for FAVs and MS values noted with an asterisk (*):

Substance or Characteristic (c) = carcinogen	CS	Standards MS	FAV
Acenapthene ug/l	12	41	81
Acrylonitrile (c) ug/l	0.38	1140*	2281*
Aluminum, total ug/l	87	748	1496
Ammonia un-ionized as N ug/l	16	none	none

The percent un-ionized ammonia can be calculated for any temperature

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and pH by using the following formula taken from Emerson, K., R.C. Russo, R.E. Lund, and R.V. Thurston, 1975. Aqueous ammonia equilibrium calculations; effect of pH and temperature. Journal of the Fisheries Board of Canada 32: 2379-2383.

$$f = \frac{1}{10^{(pk_a - pH)} + 1} \times 100$$

where:

f = the percent of total ammonia in the un-ionized state

$pk_a = 0.09 + \frac{2730}{T}$, dissociation constant for ammonia

T = temperature in degrees Kelvin (273.16° Kelvin = 0° Celsius)

Anthracene ug/l	0.029	0.78	1.6
Arsenic, total ug/l	50	360	720
Benzene (c) ug/l	5.9	4487*	8974*
Bromoform ug/l	103	2900	5800
Cadmium, total ug/l			

The CS shall not exceed: exp.(0.7852[ln(total hardness mg/l)]-3.49).
The MS shall not exceed: exp.(1.128[ln(total hardness mg/l)]-3.828).
The FAV shall not exceed: exp.(1.128[ln(total hardness mg/l)]-3.1349).
For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Cadmium standards in ug/l at various hardness values

Hardness mg/l			
50	0.66	1.8	3.6
100	1.1	3.9	7.8
200	2.0	8.6	17.1

Carbon tetrachloride (c) ug/l	1.9	1750*	3500*
Chlordane (c) ug/l	0.000073	1.2*	2.4*
Chloride mg/l	230	860	1720
Chlorine, total residual ug/l	6	19	38

Applies to conditions of continuous exposure, where continuous exposure refers to chlorinated effluents that are discharged for more than a total of two hours in any 24-hour period.

Chlorobenzene ug/l (Monochlorobenzene)	10	423	846
Chloroform (c) ug/l	49	2235	4471
Chlorpyrifos ug/l	0.041	0.083	0.17
Chromium +3, total ug/l			

The CS shall not exceed: exp.(0.819[ln(total hardness mg/l)]+1.561).
The MS shall not exceed: exp.(0.819[ln(total hardness mg/l)]+3.688).
The FAV shall not exceed: exp.(0.819[ln(total hardness mg/l)]+4.380).
For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

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Chromium +3 standards in ug/l at various hardness values

Hardness mg/l			
50	117	984	1966
100	207	1737	3469
200	365	3064	6120

Chromium +6, total ug/l	11	16	32
Color value Pt.-Co. units	30	none	none
Copper, total ug/l			

The CS shall not exceed: exp.(0.62[ln(total hardness mg/l)]-0.57).

The MS shall not exceed: exp.(0.9422[ln(total hardness mg/l)]-1.464).

The FAV shall not exceed: exp.(0.9422[ln(total hardness mg/l)]-0.7703).

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Copper standards in ug/l at various hardness values

Hardness mg/l			
50	6.4	9.2	18
100	9.8	18	35
200	15	34	68

Cyanide, free ug/l	5.2	22	45
Dissolved oxygen mg/l	7 as a daily minimum	none	none

This dissolved oxygen standard requires compliance with the

This dissolved oxygen standard requires compliance with the standard 50 percent of the days at which the flow of the receiving water is equal to the lowest weekly flow with a once in ten-year recurrence interval (7Q10).

DDT (c) ug/l	0.00011	0.55*	1.1*
1,2-Dichloroethane (c) ug/l	3.5	45050*	90100*
Dieldrin (c) ug/l	0.0000065	1.25*	2.5*
Di-2-Ethylhexyl phthalate (c) ug/l	1.9	none	none
Di-n-Octyl phthalate ug/l	30	825	1650
Endosulfan ug/l	0.044	0.084	0.17
Endrin ug/l	0.0039	0.090	0.18
Ethylbenzene ug/l	68	1859	3717
Fecal coliform organisms			

Not to exceed 200 organisms per 100 milliliters as a geometric mean of not less than five samples in any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 400 organisms per 100 milliliters. The standard applies only between March 1 and October 31.

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Fluoranthene ug/l	1.1	199	398
Heptachlor (c) ug/l	0.00010	0.26*	0.52*
Heptachlor epoxide (c) ug/l	0.00012	0.27*	0.53*
Hexachlorobenzene (c) ug/l	0.000056	none	none

Lead, total ug/l

The CS shall not exceed: exp.(1.273[ln(total hardness mg/l)]-4.705).

The MS shall not exceed: exp.(1.273[ln(total hardness mg/l)]-1.460).

The FAV shall not exceed: exp.(1.273[ln(total hardness mg/l)]-0.7643).

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Lead standard in ug/l at various hardness values

Hardness mg/l			
50	1.3	34	68
100	3.2	82	164
200	7.7	197	396

Lindane (c) ug/l (Hexachlorocyclohexane, gamma-)	0.0087	1.0*	2.0*
Mercury, total ug/l	0.0069	2.4*	4.9*
Methylene chloride (c) ug/l (Dichloro-methane)	45	9600*	19200*

Nickel, total ug/l

The CS shall not exceed the human health-based criterion of 88 ug/l. For waters with total hardness values less than 50 mg/l, the CS shall not exceed: exp.(0.846[ln(total hardness mg/l)]+1.1645).

The MS shall not exceed: exp.(0.846[ln(total hardness mg/l)]+3.3612).

The FAV shall not exceed: exp.(0.846[ln(total hardness mg/l)]+4.0543).

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Nickel standards in ug/l at various hardness values

Hardness mg/l			
50	88	789	1578
100	88	1418	2836
200	88	2549	5098

Oil ug/l	500	5000	10000
Parathion ug/l	0.013	0.07	0.13

Pentachlorophenol ug/l

The CS shall not exceed: exp.(1.005[pH]-5.290).

The MS shall not exceed: exp.(1.005[pH]-4.830).

The FAV shall not exceed: exp.(1.005[pH]-4.1373).

Pentachlorophenol standards in ug/l at various pH values

pH			
7.0	5.7	9.1	18

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7.5	9.5	15	30
8.0	16	25	50
pH value not less than 6.5 nor greater than 8.5			
Phenanthrene ug/l	2.1	29	58
Phenol ug/l	123	2214	4428
Polychlorinated biphenyls, total (c) ug/l	0.000014	1.0*	2.0*
Radioactive materials			

Not to exceed the lowest concentrations permitted to be discharged to an uncontrolled environment as prescribed by the appropriate authority having control over their use.

Selenium, total ug/l	5.0	20	40

Silver, total ug/l

The CS shall not exceed: 0.12.

The MS shall not exceed: exp.(1.72[ln(total hardness mg/l)]-7.2156) and the FAV shall not exceed: exp.(1.72[ln(total hardness mg/l)]-6.52) provided that the MS and FAV shall be no less than 0.12 ug/l.

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Silver standards in ug/l at various hardness values

Hardness mg/l			
50	n/a	0.61	1.2
100	n/a	2.0	4.1
200	n/a	6.7	13

Temperature			
No material increase			
1,1,2,2-Tetrachloroethane (c) ug/l	1.1	1127*	2253*
Tetrachloroethylene (c) ug/l	3.8	428*	857*
Toluene ug/l	253	1352	2703
Toxaphene (c) ug/l	0.00031	0.73*	1.5*
1,1,1-Trichloroethane ug/l	263	2628	5256
1,1,2-Trichloroethylene (c) ug/l	25	6988*	13976*
2,4,6-Trichlorophenol ug/l	2.0	102	203
Turbidity value NTUs	10	none	none
Vinyl chloride (c) ug/l	0.14	none	none
Xylene, total m, p, and o ug/l	166	1407	2814

Zinc, total ug/l

The CS shall not exceed: exp.(0.8473[ln(total hardness mg/l)]+0.7615).

The MS shall not exceed: exp.(0.8473[ln(total hardness mg/l)]+0.8604).

The FAV shall not exceed: exp.(0.8473[ln(total hardness mg/l)]+1.5536).

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

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Zinc standards in ug/l at various hardness values

Hardness mg/l			
50	59	65	130
100	106	117	234
200	191	211	421

B. Class 2Bd. The quality of this class of surface waters shall be such as to permit the propagation and maintenance of cool or warm water sport or commercial fishes and their habitats and be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. This class of surface waters are also protected as a source of drinking water. The standards for waters listed in item A shall apply to these waters except as listed below, with substances considered carcinogenic and having human health-based standards followed by a (c). Part 7050.0220, subpart 3, item H, should be referenced for FAVs and MS values noted with an asterisk (*):

Substance or Characteristic (c) = carcinogen	CS	Standard MS	FAV
Aluminum, total ug/l	125	1072	2145
Ammonia un-ionized as N ug/l	40	none	none

The percent un-ionized ammonia can be calculated for any temperature and pH as described in item A.

Benzene (c) ug/l	6.9	4487*	8974*
Bromoform ug/l	128	2900	5800
Cadmium, total ug/l			

The CS shall not exceed: exp.(0.7852[ln(total hardness mg/l)]-3.49).
The MS shall not exceed: exp.(1.128[ln(total hardness mg/l)]-1.685).
The FAV shall not exceed: exp.(1.128[ln(total hardness mg/l)]-0.9919).
For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Cadmium standards in ug/l at various hardness values

Hardness mg/l			
50	0.66	15	31
100	1.1	33	67
200	2.0	73	146

Chlordane (c) ug/l	0.00029	1.2*	2.4*
Chloroform (c) ug/l	55	2235	4471
Dissolved oxygen mg/l	5 as a daily minimum	none	none

This dissolved oxygen standard requires compliance with the standard 50 percent of the days at which the flow of the receiving water is equal to the lowest weekly flow with a once in ten year recurrence interval (7Q10).

DDT (c) ug/l	0.0017	0.55*	1.1*
1,2-Dichloroethane (c) ug/l	3.8	45050*	90100*
Dieldrin (c) ug/l	0.000026	1.25*	2.5*

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Endosulfan ug/l	0.15	0.28	0.56
Endrin ug/l	0.016	0.090	0.18

Fecal coliform organisms

Not to exceed 200 organisms per 100 milliliters as a geometric mean of not less than five samples in any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 2,000 organisms per 100 milliliters. The standard applies only between March 1 and October 31.

Fluoranthene ug/l	4.1	199	398
Heptachlor (c) ug/l	0.00039	0.26*	0.52*
Heptachlor epoxide (c) ug/l	0.00048	0.27*	0.53*
Hexachlorobenzene (c) ug/l	0.00022	none	none
Lindane (c) ug/l (Hexachlorocyclohexane gamma-)	0.032	4.4*	8.8*
Methylene chloride (c) ug/l (Dichloromethane)	46	9600*	19200*
pH value Not less than 6.5 nor greater than 9.0			
Polychlorinated biphenyls, total (c) ug/l	0.000029	1.0*	2.0*

Silver, total ug/l

The CS shall not exceed: 1.0.

The MS shall not exceed: exp.(1.72[ln(total hardness mg/l)]-7.2156) and the FAV shall not exceed: exp.(1.72[ln(total hardness mg/l)]-6.52) provided that the MS and FAV shall be no less than 1.0 ug/l.

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Silver standards in ug/l at various hardness values

Hardness mg/l			
50	n/a	1.0	1.2
100	n/a	2.0	4.1
200	n/a	6.7	13

Temperature

5°F above natural in streams and 3°F above natural in lakes, based on monthly average of the maximum daily temperature, except in no case shall it exceed the daily average temperature of 86°F.

1,1,2,2-Tetrachloro-ethane (c) ug/l	1.54	1127*	2253*
Toxaphene (c) ug/l	0.0013	0.73*	1.5*
Turbidity value NTUs	25	none	none
Vinyl chloride (c) ug/l	0.15	none	none

C. Class 2B. The quality of this class of surface waters shall be such as to permit the propagation and maintenance of cool or warm water sport or commercial fishes and their habitats and be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. This class of surface water is not protected as a source of drinking water. The applicable standards are given below, with substances considered carcinogenic and having human health-based standards followed by a (c). Part 7050.0220, subpart 3, item H, should be referenced for FAVs and MS values noted with an asterisk (*):

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Substance or Characteristic (c) = carcinogen	CS	Standard MS	FAV
Acenapthene ug/l	12	41	81
Acrylonitrile (c) ug/l	0.89	1140*	2281*
Aluminum, total ug/l	125	1072	2145
Ammonia un-ionized as N ug/l	40	none	none

The percent un-ionized ammonia can be calculated for any temperature and pH as described in item A.

Anthracene ug/l	0.029	0.78	1.6
Arsenic, total ug/l	70	360	720
Benzene (c) ug/l	114	4487	8974
Bromoform ug/l	558	2900	5800

Cadmium, total ug/l

The CS shall not exceed: exp.(0.7852[ln(total hardness mg/l)]-3.49).
The MS shall not exceed: exp.(1.128[ln(total hardness mg/l)]-1.685).
The FAV shall not exceed: exp.(1.128[ln(total hardness mg/l)]-0.9919).
For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Cadmium standards in ug/l at various hardness values

Hardness mg/l			
50	0.66	15	31
100	1.1	33	67
200	2.0	73	146

Carbon tetrachloride (c) ug/l	5.9	1750*	3500*
Chlordane (c) ug/l	0.00029	1.2*	2.4*
Chloride mg/l	230	860	1720
Chlorine, total residual ug/l	6	19	38

Applies to conditions of continuous exposure, where continuous exposure refers to chlorinated effluents that are discharged for more than a total of two hours in any 24-hour period.

Chlorobenzene ug/l (Monochlorobenzene)	10	423	846
Chloroform (c) ug/l	224	2235	4471
Chlorpyrifos ug/l	0.041	0.083	0.17

Chromium +3, total ug/l

The CS shall not exceed: exp.(0.819[ln(total hardness mg/l)]+1.561).
The MS shall not exceed: exp.(0.819[ln(total hardness mg/l)]+3.688).
The FAV shall not exceed: exp.(0.819[ln(total hardness mg/l)]+4.38).
For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Chromium +3 standards in ug/l at various hardness values

Hardness mg/l			
50	117	984	1966
100	207	1737	3469
200	365	3064	6120

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Chromium +6, total ug/l	11	16	32
Copper, total ug/l			

The CS shall not exceed: exp.(0.62[ln(total hardness mg/l)]-0.57).

The MS shall not exceed: exp.(0.9422[ln(total hardness mg/l)]-1.464).

The FAV shall not exceed: exp.(0.9422[ln(total hardness mg/l)]-0.7703).

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Copper standards in ug/l at various hardness values

Hardness mg/l			
50	6.4	9.2	18
100	9.8	18	35
200	15	34	68

Cyanide, free ug/l	5.2	22	45
Dissolved oxygen mg/l	5 as a daily minimum	none	none

This standard applies to all Class 2 waters except for the

This standard applies to all Class 2 waters except for the reach of the Mississippi River from the outlet of the metro wastewater treatment works in Saint Paul (River Mile 835) to Lock and Dam No. 2 at Hastings (River Mile 815). For this reach of the Mississippi River the standard is not less than five milligrams per liter as a daily average from April 1 through November 30, and not less than four milligrams per liter at other times.

