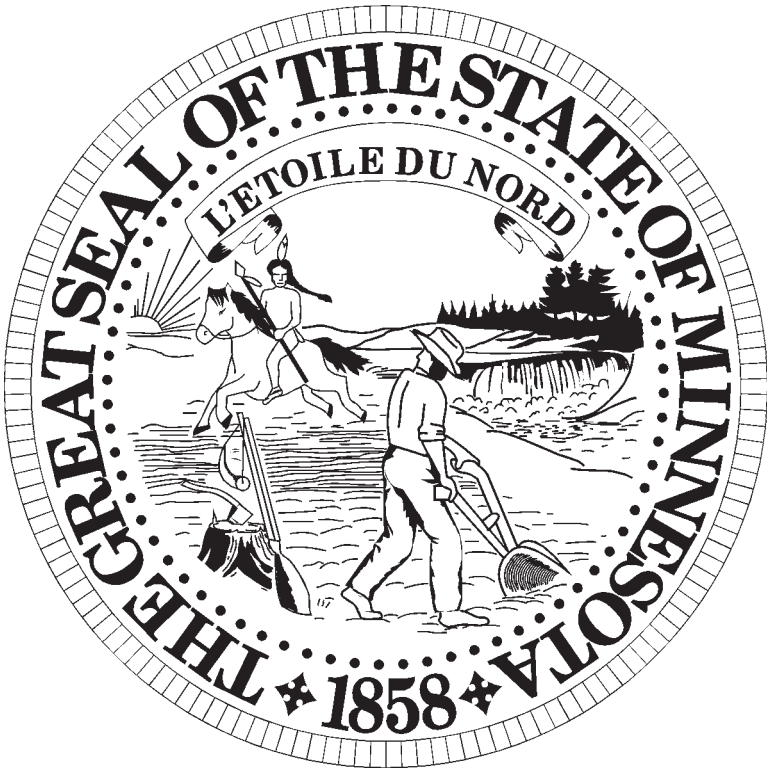
State of Minnesota

State Register



Rules, Executive Orders, Appointments,
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The *State Register* is the official publication of the State of Minnesota, published weekly to fulfill the legislative mandate set forth in *Minnesota Statutes* § 14.46. The *State Register* contains:

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Vol. 32 Issue Number	PUBLISH DATE (**BOLDFACE** shows altered publish date)	Deadline for: Emergency Rules, Executive and Commissioner's Orders, Revenue and Official Notices, State Grants, Professional-Technical-Consulting Contracts, Non-State Bids and Public Contracts	Deadline for Both Adopted and Proposed RULES
# 4	Monday 23 July	Noon Tuesday 17 July	Noon Wednesday 11 July
# 5	Monday 30 July	Noon Tuesday 24 July	Noon Wednesday 18 July
# 6	Monday 6 August	Noon Tuesday 31 July	Noon Wednesday 25 July
# 7	Monday 13 August	Noon Tuesday 7 August	Noon Wednesday 1 August

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Contents

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Minnesota Rules: Amendments and Additions

NOTICE: How to Follow State Agency Rulemaking in the State Register

The *State Register* is the official source, and only complete listing, for all state agency rulemaking in its various stages. State agencies are required to publish notice of their rulemaking action in the *State Register*. Published every Monday, the *State Register* makes it easy to follow and participate in the important rulemaking process. Approximately 80 state agencies have the authority to issue rules. Each agency is assigned specific **Minnesota Rule** chapter numbers. Every odd-numbered year the **Minnesota Rules** are published. The current 1999 set is a 13-volume bound collection of all adopted rules in effect at the time. Supplements are published to update this set of rules. Generally speaking, proposed and adopted exempt rules do not appear in this set because of their short-term nature, but are published in the *State Register*.

An agency must first solicit **Comments on Planned Rules** or **Comments on Planned Rule Amendments** from the public on the subject matter of a possible rulemaking proposal under active consideration within the agency (*Minnesota Statutes* §§ 14.101). It does this by publishing a notice in the *State Register* at least 60 days before publication of a notice to adopt or a notice of hearing, or within 60 days of the effective date of any new statutory grant of required rulemaking.