This dissolved oxygen standard requires compliance with the standard 50 percent of the days at which the flow of the receiving water is equal to the lowest weekly flow with a once in ten year recurrence interval (7Q10).

DDT (c) ug/l	0.0017	0.55*	1.1*
1,2-Dichloroethane (c) ug/l	190	45050*	90100*
Dieldrin (c) ug/l	0.000026	1.25*	2.5*
Di-2-Ethylhexyl phthalate (c) ug/l	2.1	none	none
Di-n-Octyl phthalate ug/l	30	825	1650
Endosulfan ug/l	0.15	0.28	0.56
Endrin ug/l	0.016	0.090	0.18
Ethylbenzene ug/l	68	1859	3717
Fecal coliform organisms			

Not to exceed 200 organisms per 100 milliliters as a geometric mean of not less than five samples in any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 2,000 organisms per 100 milliliters. The standard applies only between March 1 and October 31.

Fluoranthene ug/l	4.6	199	398
Heptachlor (c) ug/l	0.00039	0.26*	0.52*
Heptachlor epoxide (c) ug/l	0.00048	0.27*	0.53*

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Hexachlorobenzene (c) ug/l	0.00022	none	none

Lead, total ug/l

The CS shall not exceed: exp.(1.273[ln(total hardness mg/l)]-4.705).

The MS shall not exceed: exp.(1.273[ln(total hardness mg/l)]-1.460).

The FAV shall not exceed: exp.(1.273[ln(total hardness mg/l)]-0.7643).

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Lead standards in ug/l at various hardness values

Hardness mg/l			
50	1.3	34	68
100	3.2	82	164
200	7.7	197	396

Lindane (c) ug/l (Hexachlorocyclohexane gamma-)	0.036	4.4*	8.8*
Mercury, total ug/l	0.0069	2.4*	4.9*
Methylene chloride (c) ug/l (Dichloromethane)	1561	9600	19200

Nickel, total ug/l

For waters with total hardness values greater than 143 mg/l, the CS shall not exceed the human health-based criterion of 213 ug/l. For waters with total hardness values less than 144 mg/l, the CS shall not exceed: exp.(0.846[ln(total hardness mg/l)]+1.1645).

The MS shall not exceed: exp.(0.846[ln(total hardness mg/l)]+3.3612).

The FAV shall not exceed: exp.(0.846[ln(total hardness mg/l)]+4.0543).

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Nickel standards in ug/l at various hardness values

Hardness mg/l			
50	88	789	1578
100	158	1418	2836
200	213	2549	5098

Oil ug/l	500	5000	10000
Parathion ug/l	0.013	0.07	0.13

Pentachlorophenol ug/l

The CS shall not exceed: exp.(1.005[pH]-5.290).

The MS shall not exceed: exp.(1.005[pH]-4.830).

The FAV shall not exceed: exp.(1.005[pH]-4.1373).

Pentachlorophenol standards in ug/l at various pH values

pH			
7.0	5.7	9.1	18
7.5	9.5	15	30
8.0	16	25	50

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pH value not less than 6.5 nor greater than 9.0			
Phenanthrene ug/l	2.1	29	58
Phenol ug/l	123	2214	4428
Polychlorinated biphenyls, total (c) ug/l	0.000029	1.0*	2.0*

Radioactive materials

Not to exceed the lowest concentration permitted to be discharged to an uncontrolled environment as prescribed by the appropriate authority having control over their use.

Selenium, total ug/l	5.0	20	40

Silver, total ug/l

The CS shall not exceed: 1.0.

The MS shall not exceed: exp.(1.72[ln(total hardness mg/l)]-7.2156) and the FAV shall not exceed: exp.(1.72[ln(total hardness mg/l)]-6.52) provided that the MS and FAV shall be no less than 1.0 ug/l.

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

Silver standards in ug/l at various hardness values

Hardness mg/l			
50	n/a	1.0	1.2
100	n/a	2.0	4.1
200	n/a	6.7	13

Temperature

5°F above natural in streams and 3°F above natural in lakes, based on monthly average of the maximum daily temperature, except in no case shall it exceed the daily average temperature of 86°F.

1,1,2,2-Tetrachloroethane (c) ug/l	13	1127	2253
Tetrachloroethylene (c) ug/l	8.9	428	857
Toluene ug/l	253	1352	2703
Toxaphene (c) ug/l	0.0013	0.73*	1.5*
1,1,1-Trichloroethane ug/l	263	2628	5256
1,1,2-Trichloroethylene (c) ug/l	120	6988	13976
2,4,6-Trichlorophenol ug/l	2.0	102	203
Turbidity value NTUs	25	none	none
Vinyl chloride (c) ug/l	7.6	none	none
Xylene, total m, p, and o ug/l	166	1407	2814

Zinc, total ug/l

The CS shall not exceed: exp.(0.8473[ln(total hardness mg/l)]+0.7615).

The MS shall not exceed: exp.(0.8473[ln(total hardness mg/l)]+0.8604).

The FAV shall not exceed: exp.(0.8473[ln(total hardness mg/l)]+1.5536).

For hardness values greater than 400 mg/l, 400 mg/l shall be used in the calculation of the standard.

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Zinc standards in ug/l at various hardness values

Hardness mg/l			
50	59	65	130
100	106	117	234
200	191	211	421

D. Class 2C. The quality of this class of surface waters shall be such as to permit the propagation and maintenance of rough fish or species commonly inhabiting waters of the vicinity under natural conditions, maintain the habitat for such fisheries, and be suitable for boating and other forms of aquatic recreation for which the waters may be usable. The standards for Class 2B waters listed in item C shall apply to these waters except as listed below:

Substance or Characteristic	Standard		
	CS	MS	FAV
Dissolved oxygen mg/l	5 as a daily minimum	none	none

This standard applies to all Class 2 waters except for the

This standard applies to all Class 2 waters except for the reach of the Mississippi River from the outlet of the metro wastewater treatment works in Saint Paul (River Mile 835) to Lock and Dam No. 2 at Hastings (River Mile 815) and except for the reach of the Minnesota River from the outlet of the Blue Lake wastewater treatment works (River Mile 21) to the mouth at Fort Snelling. For this reach of the Mississippi River the standard is not less than five milligrams per liter as a daily average from April 1 through November 30, and not less than four milligrams per liter at other times. For the specified reach of the Minnesota River the standard shall be not less than five milligrams per liter as a daily average year-round.

This dissolved oxygen standard requires compliance with the standard 50 percent of the days at which the flow of the receiving water is equal to the lowest weekly flow with a once in ten year recurrence interval (7Q10).

Temperature

5°F above natural in streams and 3°F above natural in lakes, based on monthly average of the maximum daily temperature, except in no case shall it exceed the daily average temperature of 90°F.

For all classes of fisheries and recreation waters, the aquatic habitat, which includes the waters of the state and stream bed, shall not be degraded in any material manner, there shall be no material increase in undesirable slime growths or aquatic plants, including algae, nor shall there be any significant increase in harmful pesticide or other residues in the waters, sediments, and aquatic flora and fauna; the normal fishery and lower aquatic biota upon which it is dependent and the use thereof shall not be seriously impaired or endangered, the species composition shall not be altered materially, and the propagation or migration of the fish and other biota normally present shall not be prevented or hindered by the discharge of any sewage, industrial waste, or other wastes to the waters.

No sewage, industrial waste, or other wastes from point or nonpoint sources shall be discharged into any of the waters of this category so as to cause any material change in any other substances or characteristics which may impair the quality of the waters of the state or the aquatic biota of any of the above listed classes

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or in any manner render them unsuitable or objectionable for fishing, fish culture, or recreational uses. Additional selective limits or changes in the discharge bases may be imposed on the basis of local needs.

E. To prevent acutely toxic conditions, concentrations of toxic pollutants from point or nonpoint sources must not exceed the FAV as a one-day average at the point of discharge or in the surface water consistent with parts 7050.0210, subpart 5; 7050.0211, subpart 1; 7050.0212, subpart 6; and 7050.0214, subpart 1.

If a discharge is composed of a mixture of more than one chemical, and the chemicals have the same mode of toxic action, the commissioner has the option to apply an additive model to determine the toxicity of the mixture using the following formula:

$$\frac{C1}{FAV1} + \frac{C2}{FAV2} + \ldots + \frac{Cn}{FAVn}$$

equals a value of one or more, an acutely toxic condition is indicated

where: C1 .... Cn is the concentration of the first to the nth toxicant.
FAV1 .... FAVn is the FAV for the first to the nth toxicant.

F. To prevent chronically toxic conditions, concentrations of toxic pollutants must not exceed the applicable CS or MS in surface waters outside allowable mixing zones as described in part 7050.0210, subpart 5. The CS and MS will be averaged over the following durations: the MS will be a one-day average; the CS, based on toxicity to aquatic life, will be a four-day average; and the CS, based on human health or wildlife toxicity, will be a 30-day average.

G. Concentrations of carcinogenic chemicals from point or nonpoint sources, singly or in mixtures, should not exceed a risk level of one chance in 100,000 in surface waters. Carcinogenic chemicals will be considered additive in their effect according to the following formula unless an alternative model is supported by available scientific evidence. The additive formula applies to chemicals that have a human health-based standard calculated with a cancer potency factor.

$$\frac{C1}{CC1} + \frac{C2}{CC2} + \ldots + \frac{Cn}{CCn}$$

equals a value of one or more, a risk level greater than 10^{-5} is indicated

where: C1 .... Cn is the concentration of the first to the nth carcinogen.
CC1 .... CCn is the drinking water plus fish consumption criterion (dfCC) or fish consumption criterion (fCC) for the first to nth carcinogenic chemical.

H. For carcinogenic or highly bioaccumulative chemicals with BCFs greater than 5,000 or log Kow values greater than 5.19, the human health-based CS may be two or more orders of magnitude smaller than the acute toxicity-based MS. If the commissioner finds that a very large MS and FAV, relative to the CS for such pollutants is not protective of the public health, the MS and FAV shall be reduced according to the following guidelines:

If the ratio of the MS to the CS is greater than 100, the CS times 100 should be substituted for the applicable MS, and the CS times 200 should be substituted for the applicable FAV. Any effluent limitation derived using the procedures of this item shall only be required after the discharger has been given notice of the

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specific proposed effluent limitations and an opportunity to request a hearing as provided in parts 7000.1000 and 7001.0130.

Subp. 3a. **Site-specific modifications of standards.** The standards listed in subpart 3 are subject to review and modification as applied to a specific surface water reach or segment in the course of development of a permit effluent limitation or the evaluation of a remedial action cleanup activity. If site-specific information is available that shows that a site-specific modification is more appropriate than the statewide standard for a particular water or reach to be protected by the permit or cleanup activity, the site-specific information will be applied.

The information supporting a site-specific modification can be provided by the commissioner, or by any person outside the agency. The commissioner shall evaluate all data in support of a modified standard and determine whether a change in the standard for a specific water or reach is justified.

Any effluent limitation determined to be necessary based on a modified standard shall only be required after the discharger has been given notice to the specific proposed effluent limitations and an opportunity to request a hearing as provided in parts 7000.1000 and 7001.0130.

Subp. 4. **Class 3. Industrial consumption.**

A. Class 3A. The quality of this class of the waters of the state shall be such as to permit their use without chemical treatment, except softening for groundwater, for most industrial purposes, except food processing and related uses, for which a high quality of water is required. The quality shall be generally comparable to Class 1B waters for domestic consumption, except for the following:

Substance or Characteristic	Limit or Range
Chlorides (Cl)	50 milligrams per liter
Hardness, Ca + Mg as $CaCO_3$	50 milligrams per liter
pH value	6.5 - 8.5

B. Class 3B. The quality of this class of the waters of the state shall be such as to permit their use for general industrial purposes, except for food processing, with only a moderate degree of treatment. The quality shall be generally comparable to Class 1D waters of the state used for domestic consumption, except the following:

Substance or Characteristic	Limit or Range
Chlorides (Cl)	100 milligrams per liter
Hardness, Ca + Mg as $CaCO_3$	250 milligrams per liter
pH value	6.0 - 9.0

C. Class 3C. The quality of this class of the waters of the state shall be such as to permit their use for industrial cooling and materials transport without a high degree of treatment being necessary to avoid severe fouling, corrosion, scaling, or other unsatisfactory conditions. The following shall not be exceeded in the waters of the state:

Substance or Characteristic	Limit or Range
Chlorides (Cl)	250 milligrams per liter
Hardness, Ca + Mg as $CaCO_3$	500 milligrams per liter
pH value	6.0 - 9.0

Additional selective limits may be imposed for any specific waters of the state as needed.

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In addition to the above listed standards, no sewage, industrial waste, or other wastes from point or nonpoint sources, treated or untreated, shall be discharged into or permitted by any person to gain access to any waters of the state classified for industrial purposes so as to cause any material impairment of their use as a source of industrial water supply.

Subp. 5. **Class 4. Agriculture and wildlife.**

A. Class 4A. The quality of this class of the waters of the state shall be such as to permit their use for irrigation without significant damage or adverse effects upon any crops or vegetation usually grown in the waters or area, including truck garden crops. The following concentrations or limits shall be used as a guide in determining the suitability of the waters for such uses, together with the recommendations contained in Handbook 60 published by the Salinity Laboratory of the United States Department of Agriculture, and any revisions, amendments, or supplements to it:

Substance or Characteristic	Limit or Range
Bicarbonates (HCO_3)	5 milliequivalents per liter
Boron (B)	0.5 milligram per liter
pH value	6.0 - 8.5
Specific conductance	1,000 micromhos per centimeter
Total dissolved salts	700 milligrams per liter
Sodium (Na)	60% of total cations as milliequivalents per liter
Sulfates (SO_4)	10 milligrams per liter, applicable to water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels.
Radioactive materials	Not to exceed the lowest concentrations permitted to be discharged to an uncontrolled environment as prescribed by the appropriate authority having control over their use.

B. Class 4B. The quality of this class of the waters of the state shall be such as to permit their use by livestock and wildlife without inhibition or injurious effects. The limits or concentrations of substances or characteristics given below shall not be exceeded in the waters of the state:

Substance or Characteristic	Limit or Range
pH value	6.0 - 9.0
Total salinity	1,000 milligrams per liter
Radioactive materials	Not to exceed the lowest concentrations permitted to be discharged to an uncontrolled environment as prescribed by the appropriate authority having control over their use.
Toxic substances	None at levels harmful either directly or indirectly.

Additional selective limits may be imposed for any specific waters of the state as needed.

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Subp. 6. **Class 5. Aesthetic enjoyment and navigation.** The quality of this class of the waters of the state shall be such as to be suitable for aesthetic enjoyment of scenery and to avoid any interference with navigation or damaging effects on property. The following limits or concentrations shall not be exceeded in the waters of the state:

Substance or Characteristic	Limit or Range
pH value	6.0 - 9.0
Hydrogen sulfide as S	0.02 milligram per liter

Additional selective limits may be imposed for any specific waters of the state as needed.

Subp. 7. **Class 6. Other uses.** The uses to be protected in this class may be under other jurisdictions and in other areas to which the waters of the state are tributary, and may include any or all of the uses listed in the foregoing categories, plus any other possible beneficial uses. The agency therefore reserves the right to impose any standards necessary for the protection of this class, consistent with legal limitations.

Subp. 8. **Class 7. Limited resource value waters.** The quality of this class of waters of the state shall be such as to protect aesthetic qualities, secondary body contact use, and groundwater for use as a potable water supply. Limits or concentrations of substances or characteristics given below shall not be exceeded in the waters:

Substance or Characteristic	Standard
Fecal coliform organisms	Not to exceed 1,000 organisms per 100 milliliters in any calendar month as determined by the logarithmic mean of a minimum of five samples, nor shall more than ten percent of all samples taken during any calendar month individually exceed 2,000 organisms per 100 milliliters. The standard applies only between May 1 and October 31.
pH value	Not less than 6.0 nor greater than 9.0
Dissolved oxygen	At concentrations which will avoid odors or putrid conditions in the receiving water or at concentrations at not less than 1 mg/l (daily average) provided that measurable concentrations are present at all times.
Toxic Pollutants	Toxic pollutants shall not be allowed in such quantities or concentrations that will impair the specified uses.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 12 SR 1810; 15 SR 1057*

7050.0300 [Repealed, 9 SR 913]

7050.0310 [Repealed, 9 SR 913]

7050.0320 [Repealed, 9 SR 913]

7050.0330 [Repealed, 9 SR 913]

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7050.0340 [Repealed, 9 SR 913]

7050.0350 [Repealed, 9 SR 913]

7050.0360 [Repealed, 9 SR 913]

7050.0370 [Repealed, 9 SR 913]

7050.0380 [Repealed, 9 SR 913]

CLASSIFICATIONS OF WATERS OF THE STATE

7050.0400 PURPOSE.

Parts 7050.0400 to 7050.0470 classify all surface waters within or bordering Minnesota and designate appropriate beneficial uses for these waters. The use classifications are defined in part 7050.0200.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914; 12 SR 1810*

7050.0410 LISTED WATERS.

Those waters of the state that are specifically listed in part 7050.0470 are, in addition to any classifications listed in part 7050.0470, also classified as 3C, 4A, 4B, 5, and 6 class waters.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914*

7050.0420 TROUT WATERS.

Trout streams and trout lakes described in Department of Natural Resources Commissioner's orders 2294 (dated March 18, 1988) and 2230 (dated December 24, 1985) respectively are classified as trout waters. Other lakes that are classified as trout waters are listed in part 7050.0470. All trout waters are classified 1B, 2A, 3B, 3C, 4A, 4B, 5, and 6.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914; 12 SR 1810; 15 SR 1057*

7050.0430 UNLISTED WATERS.

All surface waters of the state that are not listed in part 7050.0470 are hereby classified as 2B, 3B, 4A, 4B, 5, and 6 class waters.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914; 12 SR 1810*

7050.0440 OTHER CLASSIFICATIONS SUPERSEDED.

Parts 7050.0400 to 7050.0470 supersede any other previous classifications and any classifications in other rules including parts 7056.0010 to 7056.0040.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914; 12 SR 1810*

7050.0450 MULTICLASSIFICATIONS.

If a water of the state is classified in more than one class, all the water quality standards for each of the classes apply. If the water quality standards for particular parameters for the various classes are different, the more restrictive of the standards apply.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914*

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7050.0460 WATERS SPECIFICALLY CLASSIFIED.

The waters of the state listed in part 7050.0470 are classified as specified. The specific stretch of watercourse or the location of a waterbody is described by township, range, and section, abbreviated as T., R., S., respectively. Any community listed in part 7050.0470 is the community nearest the water classified, and is included solely to assist in identifying the water.

Outstanding resource value waters are listed in part 7050.0470 and are denoted by an asterisk (*) preceding the name of the water resource. Following the name is the effective date the water resource was designated as an outstanding resource value water and a letter code that corresponds to the applicable discharge restrictions in part 7050.0180, subpart 3 or 6. The letter code P corresponds to the prohibited discharges provision in part 7050.0180, subpart 3. The letter code R corresponds to the restricted discharges provision in part 7050.0180, subpart 6.

Waters listed in part 7050.0470 that are classified as Class 2Bd are Class 2B waters also classified for domestic consumption purposes. Applicable standards for Class 2Bd waters are listed in part 7050.0220, subpart 3, item B.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914; 12 SR 1810; 15 SR 1057*

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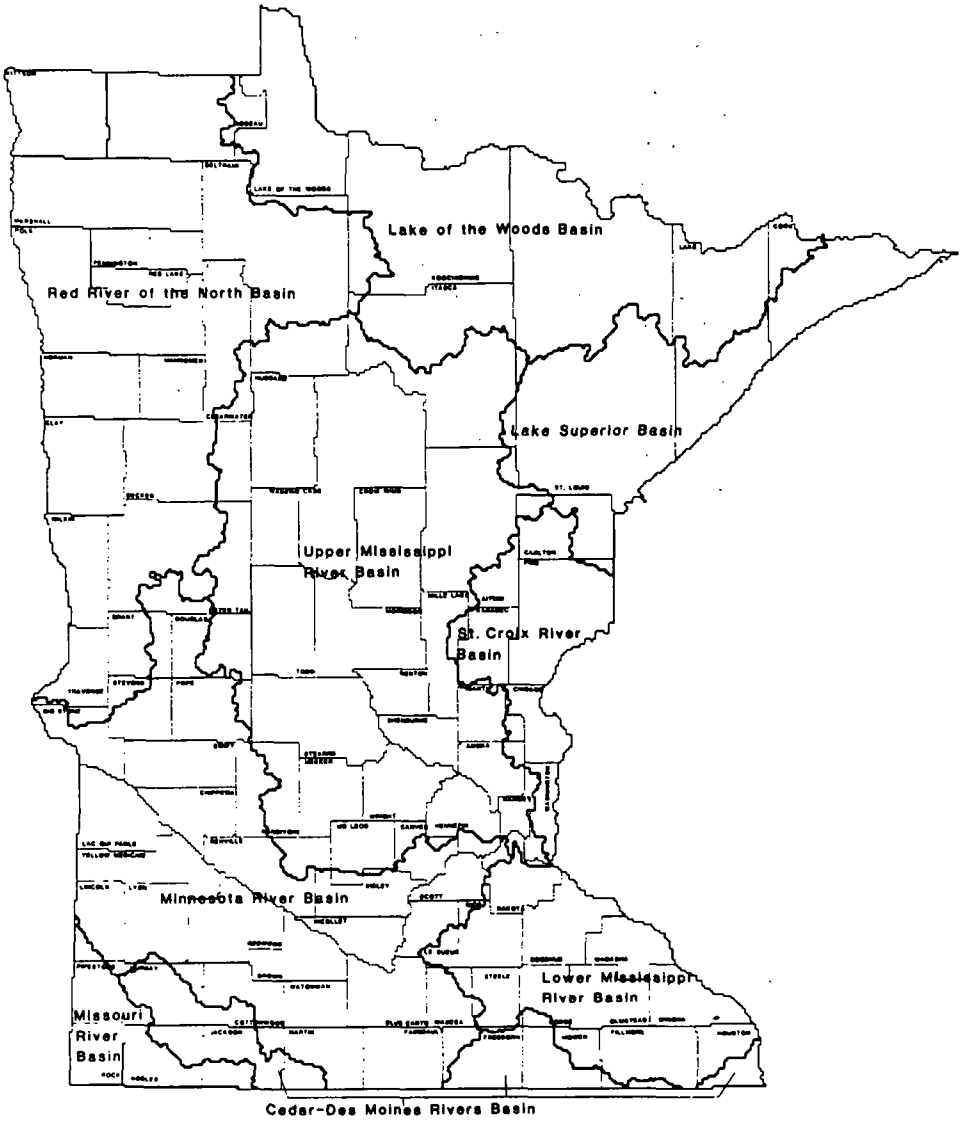
7050.0465 MAP: MAJOR SURFACE WATER DRAINAGE BASINS.



Statutory Authority: *MS s 115.03; 115.44*
History: *9 SR 914; 12 SR 1810*

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7050.0470 CLASSIFICATIONS FOR WATERS IN MAJOR SURFACE WATER DRAINAGE BASINS.

Subpart 1. **Lake Superior Basin.** The water use classifications for the listed waters in the Lake Superior Basin are as identified in items A and B:

A. Streams:

(1) Amenda Creek, (T.59, R.5W): 2C;

(2) Barber Creek (East Swan River) (Chisholm Creek) Chisholm, (T.58, R.20, S.21, 22, 26, 27, 34, 35): 7;

(3) Boulder Creek, (T.53, 54, R.14): 2C;

(4) Brule River (excluding trout waters), (T.62, 63, 64, R.1W, 1E, 2E, 3E): 1B, 2Bd, 3B;

(5) Buhl Creek, Buhl, (T.58, R.19, S.20, 29): 7;

(6) Cranberry Creek, (T.58, R.13): 2C;

(7) Elbow Creek, Eveleth, (T.57, R.17, S.6; T.57, R.18, S.1): 7;

(8) Horn Creek, (T.62, R.4W): 1B, 2Bd, 3B;

(9) Manganika Creek, Virginia, (T.58, R.17, S.19; T.58, R.18, S.24): 7;

(10) Pigeon River (South of Fowl Lake to Pigeon Bay of Lake Superior): 1B, 2Bd, 3A;

(11) Swan River, West, (T.55, R.20, 21): 2C;

(12) Temperance River (excluding trout waters), (T.59, 60, 61, 62, R.4W): 1B, 2Bd, 3B;

(13) Trappers Creek, (T.56, R.11): 2C;

(14) Unnamed Creek, Meadowlands, (T.53, R.19, S.22, 23): 7;

(15) Unnamed Ditch, Eveleth, (T.57, R.17, S.6): 7;

(16) Unnamed Ditch, Gilbert, (T.58, R.17, S.23, 24, 25, 36): 7; and

(17) *All other streams in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 1B, 2Bd, 3B.

B. Lakes:

(1) *Alder Lake, [11/5/84P] (T.64, R.1E): 1B, 2A, 3B;

(2) *Alton Lake, [11/5/84P] (T.62, 63, R.4, 5): 1B, 2A, 3B;

(3) Bearskin Lake, East, (T.64, R.1E, 1W): 1B, 2A, 3B;

(4) *Bearskin Lake, West, [3/7/88R] (T.64, 65, R.1): 1B, 2A, 3B;

(5) *Birch Lake, [3/7/88R] (T.65, R.1, 2): 1B, 2A, 3B;

(6) Black Lake, (T.45, R.15): 1B, 2Bd, 3B;

(7) *Brule Lake, [11/5/84P] (T.63, R.2, 3): 1B, 2A, 3B;

(8) Chester Lake, (T.64, R.3E): 1B, 2A, 3B;

(9) *Clearwater Lake (Emby Lake), [11/5/84P] (T.65, R.1E): 1B, 2A, 3B;

(10) Colby Lake, (T.58, R.14): 1B, 2Bd, 3B;

(11) *Cone Lake, North, [11/5/84P] (T.63, 64, R.3): 1B, 2A, 3B;

(12) *Crystal Lake, [11/5/84P] (T.64, R.1E, 2E): 1B, 2A, 3B;

(13) *Daniels Lake, [11/5/84P] (T.65, R.1E, 1W): 1B, 2A, 3B;

(14) *Davis Lake, [11/5/84P] (T.64, R.3): 1B, 2A, 3B;

(15) *Devilfish Lake, [3/7/88R] (T.64, R.3E): 1B, 2A, 3B;

(16) *Duncan Lake, [11/5/84P] (T.65, R.1): 1B, 2A, 3B;

(17) *Dunn Lake, [11/5/84P] (T.65, R.1, 2): 1B, 2A, 3B;

(18) *Echo Lake, [3/7/88R] (T.59, R.6): 1B, 2A, 3B;

(19) *Esther Lake, [3/7/88R] (T.63, 64, R.3E): 1B, 2A, 3B;

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(20) *Fan Lake, [11/5/84P] (T.65, R.2E): 1B, 2Bd, 3A;
(21) Flour Lake, (T.64, R.1E, 1W): 1B, 2A, 3B;
(22) Fowl Lake, North, (T.64, 65, R.3E): 1B, 2Bd, 3A;
(23) Fowl Lake, South, (T.64, 65, R.3E): 1B, 2Bd, 3A;
(24) *Gaskin Lake, [11/5/84P] (T.64, R.2): 1B, 2A, 3B;
(25) *Greenwood Lake, [3/7/88R] (T.64, R.2E): 1B, 2A, 3B;
(26) *Hungry Jack Lake, [3/7/88R] (T.64, 65, R.1): 1B, 2A, 3B;
(27) *Jim Lake (Jerry Lake), [3/7/88R] (T.64, R.1E): 1B, 2A, 3B;
(28) *Kemo Lake, [3/7/88R] (T.63, R.1): 1B, 2A, 3B;
(29) *Lily Lakes, [11/5/84P] (T.65, R.2E): 1B, 2Bd, 3A;
(30) McFarland Lake, (T.64, R.3E): 1B, 2A, 3B;
(31) *Misquah Lake, [11/5/84P] (T.64, R.1): 1B, 2A, 3B;
(32) *Moose Lake, [11/5/84P] (T.65, R.2E, 3E): 1B, 2A, 3A;
(33) *Morgan Lake, [11/5/84P] (T.64, R.1): 1B, 2A, 3B;
(34) *Moss Lake, [3/7/88R] (T.65, R.1): 1B, 2A, 3B;
(35) *Mountain Lake, [11/5/84P] (T.65, R.1E, 2E): 1B, 2A, 3B;
(36) *Musquash Lake, [3/7/88R] (T.63, R.1E): 1B, 2A, 3B;
(37) *Onega Lake (Omega Lake), [11/5/84P] (T.64, R.2, 3): 1B, 2A, 3B;
(38) *Otto Lake, Lower, [11/5/84P] (T.64, R.2): 1B, 2A, 3B;
(39) *Partridge Lake, [11/5/84P] (T.65, R.1): 1B, 2A, 3B;
(40) *Pike Lake, West, [11/5/84P] (T.65, R.2E): 1B, 2A, 3B;
(41) *Pine Lake, [11/5/84P] (T.64, 65, R.1E, 2E, 3E): 1B, 2A, 3B;
(42) *Ram Lake, [11/5/84P] (T.63, R.1): 1B, 2A, 3B;
(43) *Rose Lake, [11/5/84P] (T.65, R.1): 1B, 2A, 3B;
(44) Saint Mary's Lake, (T.57, R.17, S.9, 16, 17): 1C, 2Bd, 3B;
(45) *Sawbill Lake, [11/5/84P] (T.62, 63, R.4): 1B, 2Bd, 3B;
(46) Seven Beaver Lake, (T.58, R.11, 12): 2B, 3A;
(47) *South Lake, [11/5/84P] (T.65, R.1, 2): 1B, 2A, 3B;
(48) *State Lake, [11/5/84P] (T.63, 64, R.2): 1B, 2A, 3B;
(49) *Superior, Lake, [11/5/84R] (T.49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, R.14W-7E): 1B, 2A, 3A;
(50) *Swan Lake, [11/5/84P] (T.63, R.2): 1B, 2A, 3B;
(51) *Trout Lake, [3/7/88R] (T.62, R.2E): 1B, 2A, 3B;
(52) *Trout Lake, Little, [11/5/84P] (T.63, R.1): 1B, 2A, 3B;
(53) *Twin Lake, Upper (Bear Lake), [3/7/88R] (T.56, R.8): 1B, 2A, 3B;
(54) *Vista Lake, [11/5/84P] (T.64, R.1): 1B, 2A, 3B;
(55) *Wanihigan Lake (Trap Lake), [11/5/84P] (T.63, 64, R.2, 3): 1B, 2A, 3B;
(56) *Winchell Lake, [11/5/84P] (T.64, R.2, 3): 1B, 2A, 3B;
(57) *Black Lake Bog [3/7/88P] (Waters within the Black Lake Bog Scientific and Natural Area, Pine County, T.45, R.15, S.18, 19, 30; T.45, R.16, S.13, 24, 25): 2B, 3B; and
(58) *All other lakes in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 1B, 2Bd, 3B.