When rules are first drafted, state agencies publish them as **Proposed Rules,** along with a notice of hearing, or a notice of intent to adopt rules without a hearing in the case of noncontroversial rules. This notice asks for comment on the rules as proposed. Proposed emergency rules and withdrawn proposed rules are also published in the *State Register*. After proposed rules have gone through the comment period, and have been rewritten into their final form, they again appear in the *State Register* as **Adopted Rules.** These final adopted rules are not printed in their entirety in the *State Register*, only the changes made since their publication as Proposed Rules. To see the full rule, as adopted and in effect, a person simply needs two issues of the *State Register*, the issue the rule appeared in as proposed, and later as adopted. For a more detailed description of the rulemaking process, see the most current edition of the *Minnesota Guidebook to State Agency Services.*

The *State Register* features partial and cumulative listings of rules in this section on the following schedule: issues #1-13 inclusive; issues #14-25 inclusive; issue #26 cumulative for issues #1-26; issues #27-38 inclusive; issue #39, cumulative for issues #1-39; issues #40-51 inclusive; and issues #1-52 (or 53 in some years), cumulative for issues #1-52 (or 53). An annual subject matter index for rules was separately printed usually in August, but starting with Volume 19 now appears in the final issue of each volume. For copies or subscriptions to the *State Register,* contact Minnesota's Bookstore, 660 Olive Street (one block east of I-35E and one block north of University Ave), St. Paul, MN 55155 (612) 297-3000, or toll-free 1-800-657-3757.

Rules Index: Volume 32 - Issue # 1
Monday 2 July 2007

Proposed Rules

Comments on Planned Rules or Rule Amendments. An agency must first solicit Comments on Planned Rules or Comments on Planned Rule Amendments from the public on the subject matter of a possible rulemaking proposal under active consideration within the agency (*Minnesota Statutes* §§ 14.101). It does this by publishing a notice in the *State Register* at least 60 days before publication of a notice to adopt or a notice of hearing, and within 60 days of the effective date of any new statutory grant of required rulemaking.

Rules to be Adopted After a Hearing. After receiving comments and deciding to hold a public hearing on the rule, an agency drafts its rule. It then publishes its rules with a notice of hearing. All persons wishing to make a statement must register at the hearing. Anyone who wishes to submit written comments may do so at the hearing, or within five working days of the close of the hearing. Administrative law judges may, during the hearing, extend the period for receiving comments up to 20 calendar days. For five business days after the submission period the agency and interested persons may respond to any new information submitted during the written submission period and the record then is closed. The administrative law judge prepares a report within 30 days, stating findings of fact, conclusions and recommendations. After receiving the report, the agency decides whether to adopt, withdraw or modify the proposed rule based on consideration of the comments made during the rule hearing procedure and the report of the administrative law judge. The agency must wait five days after receiving the report before taking any action.

Rules to be Adopted Without a Hearing. Pursuant to *Minnesota Statutes* § 14.22, an agency may propose to adopt, amend, suspend or repeal rules without first holding a public hearing. An agency must first solicit **Comments on Planned Rules** or **Comments on Planned Rule Amendments** from the public. The agency then publishes a notice of intent to adopt rules without a public hearing, together with the proposed rules, in the *State Register*. If, during the 30-day comment period, 25 or more persons submit to the agency a written request for a hearing of the proposed rules, the agency must proceed under the provisions of §§ 14.14-14.20, which state that if an agency decides to hold a public hearing, it must publish a notice of intent in the *State Register*.

KEY: Proposed Rules - Underlining indicates additions to existing rule language. ~~Strikeouts~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." **Adopted Rules** - Underlining indicates additions to proposed rule language. ~~Strikeout~~ indicates deletions from proposed rule language.

Pollution Control Agency

Proposed Permanent Rules Relating to Water Quality

7001.1080 ESTABLISHMENT OF SPECIAL CONDITIONS FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS.

[For text of subpart 1, see M.R.]

Subp. 2. **Effluent limitations, standards, or prohibitions.** Except as provided in subpart 3, the commissioner shall establish effluent limitations, standards, or prohibitions for each pollutant to be discharged from each outfall or discharge point of the permitted facility; except that if the commissioner finds that as a result of exceptional circumstances it is not feasible to establish effluent limitations, standards, or prohibitions which are applicable at the point of discharge, the commissioner shall establish effluent limitations, standards, or prohibitions for pollutants in internal waste streams at the point prior to mixing with other waste streams or cooling water streams. In determining the appropriate effluent limitations, standards, or prohibitions the commissioner shall comply with the following requirements:

[For text of item A, see M.R.]

B. In establishing effluent limitations, standards, or prohibitions the commissioner shall consider the following:

[For text of subitems (1) and (2), see M.R.]