Subp. 2. **Lake of the Woods Basin.** The water use classifications for the listed waters in Lake of the Woods Basin are as identified in items A and B:

A. Streams:

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(1) Beaver Creek, (T.62, 63, R.20): 2C;
(2) Gardner Brook, (T.63, 64, R.23): 2C;
(3) Indian Sioux River, Little, (T.64, 65, R.15): 1B, 2Bd, 3B;
(4) Island River, (T.61, R.7, 8): 1B, 2Bd, 3B;
(5) Kawishiwi River, (Source to Fall Lake): 1B, 2Bd, 3B;
(6) Moose River, (T.68, R.18, 19): 1B, 2Bd, 3B;
(7) Moose River, (T.64, 65, 66, R.14): 1B, 2Bd, 3B;
(8) Portage Creek, (T.65, R.21): 2C;
(9) Portage River, (T.65, 66, R.14): 1B, 2Bd, 3B;
(10) Rainy River, (Outlet of Rainy Lake to Dam in International Falls): 1B, 2Bd, 3A;
(11) Rainy River, (Dam in International Falls to Railroad Bridge in Baudette): 1C, 2Bd, 3A;
(12) Rainy River, (Railroad Bridge in Baudette to Lake of the Woods): 2B, 3A;
(13) Snake River, (T.61, R.9): 1B, 2Bd, 3B;
(14) Zippel Creek, West Branch, (T.162, R.33, 34): 2C;
(15) *All other streams in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 1B, 2Bd, 3B;
(16) *Purvis Lake-Ober, [11/5/84P] (Waters within the Purvis Lake-Ober Foundation Scientific and Natural Area, Saint Louis County, T.62, R.13): 2B, 3B; and
(17) *All other streams in the Voyageurs National Park [11/5/84P]: 2B, 3B.

B. Lakes:
(1) *Adams Lake, [11/5/84P] (T.64, R.6): 1B, 2A, 3B;
(2) *Agamok Lake, [11/5/84P] (T.65, R.5, 6): 1B, 2A, 3B;
(3) *Ahmakose Lake, [11/5/84P] (T.64, R.7): 1B, 2A, 3B;
(4) *Alpine Lake, [11/5/84P] (T.65, R.5): 1B, 2A, 3B;
(5) *Amoeber Lake, [11/5/84P] (T.65, R.6, 7): 1B, 2A, 3B;
(6) *Arkose Lake, [11/5/84P] (T.64, 65, R.7): 1B, 2A, 3B;
(7) *Ashdick Lake (Caribou Lake), [11/5/84P] (T.66, R.6): 1B, 2A, 3B;
(8) *Basswood Lake, [11/5/84P] (T.64, 65, R.9, 10): 1B, 2A, 3B;
(9) *Bat Lake, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;
(10) *Beartrack Lake, [11/5/84P] (T.67, R.15): 1B, 2A, 3B;
(11) *Beaver Lake (Elbow Lake), [11/5/84P] (T.63, 64, R.6, 7): 1B, 2A, 3B;
(12) *Bingshick Lake, [11/5/84P] (T.65, R.4, 5): 1B, 2A, 3B;
(13) *Brandt Lake, [11/5/84P] (T.65, R.4): 1B, 2A, 3B;
(14) *Burntside Lake, [3/7/88R] (T.63, 64, R.12, 13, 14): 1B, 2A, 3B;
(15) *Camp Lake, [11/5/84P] (T.64, R.11): 1B, 2Bd, 3B;
(16) *Caribou Lake, [3/7/88R] (T.58, R.26): 1B, 2A, 3B;
(17) *Cash Lake, [11/5/84P] (T.64, R.3): 1B, 2A, 3B;
(18) *Cherokee Lake, [11/5/84P] (T.63, 64, R.4): 1B, 2A, 3B;
(19) *Cherry Lake, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;
(20) *Crab Lake, [11/5/84P] (T.63, R.13, 14): 1B, 2A, 3B;
(21) Crab Lake, (T.65, R.2, 3): 1B, 2A, 3B;
(22) Crane Lake, (T.67, 68, R.16, 17): 1B, 2A, 3A;

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(23) *Crooked Lake, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;
(24) *Crooked Lake, [11/5/84P] (T.66, R.11, 12): 1B, 2A, 3B;
(25) *Cruiser Lake (Trout Lake), [11/5/84P] (T.69, 70, R.19): 1B, 2A, 3B;
(26) *Eddy Lake, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;
(27) *Ester Lake (Gnig Lake), [11/5/84P] (T.65, 66, R.6): 1B, 2A, 3B;
(28) *Eugene Lake, [11/5/84P] (T.67, R.15): 1B, 2A, 3B;
(29) *Explorer Lake (South Three Lake), [11/5/84P] (T.64, R.7, 8): 1B, 2A, 3B;
(30) Fall Lake, (T.63, 64, R.11, 12): 1B, 2Bd, 3B;
(31) *Fat Lake, [11/5/84P] (T.67, R.15): 1B, 2A, 3B;
(32) *Fay Lake, [11/5/84P] (T.65, R.5): 1B, 2A, 3B;
(33) *Fern Lake, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;
(34) *Fern Lake, West, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;
(35) *Finger Lake, [11/5/84P] (T.67, R.14): 1B, 2A, 3B;
(36) *Fishdance Lake, [11/5/84P] (T.63, R.7): 1B, 2A, 3B;
(37) *Fraser Lake, [11/5/84P] (T.64, R.7): 1B, 2A, 3B;
(38) *French Lake, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;
(39) *Frost Lake, [11/5/84P] (T.64, R.4): 1B, 2A, 3B;
(40) *Gabimichigami Lake, [11/5/84P] (T.64, 65, R.5, 6): 1B, 2A, 3B;
(41) *Ge-Be-On-Equat Lake, [11/5/84P] (T.67, R.14): 1B, 2A, 3B;
(42) *Gijikiki Lake (Cedar Lake), [11/5/84P] (T.65, 66, R.6): 1B, 2A, 3B;
(43) *Gillis Lake, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;
(44) *Gordon Lake, [11/5/84P] (T.64, R.4): 1B, 2A, 3B;
(45) *Gun Lake, [11/5/84P] (T.67, 68, R.15): 1B, 2A, 3B;
(46) *Gunflint Lake, [3/7/88R] (T.65, R.2, 3, 4): 1B, 2A, 3B;
(47) Gunflint Lake, Little, (T.65, R.2): 1B, 2Bd, 3B;
(48) *Hanson Lake, [11/5/84P] (T.65, 66, R.6): 1B, 2A, 3B;
(49) *Holt Lake, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;
(50) *Howard Lake, [11/5/84P] (T.65, R.5): 1B, 2A, 3B;
(51) *Hustler Lake, [11/5/84P] (T.66, 67, R.14): 1B, 2A, 3B;
(52) *Ima Lake (Slate Lake), [11/5/84P] (T.64, R.7, 8): 1B, 2A, 3B;
(53) *Jasper Lake, [11/5/84P] (T.65, R.5): 1B, 2A, 3B;
(54) *Johnson Lake, [3/7/88R] (T.67, 68, R.17, 18): 1B, 2A, 3B;
(55) *Kabetogama Lake, [11/5/84P] (T.69, 70, R.20, 21, 22): 1B, 2Bd, 3A;
(56) *Karl Lake, [11/5/84P] (T.64, R.3, 4): 1B, 2A, 3B;
(57) *Kek Lake, Little, [11/5/84P] (T.65, R.6, 7): 1B, 2A, 3B;
(58) *Kekekabic Lake, [11/5/84P] (T.64, 65, R.6, 7): 1B, 2A, 3B;
(59) *Knife Lake, [11/5/84P] (T.65, R.7, 8): 1B, 2A, 3B;
(60) *Lake of the Clouds Lake (Dutton Lake), [11/5/84P] (T.65, R.6): 1B, 2A, 3B;
(61) *Larson Lake, [3/7/88R] (T.61, R.24): 1B, 2A, 3B;
(62) *Long Island Lake, [11/5/84P] (T.64, R.3, 4): 1B, 2A, 3B;
(63) *Loon Lake, [3/7/88R] (T.65, R.3): 1B, 2A, 3B;
(64) *Loon Lake, [11/5/84P] (T.66, 67, R.15): 1B, 2A, 3B;

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(65) *Lunar Lake (Moon Lake), [11/5/84P] (T.65, R.6): 1B, 2A, 3B;
(66) *Lynx Lake, [11/5/84P] (T.66, R.14, 15): 1B, 2A, 3B;
(67) *Magnetic Lake, [3/7/88R] (T.65, R.3, 4): 1B, 2A, 3B;
(68) *Makwa Lake (Bear Lake), [11/5/84P] (T.64, R.6): 1B, 2A, 3B;
(69) *Marble Lake, [11/5/84P] (T.64, R.6): 1B, 2A, 3B;
(70) *Mayhew Lake, [3/7/88R] (T.65, R.2): 1B, 2A, 3B;
(71) *Mesaba Lake, [11/5/84P] (T.63, R.5): 1B, 2A, 3B;
(72) *Missionary Lake (East Three Lake), [11/5/84P] (T.64, R.7, 8): 1B, 2A, 3B;
(73) *Moose Lake, [11/5/84P] (T.64, R.9, 10): 1B, 2Bd, 3B;
(74) *Mora Lake, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;
(75) *Mukooda Lake, [11/5/84P] (T.68, R.17): 1B, 2A, 3B;
(76) *Namakan Lake, [11/5/84P] (T.69, R.17, 18, 19): 1B, 2Bd, 3A;
(77) *North Lake, [3/7/88R] (T.65, R.2): 1B, 2A, 3B;
(78) North Lake, Little, (T.65, R.2): 1B, 2Bd, 3B;
(79) *Ogishkemuncie Lake, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;
(80) *Ojibway Lake (Upper Twin), [3/7/88R] (T.63, R.9, 10): 1B, 2A, 3B;
(81) *Owl Lake, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;
(82) *Oyster Lake, [11/5/84P] (T.66, R.14): 1B, 2A, 3B;
(83) *Peter Lake, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;
(84) *Portage Lake, [11/5/84P] (T.65, R.8): 1B, 2A, 3B;
(85) *Powell Lake, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;
(86) *Rabbit Lake, [11/5/84P] (T.66, R.6): 1B, 2A, 3B;
(87) *Rainy Lake, [11/5/84P] (T.70, 71, R.18, 19, 20, 21, 22, 23): 1B, 2Bd, 3A;
(88) *Raven Lake (Lynx Lake), [11/5/84P] (T.64, R.6): 1B, 2A, 3B;
(89) *Red Rock Lake, [11/5/84P] (T.65, 66, R.5): 1B, 2A, 3B;
(90) *Ruby Lake, Big, [11/5/84P] (T.66, R.14): 1B, 2A, 3B;
(91) *Saganaga Lake, [11/5/84P] (T.66, 67, R.4, 5): 1B, 2A, 3B;
(92) *Saganaga Lake, Little, [11/5/84P] (T.64, R.5, 6): 1B, 2A, 3B;
(93) *Sand Point Lake, [11/5/84P] (T.68, 69, R.16, 17): 1B, 2A, 3A;
(94) *Sea Gull Lake, [11/5/84P] (T.65, 66, R.4, 5): 1B, 2A, 3B;
(95) *Sema Lake (Coon Lake), [11/5/84P] (T.65, R.7): 1B, 2A, 3B;
(96) *Snowbank Lake, [11/5/84P] (T.63, 64, R.8, 9): 1B, 2A, 3B;
(97) *Spoon Lake (Fames Lake), [11/5/84P] (T.65, R.7): 1B, 2A, 3B;
(98) *Spring Lake, [3/7/88R] (T.68, R.18): 1B, 2A, 3B;
(99) *Strup Lake, [11/5/84P] (T.64, R.7): 1B, 2A, 3B;
(100) *Sumpet Lake, [11/5/84P] (T.61, R.7): 1B, 2Bd, 3B;
(101) *Takucmich Lake, [11/5/84P] (T.67, 68, R.14): 1B, 2A, 3B;
(102) *Tarry Lake, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;
(103) *Thomas Lake, [11/5/84P] (T.63, 64, R.7): 1B, 2A, 3B;
(104) *Thumb Lake, [11/5/84P] (T.67, R.14): 1B, 2A, 3B;
(105) *Topaz Lake (Star Lake), [11/5/84P] (T.65, R.6): 1B, 2A, 3B;
(106) *Town Lake, [11/5/84P] (T.63, 64, R.3, 4): 1B, 2A, 3B;
(107) *Trout Lake, Big, [11/5/84P] (T.63, 64, R.15, 16): 1B, 2A, 3B;
(108) *Trout Lake, Little (Pocket Lake), [11/5/84P] (T.68, R.17): 1B, 2A, 3B;
(109) *Tucker Lake, [11/5/84P] (T.64, R.3): 1B, 2Bd, 3B;

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(110) *Tuscarora Lake, [11/5/84P] (T.64, R.4, 5): 1B, 2A, 3B;

(111) *Vera Lake, [11/5/84P] (T.64, R.8): 1B, 2A, 3B;

(112) *Virgin Lake, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;

(113) *Wine Lake, [11/5/84P] (T.63, R.5): 1B, 2A, 3B;

(114) *Wisini Lake, [11/5/84P] (T.64, R.7): 1B, 2A, 3B;

(115) Lake of the Woods, (T.161, 162, 163, 164, 165, 166, 167, 168, R.30, 31, 32, 33, 34, 35): 1B, 2Bd, 3A;

(116) Unnamed Swamp, Winton, (T.63, R.11, S.19; T.63, R.12, S.24): 7;

(117) *All other lakes in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 1B, 2Bd, 3B; and

(118) *All other lakes in the Voyageurs National Park [11/5/84P]: 2B, 3B.

Subp. 3. **Red River of the North Basin.** The water use classifications for the listed waters in the Red River of the North Basin are as identified in items A, B, and C:

A. Streams:

(1) Badger Creek, (T.149, 150, 151, R.42, 43, 44): 2C;

(2) Barnums Creek (Burnham Creek), (T.148, 149, 150, R.44, 45, 46, 47, 48): 2C;

(3) Bois de Sioux River, (Mud Lake outlet to Breckenridge): 2C;

(4) County Ditch No. 6A-2, Rothsay, (T.135, R.45, S.21, 28, 33): 7;

(5) County Ditch No. 32, Sabin, (T.138, R.48, S.13, 14, 15, 16, 17, 18): 7;

(6) County Ditch No. 65, New York Mills, (T.135, R.37, S.18; T.135, R.38, S.13): 7;

(7) Deerhorn Creek, (T.136, R.44, 45, 46): 2C;

(8) Doran Slough, (T.131, 132, R.46, 47): 2C;

(9) Eighteen Mile Creek, (T.127, R.46, 47): 2C;

(10) Five Mile Creek, (T.127, 128, R.45): 2C;

(11) Gentilly River, (T.149, 150, R.45): 2C;

(12) Hay Creek, (T.137, 138, R.44, 45, 46): 2C;

(13) Hay Creek, (T.161, 162, 163, R.37, 38, 39): 2C;

(14) Hill River, (T.148, 149, 150, R.39, 40, 41, 42): 2C;

(15) Hoover Creek (excluding trout waters), (T.152, 153, 154, R.29, 30): 2C;

(16) Joe River, (T.162, 163, 164, R.49, 50): 2C;

(17) Joe River, Little, (T.163, R.47, 48): 2C;

(18) Judicial Ditch No. 13, Goodridge, (T.154, R.40, S.16, 17, 18): 7;

(19) Judicial Ditch No. 18, Goodridge, (T.154, R.40, S.18, 19, 27, 28, 29, 30; T.154, R.41, S.13, 14, 15, 16, 17, 18; T.154, R.42, S.7, 8, 13, 14, 15, 16; T.154, R.43, S.9, 10, 11, 12, 16): 7;

(20) Maple Creek, (T.147, 148, R.44, 45, 46): 2C;

(21) Marsh Creek, (T.144, 145, 146, R.41, 42, 43): 2C;

(22) Mustinka River, (T.127, 128, R.45, 46, 47): 2C;

(23) Mustinka River, West Branch, (T.125, 126, 127, 128, R.45, 46, 47): 2C;

(24) Otter Tail River, (Height of Land Lake to mouth): 1C, 2Bd, 3B;

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(25) Rabbit River, (T.130, 131, R.45, 46, 47): 2C;

(26) Rabbit River, South Fork, (T.130, R.45, 46): 2C;

(27) Red Lake River, (Outlet of Lower Red Lake to mouth): 1C, 2Bd, 3B;

(28) Red River of the North, (Breckenridge to Canadian border): 1C, 2Bd, 3B;

(29) Roy Creek (Roy Lake Creek), (T.144, 145, R.39): 2C;

(30) Spring Creek, (T.145, 146, R.45, 46, 47): 2C;

(31) Spring Creek, (T.142, R.41, 42): 2C;

(32) Stony Creek, (T.137, R.45, 46): 2C;

(33) Sucker Creek, (T.160, 161, R.39): 2C;

(34) Tamarack River (Source to Stephen), (T.157, 158, R.45, 46, 47, 48): 1C, 2Bd, 3B;

(35) Twelve Mile Creek (excluding Class 7 segment), (T.126, 127, R.45): 2C;

(36) Twelve Mile Creek (County Ditch No. 1), Donnelly, (T.126, R.43, S.16, 17, 18, 19, 21, 22, 25, 26, 27; T.126, R.44, S.23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33; T.126, R.45, S.25, 26, 27, 28, 36): 7;

(37) Twelve Mile Creek, East Fork, (T.125, 126, R.44, 45): 2C;

(38) Twelve Mile Creek, West Fork, (T.125, 126, R.44, 45): 2C;

(39) Twin Lake Creek, (T.144, 145, R.40): 2C;

(40) Two Rivers, Middle Branch, (Source to Hallock): 1C, 2Bd, 3B;

(41) Two Rivers, South Branch, (T.161, R.41-49): 1C, 2Bd, 3B;

(42) Unnamed Creek, Rothsay, (T.135, R.45, S.21, 22, 23, 25, 26): 7;

(43) Unnamed Creek, Shevlin, (T.147, R.36, S.17, 18; T.147, R.37, S.11, 12, 13, 14): 7;

(44) Unnamed Ditch, Audubon, (T.139, R.42, S.4, 9): 7;

(45) Unnamed Ditch, Lake Park, (T.139, R.43, S.4; T.140, R.43, S.33): 7;

(46) Unnamed Ditch, Glyndon, (T.139, R.47, S.1, 2, 12; T.140, R.47, S.35): 7;

(47) Unnamed Ditch, Callaway, (T.140, R.41, S.6; T.140, R.42, S.1, 2, 10, 11): 7;

(48) Unnamed Ditch, Gary, (T.145, R.44, S.22, 27, 34): 7;

(49) Unnamed Ditch, Erskine, (T.149, R.42, S.34, 35): 7;

(50) Unnamed Ditch, Thief River Falls, (T.154, R.43, S.31, 32, 33): 7;

(51) Unnamed Ditch, Warroad, (T.163, R.37, S.19, 20, 21, 22, 23; T.163, R.38, S.19, 20, 21, 22, 23, 24, 30; T.163, R.39, S.25, 31, 32, 33, 34, 35, 36): 7;

(52) Whiskey Creek, (T.137, R.44, 45, 46): 2C;

(53) Whiskey Creek, (T.133, 134, R.47, 48): 2C;

(54) White Earth River, (T.143, 144, R.40, 41, 42): 2C;

(55) Willow Creek, New York Mills, (T.135, R.38, S.13, 14, 15, 16, 17, 18): 7; and

(56) Wolverton Creek, (T.135, 136, 137, R.48): 2C.

B. Lakes:

(1) Lake Bronson, (T.160, 161, R.46): 1C, 2Bd, 3B;

(2) Twin Lake, East, (T.138, R.41): 1B, 2A, 3B;

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(3) Unnamed Slough, Vergas, (T.137, R.40, S.18; T.137, R.41, S.13, 24): 7; and

(4) *Green Water Lake, [11/5/84P] (Waters within the Green Water Lake Scientific and Natural Area, Becker County, T.141, R.38, S.28, 33, 34): 2B, 3B.

C. Fens:

(1) *B-B Ranch fen, [3/7/88R] (T.141, R.46, S.13): 2B, 3B;

(2) *Barnesville WMA fen, [3/7/88R] (T.137, R.45, S.1): 2B, 3B;

(3) *Chicog WMA fen, [3/7/88R] (T.148, R.45, S.20, 29, 33): 2B, 3B;

(4) *Clearbrook fen, [3/7/88R] (T.149, R.37, S.17): 2B, 3B;

(5) *Felton fen, [3/7/88R] (T.142, R.46, S.36): 2B, 3B;

(6) *Kertsonville WMA fen, [3/7/88R] (T.149, R.45, S.16): 2B, 3B;

(7) *Pankratz fen (Svedarsky's fen), [3/7/88R] (T.149, R.45, S.17): 2B, 3B;

(8) *Pembina Trail Preserve, [3/7/88P] (Waters within the Pembina Trail Preserve Scientific and Natural Area, Polk County, S.1, 2, T.148, R.45; S.18, 19, 30, 31, T.149, R.44; S.13, 24, 25, 36, T.149, R.45): 2B, 3B;

(9) *Primula Meadow (Faith fen), [3/7/88R] (T.144, R.43, S.25): 2B, 3B;

(10) *Spring Creek fen, [3/7/88R] (T.142, R.42, S.13): 2B, 3B;

(11) *Spring Prairie fen, [3/7/88R] (T.140, R.46, S.11): 2B, 3B; and

(12) *Waubun fen, [3/7/88R] (T.143, R.42, S.25): 2B, 3B.

Subp. 4. **Upper Mississippi River Basin.** The water use classifications for the listed waters in the Upper Mississippi River Basin are as identified in items A and B:

A. Streams:

(1) Alcohol Creek, (T.143, 144, R.34): 2C;

(2) Arramba Creek, (T.40, R.30): 2C;

(3) Basswood Creek, (T.141, 142, R.36): 2C;

(4) Battle Brook, (T.35, R.26, 27): 2C;

(5) Battle Creek, (T.120, R.30, 31): 2C;

(6) Bear Brook, (T.144, R.27): 2C;

(7) Bear Creek, (T.145, R.36): 2C;

(8) Beautiful Creek, (T.127, R.31): 2C;

(9) Beaver Creek, (T.136, 137, R.32, 33): 2C;

(10) Belle Creek, (T.117, 118, R.32): 2C;

(11) Birch Brook, (T.141, R.25): 2C;

(12) Black Brook, (T.41, 42, R.26): 2C;

(13) Black Brook, (T.42, 43, R.30): 2C;

(14) Blackwater Creek, (T.55, R.26): 2C;

(15) Blueberry River, (T.138, 139, R.35, 36): 2C;

(16) Bluff Creek, (T.135, 136, R.36, 37): 2C;

(17) Bogus Brook (excluding Class 7 segment), (T.37, 38, R.26): 2C;

(18) Bogus Brook, Bock, (T.38, R.26, S.13, 14): 7;

(19) Buckman Creek (excluding Class 7 segment), (T.39, 40, R.30, 31): 2C;

(20) Buckman Creek, Buckman, Buckman Coop Cry., (T.39, R.30, S.4, 5, 6, 9; T.39, R.31, S.1, 2, 10, 11; T.40, R.30, S.31; T.40, R.31, S.36): 7;

(21) Cat River (excluding trout waters), (T.136, 137, R.33, 34, 35): 2C;

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(22) Chase Brook, (T.38, 39, R.27): 2C;

(23) Clearwater Creek, (T.56, 57, R.24, 25): 2C;

(24) Coon Creek, (T.43, R.29, 30): 2C;

(25) County Ditch No. 15 (Bear Creek), Bertha, (T.132, R.35, S.2; T.133, R.34, S.7; T.133, R.35, S.12, 13, 24, 25, 26, 35): 7;

(26) County Ditch No. 23, Garfield, (T.129, R.38, S.26, 27): 7;

(27) County Ditch No. 23A, Willmar, (T.119, R.34, S.29, 30; T.119, R.35, S.23, 25, 26): 7;

(28) County Ditch No. 42, McGregor, (T.48, R.23, S.29, 32): 7;

(29) County Ditch No. 63, Near Hutchinson, West Lynn Coop Cry., (T.116, R.30, S.19, 20, 21, 28, 33): 7;

(30) County Ditch No. 132, Lakeside, Lakeside Coop Cry., (T.116, R.31, S.16, 21): 7;

(31) Crane Creek (excluding Class 7 segment), (T.116, 117, R.26, 27): 2C;

(32) Crane Creek, Winsted, (T.117, R.27, S.14, 20, 21, 22, 23, 24, 25): 7;

(33) *Crow River, North Fork, [11/5/84R] (From the Lake Koronis outlet to the Meeker - Wright County line): 2B, 3B;

(34) Dagget Brook, (T.43, R.29, 30): 2C;

(35) Eagle Creek, (T.120, R.29): 2C;

(36) Elk River, Little, (T.130, 131, R.30, 31): 2C;

(37) Elk River, South Branch, Little, (T.130, R.30, 31, 32): 2C;

(38) Estes Brook, (T.36, 37, 38, R.27, 28): 2C;

(39) Everton Creek, (T.149, R.30): 2C;

(40) Farley Creek, (T.147, R.28): 2C;

(41) Fish Creek, (T.28, R.22): 2C;

(42) Fletcher Creek, (T.42, R.31): 2C;

(43) Foley Brook, (T.141, R.25): 2C;

(44) Frederick Creek, (T.119, R.25): 2C;

(45) Frontenac Creek, (T.145, R.34): 2C;

(46) Hanson Brook, (T.40, R.27): 2C;

(47) Hay Creek, (T.43, 44, R.30, 31): 2C;

(48) Hazel Creek, (T.127, R.29, 30): 2C;

(49) Hennepin Creek (excluding trout waters), (T.144, 145, 146, R.34, 35): 2C;

(50) Indian Creek, (T.141, 142, R.36, 37): 2C;

(51) Irish Creek, (T.129, R.31): 2C;

(52) Iron Creek, (T.135, R.32): 2C;

(53) Jewett Creek, (T.119, 120, R.30, 31): 2C;

(54) Johnson Creek, (T.137, R.28): 2C;

(55) Judicial Ditch No. 1, Lakeside, Lakeside Coop Cry., (T.116, R.31, S.28, 33): 7;

(56) Judicial Ditch No. 15, Buffalo Lake, Iowa Pork Industries, Hector, (T.115, R.31, S.15, 16, 20, 21, 29, 30; T.115, R.32, S.22, 25, 26, 27, 28, 32, 33): 7;

(57) Kettle Creek, (T.138, R.35, 36, 37): 2C;

(58) Kitchi Creek, (T.146, 147, R.29, 30): 2C;

(59) Kitten Creek, (T.137, R.34, 35): 2C;

(60) LaSalle Creek (excluding trout waters), (T.143, 144, R.35): 2C;

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(61) LaSalle River, (T.144, 145, R.35): 2C;

(62) Laura Brook, (T.141, R.26): 2C;

(63) Meadow Creek, (T.128, R.30): 2C;

(64) Mike Drew Brook, (T.38, 39, R.26, 27): 2C;

(65) Mink Creek, Big, (T.41, 42, R.30, 31): 2C;

(66) Mink Creek, Little, (T.41, 42, R.29, 30, 31): 2C;

(67) *Mississippi River, [11/5/84R] (From Lake Itasca to Fort Ripley): 2B, 3B;

(68) *Mississippi River, [11/5/84R] (From Fort Ripley to the southerly boundary of Morrison County): 1C, 2Bd, 3B;

(69) Mississippi River, (From the southerly boundary of Morrison County to County State Aid Highway 7 bridge in Saint Cloud): 1C, 2Bd, 3B;

(70) *Mississippi River, [11/5/84R] (County State Aid Highway 7 bridge in Saint Cloud to the northwestern city limits of Anoka): 1C, 2Bd, 3B;

(71) Mississippi River, (From the northwestern city limits of Anoka to the Upper Lock and Dam at Saint Anthony Falls in Minneapolis): 1C, 2Bd, 3B;

(72) Mississippi River, (Outlet of Metro Wastewater Treatment Works in Saint Paul to river mile 830, Rock Island RR Bridge): 2C, 3B;

(73) Northby Creek, (T.140, R.27): 2C;

(74) Norway Brook, (T.139, R.30): 2C;

(75) O'Brien Creek, (T.56, 57, R.22): 2C;

(76) O'Neill Brook, (T.38, R.26): 2C;

(77) Oak Ridge Creek (Oak Creek), (T.133, 134, R.36): 2C;

(78) Pigeon River, (T.147, R.27): 2C;

(79) Pike Creek (excluding Class 7 segment), (T.129, R.30): 2C;

(80) Pike Creek, Flensburg, (T.129, R.30, S.17, 18, 19, 20): 7;

(81) Pillager Creek, (T.133, R.30): 2C;

(82) Pioneer Creek, (T.118, R.24): 2C;

(83) Prairie Brook, (T.36, R.27): 2C;

(84) Rat Creek, (T.144, 145, R.34): 2C;

(85) Rice Creek, (T.30, 31, 32, R.22, 23, 24): 1C, 2Bd, 3B;

(86) Rice Creek, (T.35, R.29): 2C;

(87) *Rum River, [11/5/84P] (From the Ogechie Lake spillway to the northernmost confluence with Lake Onamia): 2B, 3B;

(88) *Rum River, [11/5/84R] (From the State Highway 27 bridge in Onamia to Madison and Rice Streets in Anoka): 2B, 3B;

(89) Seven Mile Creek, (T.133, 134, R.30, 31): 2C;