(3) the applicable water quality standards in parts 7050.0100 to 7050.0220, 7050.0300 to 7050.0380, 7055.0010 to 7055.0120, and 7055.0250 to 7055.0310~~, 7056.0010 to 7056.0040, 7065.0010 to 7065.0070, 7065.0100 to 7065.0160, 7065.0200 to 7065.0260, 7065.0300 to 7065.0350, and 7065.0400 to 7065.0450~~.

[For text of subitems (4) and (5), see M.R.]

[For text of items C and D, see M.R.]

[For text of subps 3 to 9, see M.R.]

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

7050.0110 SCOPE.

Parts 7050.0130 to 7050.0227 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 includes a classification system of beneficial uses applicable to waters of the state, narrative and numeric water quality standards that protect specific beneficial uses, nondegradation provisions, and other provisions to protect the physical, chemical, and biological integrity of waters of the state. Parts 7050.0400 to 7050.0470 classify all surface waters within or bordering Minnesota and designate the beneficial uses for which these waters

are protected. This chapter ~~shall apply~~ applies to point source and nonpoint source discharges and to the physical alterations of wetlands. Other water quality rules of general or specific application that include any more stringent water quality ~~or effluent~~ standards or prohibitions are preserved.

Effluent limits and treatment requirements for discharges of sewage, industrial wastes, and other wastes are located in chapter 7053.

7050.0130 GENERAL DEFINITIONS.

Subpart 1. **Scope.** For purposes of this chapter, the following terms have the meanings given them.

~~A.~~ Subp. 2. **Terms defined in statute.** The terms "waters of the state," ~~"sewage," "industrial wastes," and "other wastes,"~~"groundwater," "water pollution," and "toxic pollutants," as well as any other terms for which definitions are given in the pollution control statutes, as used herein have the meanings ~~ascribed~~ given 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~~ are not ~~be construed to be~~ "waters of the state."

Subp. 3. **Seven-day ten-year low flow or $7Q_{10}$.**

A. "Seven-day ten-year low flow" or "$7Q_{10}$" means the lowest average seven-day flow with a once in ten-year recurrence interval. A $7Q_{10}$ is derived by identifying the lowest average flow for a seven-consecutive-day period from daily flow records for each year of record, from a continuous flow gauging station. The seven-day average low flow values for each year are arrayed in order of magnitude and fitted to a probability distribution. The $7Q_{10}$ is the stream or river flow that is equal to or exceeded by 90 percent of the values in the distribution.

B. 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. Where stream flow records are not available, the flow may be estimated on the basis of available information on the watershed characteristics, precipitation, runoff, and other relevant data. The calculations shall not be applied to lakes and their embayments which have no comparable flow recurrence interval.

~~B.~~ Subp. 4. **Commissioner.** "Commissioner" means the commissioner of the Minnesota Pollution Control Agency or the commissioner's designee.

~~C.~~ Subp. 5. **Nonpoint source.** "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 11.

~~D. "Physical alteration" means the dredging, filling, draining, or permanent inundating of a wetland. Restoring a degraded wetland by reestablishing its hydrology is not a physical alteration.~~

~~E.~~ Subp. 6. **Surface waters.** "Surface waters" means waters of the state excluding groundwater as defined in *Minnesota Statutes*, section 115.01, subdivision 6.

~~F. "Wetlands" are those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes:~~

~~(1) a predominance of hydric soils;~~

~~(2) inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and~~

~~(3) under normal circumstances support a prevalence of such vegetation.~~

~~G.~~ Subp. 7. **Other terms.** Other terms and abbreviations used ~~herein which~~ in this chapter are defined in the part in which they are used. Terms and abbreviations used in this chapter that 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.

7050.0140 ~~USES OF~~ USE CLASSIFICATIONS FOR 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.~~

Subpart 1. **Introduction.** Based on considerations of best usage and the need for water quality protection in the interest of the public, and in conformance with the requirements of *Minnesota Statutes*, section 115.44, the waters of the state are grouped into one or more of the classes in subparts 2 to 8. The classifications are listed in parts 7050.0400 to 7050.0470. The classifications should not be construed to be ~~an~~ in order of priority, nor considered to be exclusive or prohibitory of other beneficial uses.

Subp. 2. **Class 1 waters, domestic consumption.** Domestic consumption includes all waters of the state that 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.

Subp. 3. **Class 2 waters, aquatic life and recreation.** Aquatic life and recreation includes all waters of the state that support or may support fish, other aquatic life, bathing, boating, or 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.

Subp. 4. **Class 3 waters, industrial consumption.** Industrial consumption includes all waters of the state that 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.

Subp. 5. **Class 4 waters, agriculture and wildlife.** Agriculture and wildlife includes all waters of the state that are or may be used for any agricultural 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.