(90) Six Mile Brook, (T.143, 144, R.26, 27): 2C;

(91) Skimmerhorn Creek, (T.149, R.30): 2C;

(92) Skunk Creek, (T.144, R.34): 2C;

(93) Skunk River (Co. Dt. No. 37) (Co. Dt. No. 29), Brooten, (T.123, R.35, S.4, 5, 9; T.123, R.35, S.9, 10, 11, 12; T.123, R.34, S.3, 4, 5, 6, 7, 8): 7;

(94) Snowball Creek, (T.56, R.23): 2C;

(95) Split Hand Creek, (T.53, R.24): 2C;

(96) Stag Brook, (T.121, 122, R.30, 31): 2C;

(97) Stanchfield Brook, Lower Braham, (T.37, R.23, S.3, 10, 15, 22): 7;

(98) Stocking Creek, (T.138, R.35): 2C;

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(99) Stony Brook (Stoney Brook), Foley, (T.36, R.29, S.2, 9, 10, 11, 16; T.37, R.29, S.35, 36): 7;

(100) Stony Creek, (T.140, R.28): 2C;

(101) Stony Point Brook, (T.147, R.28): 2C;

(102) Sucker Creek (Gould Creek) (excluding trout waters), (T.143, 144, R.36): 2C;

(103) Swamp Creek, Big, (T.137, 138, 139, R.32, 33): 2C;

(104) Swamp Creek, Little, (T.136, 137, R.33): 2C;

(105) Swan Creek, (T.134, 135, R.32): 2C;

(106) Swan Creek, Little, (T.135, R.32): 2C;

(107) Swift River, (T.142, R.27): 2C;

(108) Taylor Creek, (T.128, R.31): 2C;

(109) Ted Brook Creek, (T.130, R.31): 2C;

(110) Tibbits Brook, (T.33, 34, R.26, 27): 2C;

(111) Tibbetts Creek (Tibbetts Brook), (T.39, 40, R.27, 28): 2C;

(112) Tower Creek, (T.135, R.32, 33): 2C;

(113) Two Rivers, South Branch, Albany, (T.125, R.31, S.21, 22, 23): 7;

(114) Unnamed Creek, Calumet, (T.56, R.23, S.21): 7;

(115) Unnamed Creek, Hiller Mobile Home Court, (T.119, R.26, S.22, 26, 27, 35): 7;

(116) Unnamed Creek, Grove City, (T.120, R.32, S.34, 35, 36): 7;

(117) Unnamed Creek, Albertville, (T.121, R.23, S.30; T.121, R.24, S.25, 36): 7;

(118) Unnamed Creek, Eden Valley, Ruhland Feeds, (T.121, R.31, S.2; T.122, R.31, S.35): 7;

(119) Unnamed Creek, Lake Henry, (T.123, R.33, S.11, 14): 7;

(120) Unnamed Creek, Miltona, (T.129, R.36, S.6; T.130, R.36, S.30, 31): 7;

(121) Unnamed Ditch, Braham, (T.37, R.23, S.2, 3): 7;

(122) Unnamed Ditch, Ramey, Ramey Farmers Coop Cry., (T.38, R.28, S.4, 5; T.39, R.28, S.29, 30, 32; T.39, R.29, S.25, 26, 27, 28): 7;

(123) Unnamed Ditch, McGregor, (T.48, R.23, S.31, 32): 7;

(124) Unnamed Ditch, Nashwauk, (T.56, R.22, S.4, 5; T.57, R.22, S.32): 7;

(125) Unnamed Ditch, Taconite, (T.56, R.24, S.22): 7;

(126) Unnamed Ditch, Glencoe, Green Giant, (T.115, R.28, S.21, 22, 27, 28): 7;

(127) Unnamed Ditch, Glencoe, Green Giant, (T.115, R.28, S.14, 23): 7;

(128) Unnamed Ditch, Winsted, Green Giant, (T.117, R.27, S.10, 11): 7;

(129) Unnamed Ditch, Hiller Mobile Home Court, (T.119, R.26, S.34, 35): 7;

(130) Unnamed Ditch, Kandiyohi, (T.119, R.34, S.10, 15, 21, 22, 28, 29, 32): 7;

(131) Unnamed Ditch, Belgrade, (T.123, R.34, S.19, 30): 7;

(132) Unnamed Ditch, Flensburg, (T.129, R.30, S.30; T.129, R.31, S.25): 7;

(133) Unnamed Ditch, Miltona, (T.130, R.36, S.30; T.130, R.37, S.25, 36): 7;

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(134) Unnamed Stream, Winsted, (T.117, R.27, S.11, 12): 7;
(135) Unnamed Stream, Flensburg, (T.129, R.30, S.19, 30): 7;
(136) Vandell Brook, (T.37, 38, R.26): 2C;
(137) Welcome Creek, (T.56, 57, R.22): 2C;
(138) Whitney Brook, (T.39, R.26, 27): 2C;
(139) Willow River, North Fork, (T.142, R.25): 2C;
(140) Willow River, South Fork, (T.142, R.25): 2C;
(141) Wilson Creek, (T.137, R.30): 2C;
(142) Wolf Creek, (T.42, R.30): 2C;
(143) *Itasca Wilderness Sanctuary, [11/5/84P] (Waters within the Itasca Wilderness Sanctuary, Clearwater County, T.143, R.36): 2B, 3B;
(144) *Iron Springs Bog, [11/5/84P] (Waters within the Iron Springs Bog Scientific and Natural Area, Clearwater County, T.144, R.36): 2B, 3B;
(145) *Pennington Bog, [11/5/84P] (Waters within the Pennington Bog Scientific and Natural Area, Beltrami County, T.146, R.30): 2B, 3B; and
(146) *Wolsfeld Woods, [11/5/84P] (Waters within the Wolsfeld Woods Scientific and Natural Area, Hennepin County, T.118, R.23): 2B, 3B.

B. Lakes:
(1) Bald Eagle Lake, (T.30, 31, R.21, 22): 1C, 2Bd, 3B;
(2) Benedict Lake, (T.142, R.32): 1B, 2A, 3B;
(3) *Blue Lake, [3/7/88R] (T.46, 47, R.27): 1B, 2A, 3B;
(4) *Blue Lake, [3/7/88R] (T.141, R.34): 1B, 2A, 3B;
(5) *Bluewater Lake, [3/7/88R] (T.57, R.25): 1B, 2A, 3B;
(6) Centerville Lake, (T.31, R.22): 1C, 2Bd, 3B;
(7) Charley Lake, (T.30, R.23): 1C, 2Bd, 3B;
(8) Deep Lake, (T.30, R.22): 1C, 2Bd, 3B;
(9) Hay Lake, Lower, (T.137, R.28, 29): 1B, 2A, 3B;
(10) *Kabekona Lake, [3/7/88R] (T.142, 143, R.32, 33): 1B, 2A, 3B;
(11) Kennedy Lake, (T.58, R.23): 1B, 2A, 3B;
(12) LaSalle Lake, Lower, (T.145, R.35): 1B, 2A, 3B;
(13) Otter Lake, (T.30, 31, R.22): 1C, 2Bd, 3B;
(14) Pleasant Lake, (T.30, R.22, 23): 1C, 2Bd, 3B;
(15) *Pokegama Lake, [3/7/88R] (T.54, 55, R.25, 26): 1B, 2A, 3B;
(16) *Roosevelt Lake, [3/7/88R] (T.138, 139, R.26): 1B, 2A, 3B;
(17) Sucker Lake, (T.30, R.22): 1C, 2Bd, 3B;
(18) *Trout Lake, [3/7/88R] (T.55, 56, R.24): 1B, 2A, 3B;
(19) *Trout Lake, Big, [3/7/88R] (T.57, 58, R.25): 1B, 2A, 3B;
(20) *Trout Lake, Big, [3/7/88R] (T.137, 138, R.27, 28): 1B, 2A, 3B;
(21) *Trout Lake, Little, [3/7/88R] (T.57, R.25): 1B, 2A, 3B;
(22) Unnamed Swamp, Flensburg, (T.129, R.31, S.25): 7;
(23) Unnamed Slough, Miltona, (T.130, R.37, S.26, 35, 36): 7;
(24) Unnamed Swamp, Staples, (T.133, R.33, S.1): 7;
(25) Unnamed Swamp, Taconite, (T.56, R.24, S.22): 7;
(26) Vadnais Lake, (T.30, R.22): 1C, 2Bd, 3B;
(27) Wabana Lake, (T.57, R.25): 1B, 2A, 3B;
(28) Watab Lake, Big, (T.124, R.30): 1B, 2A, 3B; and
(29) Wilkinson Lake, (T.30, R.22): 1C, 2Bd, 3B.

Subp. 5. **Minnesota River Basin.** The water use classifications for the listed waters in the Minnesota River Basin are as identified in items A, B, and C:

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A. Streams:

(1) Altermatts Creek (County Ditch No. 39), Comfrey, (T.108, R.33, S.17, 19, 20, 30; T.108, R.34, S.24, 25, 35, 36): 7;

(2) Badger Creek, (T.101, 102, R.28): 2C;

(3) Beaver Creek, East Fork (County Ditch No. 63), Olivia, Olivia Canning Company, (T.115, R.34, S.1, 2, 3, 4, 5, 6; T.115, R.35, S.1, 12, 13, 14, 23, 24, 25, 26; T.116, R.34, S.16, 20, 21, 28, 29, 30, 32, 33, 34, 35): 7;

(4) Blue Earth River, East Fork, (Brush Creek to mouth): 2C, 3B;

(5) Blue Earth River, West Fork, (Iowa border to mouth): 2C, 3B;

(6) Boiling Spring Creek (excluding Class 7 segment), (T.113, 114, R.37, 38): 2C;

(7) Boiling Springs Creek (County Ditch No. 1B), Echo, (T.113, R.38, S.5, 8; T.114, R.37, S.19, 30; T.114, R.38, S.25, 26, 27, 32, 33, 34): 7;

(8) Boot Creek (excluding Class 7 segment), (T.105, 106, R.22, 23): 2C;

(9) Boot Creek, New Richland, (T.105, R.22, S.6, 7; T.105, R.23, S.12, 13, 24): 7;

(10) Brafees Creek, (T.116, 117, R.40): 2C;

(11) Brush Creek, (Iowa border to mouth): 2C, 3B;

(12) Bull Run Creek, Little, (T.106, R.24, 25): 2C;

(13) Butterfield Creek, (T.106, 107, R.31, 32, 33): 2C;

(14) Canby Creek (excluding trout waters), (South Dakota border to mouth): 2C, 3B;

(15) Cedar Run Creek, (T.103, 104, R.32, 33): 2C;

(16) Cherry Creek, Cleveland, (T.110, R.25, S.7, 8, 16, 17; T.110, R.26, S.12): 7;

(17) Chetomba Creek (exluding Class 7 segment), (T.116, 117, R.36, 37, 38): 2C;

(18) Chetomba Creek, Prinsburg, (T.116, R.36, S.6, 7, 18, 19; T.116, R.37, S.8, 9, 14, 15, 16, 23, 24; T.117, R.36, S.8, 9, 16, 17, 21, 28, 29, 30, 31, 32): 7;

(19) Cobb Creek, Freeborn, (T.104, R.23, S.7, 8, 17; T.104, R.24, S.11, 12): 7;

(20) Cobb Creek Ditch, Freeborn, (T.103, R.23, S.2; T.104, R.23, S.14, 15, 16, 23, 26, 35): 7;

(21) Cobb River, Big, (T.104, 105, 106, 107, R.23, 24, 25, 26): 2C;

(22) Cobb River, Little, (T.105, 106, R.23, 24, 25, 26): 2C;

(23) Cottonwood Creek (excluding trout waters), (T.119, 120, 121, R.41, 42): 2C;

(24) County Ditch No. 1, Echo, (T.113, R.38, S.8, 9): 7;

(25) County Ditch No. 4, Arco, (T.110, R.44, S.5; T.111, R.44, S.32, 33): 7;

(26) County Ditch No. 4, Norwood, (T.115, R.25, S.30; T.115, R.26, S.13, 14, 24, 25): 7;

(27) County Ditch No. 5, Marietta, (T.117, R.45, S.6, 7, 18; T.117, R.46, S.1; T.118, R.46, S.23, 25, 26, 36): 7;

(28) County Ditch No. 6 (Judicial Ditch No. 11), Janesville, (T.107, R.24, S.4, 8, 9, 17, 18; T.107, R.25, S.13): 7;

(29) County Ditch No. 7, Lowry, (T.126, R.39, S.25, 26): 7;

(30) County Ditch No. 12 (County Ditch No. 45), Waseca, (T.107, R.23, S.22, 23): 7;

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(31) County Ditch No. 12 (Rice Creek), Belview, (T.113, R.36, S.7, 8, 18, 19; T.113, R.37, S.15, 21, 22, 23, 24): 7;

(32) County Ditch No. 14, Tyler, (T.109, R.43, S.18; T.109, R.44, S.2, 3, 11, 13, 14; T.110, R.44, S.33, 34): 7;

(33) County Ditch No. 22, Montgomery, Green Giant Company, (T.111, R.23, S.4, 9, 10; T.112, R.23, S.33): 7;

(34) County Ditch No. 27, Madison, (T.117, R.43, S.3, 4, 5, 6; T.117, R.44, S.1; T.118, R.43, S.34; T.118, R.44, S.35, 36): 7;

(35) County Ditch No. 28, Marietta, (T.118, R.46, S.22, 23, 26): 7;

(36) County Ditch No. 38, Storden, (T.107, R.37, S.28, 29): 7;

(37) County Ditch No. 40A, Lafayette, (T.111, R.29, S.8, 14, 15, 16, 17, 23, 24): 7;

(38) County Ditch No. 42, Winthrop, (T.112, R.29, S.6, 7): 7;

(39) County Ditch No. 44, Bricelyn, Owatonna Canning Company, (T.101, R.25, S.7, 8, 16, 17; T.101, R.26, S.1, 12; T.102, R.26, S.36): 7;

(40) County Ditch No. 45, Renville, (T.114, R.36, S.5, 6, 7, 18; T.114, R.37, S.13; T.115, R.36, S.7, 18, 19, 29, 30, 32): 7;

(41) County Ditch No. 46, Willmar, (T.119, R.35, S.19, 20, 29): 7;

(42) County Ditch No. 51, Le Center, (T.110, R.24, S.5, 6; T.111, R.24, S.31, 32; T.111, R.25, S.26, 35, 36): 7;

(43) County Ditch No. 54, Montgomery, (T.112, R.23, S.26, 33, 34, 35): 7;

(44) County Ditch No. 60 (Chippewa River), Millerville, Millerville Coop Cry., (T.130, R.39, S.14, 22, 23, 27, 28, 32, 33): 7;

(45) County Ditch No. 61, Kerhoven, (T.120, R.37, S.21, 22): 7;

(46) County Ditch No. 63, Hanska, (T.108, R.30, S.11, 12, 14, 17, 18, 19, 20, 21, 22, 23, 27, 28): 7;

(47) County Ditch No. 66, Bird Island, (T.115, R.34, S.15, 16, 17, 18, 22, 23): 7;

(48) County Ditch No. 87, Wells, (T.103, R.24, S.6; T.104, R.24, S.31; T.104, R.25, S.36): 7;