Subp. 6. **Class 5 waters, aesthetic enjoyment and navigation.** Aesthetic enjoyment and navigation includes all waters of the state that 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.

Subp. 7. **Class 6 waters, other uses and protection of border waters.** Other uses includes all waters of the state that serve or may serve the uses in subparts 2 to 6 or any other beneficial uses not listed in this part, 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 declared purposes in this part, to conform with the requirements of the legally constituted state or national agencies having jurisdiction over such waters, or for any other considerations the agency may deem proper.

Subp. 8. **Class 7 waters, limited resource value waters.** Limited resource value waters include surface waters of the state that have been subject to a use attainability analysis and have been found to have limited value as a water resource. Water quantities in these waters are intermittent or less than one cubic foot per second at the $7Q_{10}$ flow as defined in part 7050.0130, subpart 3. 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. The use attainability analysis must take into consideration 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 use this information to determine the extent to which the waters of the state demonstrate that:

A. the existing and potential faunal and floral communities are severely limited by natural conditions as exhibited by poor water quality characteristics, lack of habitat, or lack of water;

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

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

The conditions in items A and C or B and C must be established by the use attainability analysis before the waters can be classified as limited resource value waters.

7050.0150 DETERMINATION OF ~~COMPLIANCE WITH~~ WATER QUALITY, BIOLOGICAL AND PHYSICAL CONDITIONS, AND COMPLIANCE WITH STANDARDS ~~AND WATER QUALITY CONDITION~~.

Subpart 1. **Policy and scope.** The intent of the state is to protect and maintain surface waters in a condition which allows for the maintenance of all existing beneficial uses. The condition of a surface water body is determined by its physical, chemical, and biological qualities. The agency shall determine an exceedance of water quality standards or an impaired condition based on pollution of the waters of the state from point and nonpoint sources that has resulted in degradation of the physical, chemical, or biological qualities of the water body to the extent that attainable or previously existing beneficial uses are actually or potentially lost.

The narrative water quality standards in subpart 3 prescribe the qualities or properties of surface waters that are necessary for the protection of designated public uses and benefits. If the narrative 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 the designated uses of the waters of the state.

Subparts 5 to 7 list factors the commissioner will use to determine if surface waters are in compliance with applicable narrative standards in subpart 3. Determination of compliance with the narrative standards will be made for individual water bodies on a casebycase basis.

Subp. 2. **Other standards preserved.** The requirements of this part are in addition to the application of other narrative or ~~numerical~~ numeric water quality standards in this chapter. If the requirements of this part conflict with any other narrative or ~~numerical~~ numeric standard in this chapter, the more stringent standard applies.

[For text of subp 3, see M.R.]

Subp. 4. **Definitions.** For the purposes of this part, the following terms have the meanings given them.

A. "122-day ten-year low flow" or "$122Q_{10}$" means the lowest average 122-day flow with a once in ten-year recurrence interval. A $122Q_{10}$ is derived using the same methods used to derive a $7Q_{10}$, and the guidelines regarding period of record for flow data and estimating a $7Q_{10}$ apply equally to determining a $122Q_{10}$, as described in part 7050.0130, subpart 3.

B. "Altered materially," "material increase," "material manner," "seriously impaired," and "significant increase," as used in subparts

3, 5, and 6, mean that pollution of the waters of the state has resulted in degradation of the physical, chemical, or biological qualities of the water body to the extent that attainable or previously existing beneficial uses are actually or potentially lost.

~~B.~~ C. "Chlorophyll-a" means a pigment in green plants including algae. The concentration of chlorophyll-a, expressed in weight per unit volume of water, is a measurement of the abundance of algae.

~~C.~~ D. "Ecoregion" means an area of relative homogeneity in ecological systems based on similar soils, land use, land surface form, and potential natural vegetation.

E. "Eutrophication" means the increased productivity of the biological community in water bodies in response to increased nutrient loading. Eutrophication is characterized by increased growth and abundance of algae and other aquatic plants, reduced water clarity, reduction or loss of dissolved oxygen, and other chemical and biological changes. The acceleration of eutrophication due to excess nutrient loading from human sources and activities, called cultural eutrophication, causes a degradation of lake quality and possible loss of beneficial uses.

F. "Fish and other biota" and "lower aquatic biota" mean the aquatic community including, but not limited to, game and nongame fish, minnows and other small fish, mollusks, insects, crustaceans and other invertebrates, submerged or emergent rooted vegetation, suspended or floating algae, substrate-attached algae, and microscopic organisms. "Other biota" includes aquatic or semiaquatic organisms that depend on aquatic systems for food or habitat such as amphibians and certain wildlife species.