(49) County Ditch No. 104, Sacred Heart, (T.114, R.38, S.1, 2; T.115, R.37, S.7, 18; T.115, R.38, S.13, 24, 25, 35, 36): 7;

(50) County Ditch No. 109, Morgan, (T.111, R.34, S.4, 5, 8, 17; T.112, R.34, S.22, 23, 27, 28, 33): 7;

(51) Crow Creek, (T.112, R.35): 2C;

(52) Dry Creek, (T.108, 109, R.36): 2C;

(53) Dry Weather Creek, (T.117, 118, R.39, 40, 41): 2C;

(54) Dry Wood Creek, (T.122, R.42, 43): 2C;

(55) Echo Creek, (T.114, R.37): 2C;

(56) Eight Mile Creek, (T.111, 112, 113, R.31): 2C;

(57) Elm Creek, North Fork, (T.104, R.34): 2C;

(58) Elm Creek, South Fork, (T.103, R.34): 2C;

(59) Emily Creek, (T.118, 119, R.43): 2C;

(60) Fish Creek, (T.123, 124, R.47, 48): 2C;

(61) Five Mile Creek, (T.120, R.44): 2C;

(62) Florida Creek, (South Dakota border to mouth): 2C, 3B;

(63) Foster Creek (excluding Class 7 segment), (T.102, 103, R.24): 2C;

(64) Foster Creek, Alden, (T.103, R.23, S.31; T.103, R.24, S.25, 36): 7;

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(65) Hassel Creek, (T.122, 123, R.38, 39): 2C;

(66) Hawk Creek (County Ditch No. 10), Willmar/Pennock, (T.118, R.36, S.2, 3, 8, 10, 15, 16, 17, 18, 19; T.118, R.37, S.5, 6, 7, 8, 9, 14, 15, 16, 18, 19, 23, 24, 30, 31; T.119, R.35, S.19; T.119, R.36, S.24, 25, 26, 35): 7;

(67) Hazel Run, (T.115, R.39, 40, 41, 42): 2C;

(68) Iosco Creek, (T.108, R.23): 2C;

(69) Judicial Ditch No. 1, Delavan, (T.104, R.27, S.23, 25, 26, 36): 7;

(70) Judicial Ditch No. 1A, Lafayette, (T.111, R.27, S.5, 6, 7; T.111, R.28, S.10, 11, 12, 15, 16, 17, 18, 19; T.111, R.29, S.24): 7;

(71) Judicial Ditch No. 5, Murdock, (T.120, R.38, S.4, 5, 6, 9, 10, 11; T.120, R.39, S.1, 4, 9, 10, 11, 12): 7;

(72) Judicial Ditch No. 6, Hanska, (T.107, R.30, S.4; T.108, R.30, S.28, 33): 7;

(73) Judicial Ditch No. 10, Hanska, (T.108, R.30, S.1; T.109, R.30, S.35, 36): 7;

(74) Judicial Ditch No. 12, Tyler, (T.109, R.43, S.9, 15, 16, 17, 18): 7;

(75) Judicial Ditch No. 29, Arco, (T.111, R.44, S.21, 28, 33): 7;

(76) Judicial Ditch No. 30, Sleepy Eye, Del Monte Corporation, (T.109, R.32, S.4, 5, 6; T.110, R.32, S.31): 7;

(77) Judicial Ditch No. 49 (Providence Creek), Amboy, (T.105, R.27, S.18, 19; T.105, R.28, S.13): 7;

(78) Lac qui Parle River, (Lake Hendricks outlet to Minnesota River): 2C, 3B;

(79) Lac qui Parle River, West Fork, (South Dakota border to mouth): 2C, 3B;

(80) Lazarus Creek, (South Dakota border to Canby Creek): 2C, 3B;

(81) Le Sueur River, Little, (T.106, R.22): 2C;

(82) Lone Tree Creek, Tracy, (T.109, R.39, S.2, 3, 4, 7, 8, 9; T.110, R.38, S.19, 20, 30; T.110, R.39, S.25, 34, 35, 36): 7;

(83) Middle Creek, (T.113, 114, R.36): 2C;

(84) Mink Creek, (T.104, R.30, 31): 2C;

(85) Minneopa Creek, Lake Crystal, (T.108, R.28, S.26, 27, 32, 33, 34): 7;

(86) Minnesota River, (Big Stone Lake outlet to the Lac qui Parle dam): 1C, 2Bd, 3B;

(87) *Minnesota River, [11/5/84R] (Lac qui Parle dam to Granite Falls): 1C, 2Bd, 3B;

(88) *Minnesota River, [11/5/84R] (Granite Falls to Redwood County State Aid Highway 11 bridge): 2B, 3B;

(89) Minnesota River, (River Mile 22 to mouth): 2C, 3B;

(90) Minnesota River, Little, (South Dakota border crossing to Big Stone Lake): 2C, 3B;

(91) Morgan Creek, (T.109, R.29, 30): 2C;

(92) Mud Creek, (T.114, R.43, 44, 45): 2C;

(93) Mud Creek, DeGraff/Murdock, (T.121, R.37, S.31; T.121, R.38, S.18, 19, 20, 28, 29, 33, 34, 35, 36; T.121, R.39, S.11, 12, 13): 7;

(94) Muddy Creek (Mud Creek) (County Ditch No. 2) (County Ditch No. 4), Chokio, (T.124, R.42, S.6, 7, 15, 16, 17, 18, 21, 22, 23; T.124, R.43, S.1, 4, 5, 6, 7, 8; T.124, R.44, S.1, 2, 3, 12; T.125, R.43, S.34, 35, 36): 7;

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(95) Palmer Creek, (T.116, 117, 118, R.39): 2C;

(96) Pelican Creek, (T.130, R.41, 42): 2C;

(97) Pell Creek, Walnut Grove, (T.109, R.38, S.25, 26, 27, 28): 7;

(98) Perch Creek, (T.104, 105, 106, R.29, 30): 2C;

(99) Rice Creek, See County Ditch No. 12;

(100) Rush River, Middle Branch, Winthrop, (T.112, R.27, S.16, 19, 20, 21, 30; T.112, R.28, S.18, 19, 20, 21, 22, 25, 26, 27; T.112, R.29, S.7, 8, 9, 13, 14, 15, 16, 17, 18): 7;

(101) Saint James Creek (excluding Class 7 segment), (T.105, 106, R.31, 32, 33): 2C;

(102) Saint James Creek, Saint James, (T.106, R.31, S.5, 7, 8, 18; T.107, R.31, S.21, 22, 28, 32, 33): 7;

(103) Shakopee Creek, (T.119, 120, R.36, 37, 38, 39, 40): 2C;

(104) Silver Creek, (T.108, R.23, 24): 2C;

(105) Smith Creek, (T.113, R.35, 36): 2C;

(106) South Creek, (T.102, 103, R.28, 29, 30): 2C, 3B;

(107) Spring Branch Creek, (T.106, R.29, 30): 2C;

(108) Spring Creek, (T.110, 111, R.32, 33, 34): 2C;

(109) Spring Creek, (T.117, R.40): 2C;

(110) Stony Run, (T.121, 122, R.45, 46): 2C;

(111) Stony Run Creek, (T.116, R.40): 2C;

(112) Three Mile Creek, (T.112, R.33): 2C;

(113) Timms Creek, (T.114, 115, R.36): 2C;

(114) Unnamed Creek, Green Isle, (T.114, R.26, S.2, 3, 4, 8, 9, 17): 7;

(115) Unnamed Creek, Pennock, (T.118, R.37, S.2, 3, 4, 5; T.119, R.36, S.4, 5, 6, 7, 18, 19; T.119, R.37, S.24, 25, 26, 35): 7;

(116) Unnamed Creek, Murdock, (T.120, R.38, S.1, 2; T.121, R.38, S.35): 7;

(117) Unnamed Ditch, Burnsville Freeway Sanitary Landfill, (T.27, R.24, S.28, 33): 7;

(118) Unnamed Ditch, Bricelyn, Owatonna Canning Company, (T.101, R.25, S.10): 7;

(119) Unnamed Ditch, Alden, (T.102, R.23, S.4, 5; T.103, R.23, S.31, 32): 7;

(120) Unnamed Ditch, Truman, (T.104, R.30, S.2, 11; T.105, R.30, S.25, 26, 35): 7;

(121) Unnamed Ditch (County Ditch No. 47), New Richland, (T.105, R.22, S.17, 18, 19; T.105, R.23, S.24): 7;

(122) Unnamed Ditch, Lewisville, (T.105, R.30, S.3; T.106, R.30, S.14, 23, 26, 34, 35): 7;

(123) Unnamed Ditch, Waldorf, (T.106, R.24, S.34): 7;

(124) Unnamed Ditch (County Ditch No. 45), Waseca, (T.107, R.23, S.14, 23): 7;

(125) Unnamed Ditch, Jeffers, (T.107, R.36, S.21): 7;

(126) Unnamed Ditch, Storden, (T.107, R.37, S.19, 30): 7;

(127) Unnamed Ditch, Eagle Lake, (T.108, R.25, S.18, 19; T.108, R.26, S.13): 7;

(128) Unnamed Ditch, Walnut Grove, (T.109, R.38, S.28): 7;

(129) Unnamed Ditch, Tracy, (T.109, R.39, S.18; T.109, R.40, S.13): 7;

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(130) Unnamed Ditch, Wabasso, (T.110, R.36, S.3; T.111, R.36, S.18, 19, 20, 28, 29, 33, 34; T.111, R.37, S.13): 7;

(131) Unnamed Ditch, Lafayette, (T.111, R.29, S.6, 7, 8; T.111, R.30, S.12): 7;

(132) Unnamed Ditch, Wabasso, (T.111, R.37, S.13, 24): 7;

(133) Unnamed Ditch, Montgomery, (T.112, R.23, S.33): 7;

(134) Unnamed Ditch, Near Fernando, Round Grove Coop Cry., (T.113, R.30, S.5; T.114, R.29, S.19, 20, 30; T.114, R.30, S.25, 26, 27, 28, 29, 32): 7;

(135) Unnamed Ditch, Green Isle, (T.114, R.26, S.19; T.114, R.27, S.11, 12, 13, 14, 24): 7;

(136) Unnamed Ditch, Porter, (T.114, R.44, S.21, 28): 7;

(137) Unnamed Ditch, Bongards, Bongards Creameries, (T.115, R.25, S.9, 16): 7;

(138) Unnamed Ditch, Clarkfield, (T.115, R.41, S.16): 7;

(139) Unnamed Ditch, Clarkfield, (T.115, R.41, S.16, 21): 7;

(140) Unnamed Ditch, Madison, (T.118, R.44, S.27, 28, 34, 35): 7;

(141) Unnamed Ditch, Pennock, (T.119, R.36, S.2, 3, 4, 9, 10): 7;

(142) Unnamed Ditch, DeGraff, (T.121, R.38, S.19, 29, 30): 7;

(143) Unnamed Ditch, Hancock, (T.122, R.40, S.6; T.122, R.41, S.1, 12; T.123, R.40, S.18, 19, 30, 31; T.123, R.41, S.11, 12): 7;

(144) Unnamed Ditch, Alberta, (T.124, R.43, S.3, 4): 7;

(145) Unnamed Ditch, Farwell, Farwell Coop Cry. Assn., (T.126, R.39, S.6): 7;

(146) Unnamed Ditch, Lowry, (T.126, R.39, S.26, 35): 7;

(147) Unnamed Ditch, Brandon, (T.129, R.39, S.21, 22): 7;

(148) Unnamed Ditch, Evansville, (T.129, R.40, S.10, 11): 7;

(149) Unnamed Dry Run, Near Minneopa, Blue Earth - Nicollet Electric, (T.108, R.27, S.16): 7;

(150) Unnamed Dry Run, Mankato, Southview Heights Coop Association, (T.108, R.26, S.19, 30; T.108, R.27, S.24): 7;

(151) Unnamed Stream, Mankato, Midwest Electric Products, (T.109, R.26, S.20, 21, 28): 7;

(152) Unnamed Stream, Savage, (T.115, R.21, S.8, 9): 7;

(153) Unnamed Stream, Dawson, Dawson Mills Soy Isolate, (T.117, R.43, S.22): 7;

(154) Wabasha Creek, (T.112, R.34): 2C;

(155) Whetstone River, (South Dakota border to mouth): 2C, 3B;

(156) Old Whetstone River Channel, Ortonville, Big Stone Canning Company, (T.121, R.46, S.16, 21): 7;

(157) Willow Creek, (T.104, 105, R.31, 32): 2C;

(158) Wood Lake Creek, (T.113, 114, R.38, 39): 2C;

(159) Yellow Bank River, North Fork, (South Dakota border to mouth): 2C, 3B;

(160) Yellow Bank River, South Fork, (South Dakota border to mouth): 2C, 3B; and

(161) Yellow Medicine River, North Fork, (South Dakota border to mouth): 2C, 3B.

B. Lakes:

(1) Amber Lake, (T.102, R.30): 1C, 2Bd, 3B;

(2) Bardwell Lake, (T.102, R.30): 1C, 2Bd, 3B;

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(3) Budd Lake, (T.102, R.30): 1C, 2Bd, 3B;
(4) George Lake, (T.102, R.30): 1C, 2Bd, 3B;
(5) Hall Lake, (T.102, R.30): 1C, 2Bd, 3B;
(6) Mud Lake, (T.102, R.30): 1C, 2Bd, 3B;
(7) One Hundred Acre Slough, Saint James, (T.106, R.31, S.7): 7;
(8) Silver Lake, North, (T.101, R.30): 1C, 2Bd, 3B;
(9) Sisseton Lake, (T.102, R.30): 1C, 2Bd, 3B;
(10) Unnamed Marsh, Barry, (T.124, R.47, S.8): 7;
(11) Unnamed Slough, Kensington, (T.127, R.40, S.34): 7;
(12) Unnamed Slough, Brandon, (T.129, R.39, S.21, 22): 7;
(13) Unnamed Swamp, Minnesota Lake, (T.104, R.25, S.3, 4): 7;
(14) Unnamed Swamp, Storden, (T.107, R.37, S.30): 7;
(15) Unnamed Swamp, Sunburg, Sunburg Coop Cry., (T.122, R.36, S.30): 7;
(16) Unnamed Swamp, Lowry, (T.126, R.39, S.35, 36): 7; and
(17) Wilmert Lake, (T.101, R.30): 1C, 2Bd, 3B.

C. Fens:

(1) *Blackdog Preserve, [3/7/88P] (Waters within the Blackdog Preserve Scientific and Natural Area, Dakota County, T.27, R.24, S.27, 34): 2B, 3B;
(2) *Fish Hatchery fen, [3/7/88R] (T.110, R.26, S.14): 2B, 3B;
(3) *Fort Ridgely fen, [3/7/88R] (T.111, R.32, S.6): 2B, 3B;
(4) *Fort Snelling State Park fen, [3/7/88R] (T.27, R.23, S.4): 2B, 3B;
(5) *Le Sueur fen, [3/7/88R] (T.111, R.26, S.16): 2B, 3B;
(6) *Minnesota Valley fen, [3/7/88R] (T.27, R.24, S.27, 34): 2B, 3B;
(7) *Nicols Meadow fen, [3/7/88R] (T.27, R.23, S.18): 2B, 3B;
(8) *Ordway fen, [3/7/88R] (T.123, R.36, S.30): 2B, 3B;
(9) *St. Peter fen, [3/7/88R] (T.110, R.26, S.11): 2B, 3B;
(10) *Savage fen, [3/7/88R] (T.115, R.21, S.16, 17): 2B, 3B;
(11) *Sioux Nation fen, [3/7/88R] (T.114, R.46, S.17): 2B, 3B; and
(12) *Truman fen, [3/7/88R] (T.104, R.30, S.7): 2B, 3B.

Subp. 6. **Saint Croix River Basin.** The water use classifications for the listed waters in the Saint Croix River Basin are as identified in items A and B:

A. Streams:

(1) Bear Creek, (T.43, R.23, 24): 2C;
(2) Bergman Brook, (T.42, 43, R.23, 24): 2C;
(3) Groundhouse River, West Fork, (T.39, 40, R.26): 2C;
(4) Hay Creek, (T.42, 43, 44, R.15, 16): 1B, 2Bd, 3B;
(5) *Kettle River, [11/5/84R] (From the north Pine County line to the dam at Sandstone): 2B, 3B;
(6) *Kettle River, [11/5/84P] (From the dam at Sandstone to its confluence with the Saint Croix River): 2B, 3B;
(7) King Creek, (T.47, R.19): 2C;
(8) Mission Creek (excluding trout waters), (T.39, 40, 41, R.20, 21): 1B, 2Bd, 3B;
(9) Rock Creek, (T.37, 38, R.20, 21): 1B, 2Bd, 3B;
(10) Rush Creek, (T.37, R.20, 21): 1B, 2Bd, 3B;
(11) *Saint Croix River, [11/5/84R] (Wisconsin border crossing to Taylors Falls): 1B, 2Bd, 3B;

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(12) *Saint Croix River, [11/5/84R] (Taylors Falls to mouth): 1C, 2Bd, 3B;

(13) Sunrise River, West Branch, (T.34, R.21, 22): 1B, 2Bd, 3B;

(14) Tamarack River, Lower, (Hay Creek to mouth): 1B, 2Bd, 3B;

(15) Tamarack River, Upper (Spruce River), (T.42, R.15, 16): 1B, 2Bd, 3B;

(16) Unnamed Ditch, Chisago City, (T.34, R.20, S.19, 29, 30, 31, 32): 7;

(17) Unnamed Ditch, Almelund, Almelund Coop Cry., (T.35, R.20, S.25): 7;

(18) Unnamed Ditch, Moose Lake, (T.46, R.19, S.30): 7;

(19) Unnamed Dry Run, Wahkon, (T.41, R.25, S.3; T.42, R.25, S.29, 32, 33, 34): 7;

(20) Unnamed Stream, Shafer, (T.34, R.19, S.32, 33, 34): 7; and

(21) *Kettle River, [11/5/84P] (Waters within the Kettle River Scientific and Natural Area, Pine County, T.41, R.20): 2B, 3B.

B. Lakes:

(1) *Grindstone Lake, [3/7/88R] (T.42, R.21): 1B, 2A, 3B;

(2) Unnamed Swamp, Shafer, (T.34, R.19, S.31, 32): 7; and

(3) *Boot Lake, [11/5/84P] (Waters within the Boot Lake Scientific and Natural Area, Anoka County, T.33, R.22): 2B, 3B.

Subp. 7. **Lower Mississippi River Basin.** The water use classifications for the listed waters in the Lower Mississippi River Basin are as identified in items A, B, and C:

A. Streams:

(1) Albany Creek, West, (T.110, 111, R.12, 13): 2C;

(2) Bear Creek (excluding trout waters), (T.107, R.9): 2C;

(3) Brush Valley Creek, (T.104, R.5): 2C;

(4) *Cannon River, [11/5/84R] (From the northern city limits of Faribault to its confluence with the Mississippi River): 2B, 3B;

(5) Carters Creek, Wykoff, (T.103, R.12, S.4, 9, 15, 16, 22): 7;

(6) Chub Creek, North Branch, (T.112, 113, R.19): 2C;

(7) Cold Creek, (T.110, 111, R.14): 2C;

(8) County Ditch No. 15, Kilkenny, (T.110, R.23, S.22, 23): 7;

(9) Crane Creek, (T.107, 108, R.20, 21, 22): 2C;

(10) Dakota Creek, (T.105, R.5): 2C;

(11) Dry Creek, (T.108, R.12, 13): 2C;

(12) Dutch Creek, (T.112, R.20, 21): 2C;

(13) Gilmore Creek (excluding trout waters), (T.107, R.7): 2C;

(14) Harkcom Creek, (T.108, R.16): 2C;

(15) Homer Creek, (T.106, R.6): 2C;

(16) Indian Spring Creek, (T.103, R.5): 2C;

(17) Judicial Ditch No. 1, Hayfield, (T.105, R.17, S.4, 5; T.106, R.17, S.31, 32; T.106, R.18, S.25, 26, 27, 36): 7;

(18) King Creek, (T.111, R.11, 12): 2C;

(19) Long Creek, (T.108, 109, R.12): 2C;

(20) MacKenzie Creek, (T.108, 109, R.21): 2C;

(21) Mahoney Creek, (T.103, R.10): 2C;

(22) Mound Prairie Creek, (T.104, R.5): 2C;

(23) Mud Creek, (T.108, 109, R.20, 21): 2C;

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(24) Pine Creek, (T.112, 113, R.17, 18): 2C;
(25) Pleasant Valley Creek, (T.106, 107, R.6, 7): 2C;
(26) Plum Creek, (T.108, R.15): 2C;
(27) Prairie Creek, (T.110, 111, 112, R.18, 19, 20): 2C;
(28) Riceford Creek, Mabel, (T.101, R.8, S.24, 25, 26): 7;
(29) Salem Creek, (T.106, R.15, 16): 2C;
(30) Shingle Creek, (T.109, 110, R.17): 2C;
(31) Silver Creek (excluding trout waters), (T.104, 105, R.6): 2C;
(32) Silver Spring Creek, (T.108, 109, R.13): 2C;
(33) Snake Creek, (T.109, R.10): 2C;
(34) Sugar Creek (Sugarloaf Creek), (T.111, 112, R.12, 13): 2C;
(35) Sullivan Creek, (T.103, R.5): 2C;
(36) Trout Brook (Mazeppa Creek), Goodhue, (T.110, R.15, S.3, 4; T.111, R.15, S.28, 33, 34): 7;
(37) Trout Creek, Little, (T.106, R.5, 6): 2C;
(38) Trout Run Creek (Trout Creek) (excluding trout waters), (T.104, 105, R.10): 2C;
(39) Unnamed Creek, Canton, (T.101, R.9, S.20): 7;
(40) Unnamed Creek, Byron, (T.107, R.15, S.17, 20, 29): 7;
(41) Unnamed Creek, Plainview, (T.108, R.11, S.16, 17, 20, 21, 22, 27, 34): 7;
(42) Unnamed Creek, West Concord, (T.108, R.17, S.17, 20, 21): 7;
(43) Unnamed Creek, Hayfield, (T.105, R.17, S.3, 4): 7;
(44) Unnamed Ditch, Claremont, (T.107, R.18, S.27, 34): 7;
(45) Unnamed Ditch, Lonsdale, (T.112, R.22, S.25, 35, 36): 7;
(46) Unnamed Ditch, Hampton, (T.113, R.18, S.5, 6; T.114, R.18, S.31): 7;
(47) Unnamed Dry Run, Altura, (T.107, R.9, S.7, 18): 7;
(48) Unnamed Dry Run, Owatonna, Owatonna Canning Company, (T.107, R.20, S.6; T.107, R.21, S.1): 7;
(49) Unnamed Dry Run, Owatonna, Owatonna Canning Company, (T.107, R.20, S.6; T.107, R.21, S.1): 7;
(50) Unnamed Stream, Dodge Center, Owatonna Canning Company, (T.107, R.17, S.27, 34): 7; and
(51) Whitewater River, North Fork, Elgin, (T.108, R.12, S.25, 26, 27): 7.

B. Lakes:
(1) Unnamed Marsh, Kilkenny, (T.110, R.23, S.22, 23): 7; and
(2) Unnamed Swamp, Hampton, (T.113, R.18, S.8): 7.

C. Fens:
(1) *Cannon River fen, [3/7/88R] (T.111, R.20, S.34): 2B, 3B;
(2) *Kennedy fen, [3/7/88R] (T.105, R.7, S.15): 2B, 3B;
(3) *Rock Dell fen, [3/7/88R] (T.105, R.15, S.16): 2B, 3B; and
(4) *Perched Valley WMA fen, [3/7/88R] (T.112, R.13, S.8): 2B, 3B.

Subp. 8. **Cedar-Des Moines Rivers Basin.** The water use classifications for the listed waters in the Cedar-Des Moines Rivers Basin are as identified in items A and B:

A. Streams:
(1) Bancroft Creek, (T.103, 104, R.21): 2C;

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(2) Bear Creek (excluding Class 7 segment), (Source to Iowa border): 2C, 3B;

(3) Bear Creek, North Spring Grove, (T.101, R.7, S.26, 27, 35): 7;

(4) Beaver Creek, (T.101, 102, R.13, 14): 2C, 3B;

(5) Cedar River, Little, (Source to Iowa border): 2C, 3B;

(6) Clear Creek, (T.102, R.4): 2C;

(7) County Ditch No. 11, Sherburne, (T.101, R.32, S.4, 9, 10; T.102, R.32, S.7, 8, 16, 17, 21, 27, 28, 33, 34): 7;

(8) County Ditch No. 48, Conger, (T.102, R.22, S.19, 20; T.102, R.23, S.24, 25, 26, 35): 7;

(9) Deer Creek, (T.101, R.19, 20): 2C, 3B;

(10) Dobbins Creek, (T.103, R.16, 17): 2C;

(11) Goose Creek, Twin Lakes, (T.101, R.20, S.31; T.101, R.21, S.16, 17, 18, 21, 22, 26, 27, 35, 36; T.101, R.22, S.12, 13): 7;

(12) Heron Lake Outlet, (T.104, 105, R.37): 2C;

(13) Iowa River, Little, (T.101, 102, R.14): 2C;

(14) Jack Creek, Wilmont, (T.104, R.41, S.25, 26, 30, 31, 32, 33, 34, 35, 36): 7;

(15) Lime Creek, (T.101, R.22, 23): 2C, 3B;

(16) Murphy Creek, (T.103, R.18): 2C;

(17) Okabena Creek (excluding Class 7 segment), (T.102, 103, R.37, 38, 40): 2C;

(18) Okabena Creek, Worthington, Worthington Lagoons and Allied Mills, (T.102, R.38, S.6, 7; T.102, R.39, S.7, 8, 9, 10, 11, 12, 14, 15, 16, 18; T.102, R.40, S.13): 7;

(19) Orchard Creek, (T.102, R.18, 19): 2C;

(20) Pine Creek (excluding Class 7 segment), (T.101, R.10): 2C, 3B;

(21) Pine Creek, Harmony, (T.101, R.9, S.31; T.101, R.10, S.24, 25, 36): 7;

(22) Roberts Creek, (T.103, 104, R.16, 17, 18): 2C;

(23) Rose Creek, (T.102, 103, R.16, 17, 18): 2C;

(24) Soldier Creek, (T.101, R.32, 33): 2C, 3B;

(25) Turtle Creek, (T.103, R.18, 19, 20): 2C;

(26) Unnamed Creek, Spring Grove, (T.101, R.7, S.14, 22, 23, 27): 7;

(27) Unnamed Creek, Emmons, (T.101, R.22, S.31): 7;

(28) Unnamed Creek, Brownsdale, (T.103, R.17, S.4, 9): 7;

(29) Unnamed Creek, Blooming Prairie, (T.104, R.18, S.5, 8, 9, 16; T.105, R.18, S.31): 7;

(30) Unnamed Creek, Iona, (T.105, R.41, S.3, 4, 9; T.106, R.40, S.19, 29, 30, 32; T.106, R.41, S.24, 25, 26, 34, 35): 7;

(31) Wapsipinicon River, (T.101, R.15): 2C, 3B;

(32) Waterloo Creek, (T.101, R.6, 7): 1B, 2Bd, 3B;

(33) Wildcat Creek (excluding trout waters), (T.103, R.4): 2C;

(34) Wolf Creek, (T.103, R.16, 17, 18): 2C; and

(35) Woodbury Creek, (T.101, 102, R.18, 19): 2C.

B. Fens:

(1) *Heron Lake fen, [3/7/88R] (T.103, R.36, S.29): 2B, 3B;

(2) *Prairie Bush Clover, [3/7/88P] (Waters within the Prairie Bush Clover Scientific and Natural Area, Jackson County, T.103, R.35, S.17): 2B, 3B; and

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(3) *Thompson fen, [3/7/88R] (T.103, R.35, S.7): 2B, 3B.

Subp. 9. **Missouri River Basin.** The water use classifications for the listed waters in the Missouri River Basin are as identified in items A and B:

A. Streams:

(1) Ash Creek, (T.101, R.45): 2C;

(2) Beaver Creek, (T.102, 103, 104, R.45, 46, 47): 2C, 3B;

(3) Flandreau Creek (excluding Class 7 segment), (T.107, 108, R.46, 47): 2C, 3B;

(4) Flandreau Creek, Lake Benton, (T.108, R.46, S.1, 2, 11; T.109, R.45, S.30, 31; T.109, R.46, S.36): 7;

(5) Kanaranzi Creek, (Source to Iowa border): 2C, 3B;

(6) Medary Creek, (Source to South Dakota border): 2C, 3B;

(7) Mound Creek, (T.103, 104, R.45): 2C;

(8) Mud Creek, (T.101, 102, R.45, 46): 2C, 3B;

(9) Pipestone Creek, (Source to South Dakota border): 2C, 3B;

(10) Rock River (excluding Class 7 segment), (Source to Iowa border): 2C, 3B;

(11) Rock River, Holland, (T.107, R.44, S.18, 19, 20, 29; T.107, R.45, S.12, 13): 7;

(12) Rock River, Little, (Source to Iowa border): 2C, 3B;

(13) Sioux River, Little, (Source to Iowa border): 2C, 3B;

(14) Sioux River, West Fork Little, (Source to Iowa border): 2C, 3B;

(15) Skunk Creek, (T.101, 102, R.37, 38, 39): 2C;

(16) Split Rock Creek, (Split Rock Lake outlet to South Dakota border): 2C, 3B;

(17) Unnamed Creek, Jasper, (T.104, R.46, S.6): 7;

(18) Unnamed Creek, Hatfield, (T.105, R.44, S.6, 7, 8; T.105, R.45, S.1; T.106, R.45, S.36): 7;

(19) Unnamed Creek, Hatfield, (T.106, R.45, S.34, 35, 36): 7;

(20) Unnamed Ditch, Steen, (T.101, R.45, S.31, 32): 7;

(21) Unnamed Ditch, Hills, (T.101, R.46, S.28, 33): 7; and

(22) Unnamed Ditch, Lake Benton, (T.109, R.45, S.17, 19, 20): 7.

B. Fens:

(1) *Adrian fen, (T.102, R.43, S.11): 2B, 3B;

(2) *Burke State Wildlife Management Area fen, (T.106, R.44, S.28): 2B, 3B; and

(3) *Altona State Wildlife Management Area fen, (T.108, R.46, S.1; T.109, R.45, S.31): 2B, 3B.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914; 12 SR 1810; 15 SR 1057*

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