~~D.~~ G. "Hydraulic residence time" means the time water resides in a basin or, alternately, the time it would take to fill the basin if it were empty.

~~E.~~ H. "Impaired water" or "impaired condition" means a water body that does not meet applicable water quality standards or fully support applicable beneficial uses, due in whole or in part to water pollution from point or nonpoint sources, or any combination thereof.

~~F.~~ I. "Index of biological integrity" or "IBI" means an index developed by measuring attributes of an aquatic community that change in quantifiable and predictable ways in response to human disturbance, representing the health of that community.

J. "Lake" means an enclosed basin filled or partially filled with standing fresh water with a maximum depth greater than 15 feet. Lakes may have no inlet or outlet, an inlet or outlet, or both an inlet and outlet.

~~G.~~ K. "Lake morphometry" means the physical characteristics of the lake basin that are reasonably necessary to determine the shape of a lake, such as maximum length and width, maximum and mean depth, area, volume, and shoreline configuration.

~~H.~~ L. "Mixing status" means the frequency of complete mixing of the lake water from surface to bottom, which is determined by whether temperature gradients are established and maintained in the water column during the summer season.

M. "Measurable increase" or "measurable impact" means a change in trophic status that can be discerned above the normal variability in water quality data using a weight of evidence approach. The change in trophic status does not require a demonstration of statistical significance to be considered measurable. Mathematical models may be used as a tool in the data analysis to help predict changes in trophic status.

N. "Natural causes" means the multiplicity of factors that determine the physical, chemical, or biological conditions that would exist in a water body in the absence of measurable impacts from human activity or influence.

~~I.~~ O. "Normal fishery" and "normally present" mean the fishery and other aquatic biota expected to be present in the water body in the absence of pollution of the water, consistent with any variability due to natural hydrological, substrate, habitat, or other physical and chemical characteristics. Expected presence is based on comparing the aquatic community in the water body of interest to the aquatic community in representative reference water bodies.

~~J.~~ P. "Nuisance algae bloom" means an excessive population of algae that is characterized by obvious green or bluegreen pigmentation in the water, floating mats of algae, reduced light transparency, aesthetic degradation, loss of recreational use, possible harm to the aquatic community, or possible toxicity to animals and humans. Algae blooms are measured through tests for chlorophyll-a, observations using a Secchi disk, and observations of impaired recreational and aesthetic conditions by the users of the water body, or any other reliable data that identifies the population of algae in an aquatic community.

~~K.~~ Q. "Readily available and reliable data and information" means chemical, biological, and physical data and information determined by the commissioner to meet the quality assurance and quality control requirements in subpart 8, that are not more than ten years old from the time they are used for the assessment. A subset of data in the ten-year period, or data more than ten years old can be used if credible scientific evidence shows that these data are representative of current conditions.

~~L.~~ R. "Reference water body" means a water body least impacted by point or nonpoint sources of pollution that is representative of water bodies in the same ecoregion or watershed. Reference water bodies are used as a base for comparing the quality of similar water bodies in the same ecoregion or watershed.

S. "Reservoir" means a body of water in a natural or artificial basin or watercourse where the outlet or flow is artificially controlled by a structure such as a dam. Reservoirs are distinguished from river systems by having a hydraulic residence time of at least 14 days. For purposes of this item, residence time is determined using a flow equal to the $122Q_{10}$ for the months of June through September, a $122Q_{10}$ for the summer months.

~~M.~~ T. "Secchi disk transparency" means the average water depth of the point where a weighted white or black and white disk

disappears when viewed from the shaded side of a boat, and the point where it reappears upon raising it after it has been lowered beyond visibility. The Secchi disk measures water clarity and is usually used in lakes.

U. "Shallow lake" means an enclosed basin filled or partially filled with standing fresh water with a maximum depth of 15 feet or less or with 80 percent or more of the lake area shallow enough to support emergent and submerged rooted aquatic plants (the littoral zone). It is uncommon for shallow lakes to thermally stratify during the summer. The quality of shallow lakes will permit the propagation and maintenance of a healthy indigenous aquatic community and they will be suitable for boating and other forms of aquatic recreation for which they may be usable. For purposes of this chapter, shallow lakes are differentiated from wetlands and lakes on a case-by-case basis. Wetlands are defined in part 7050.0186, subpart 1a.

~~N.~~ V. "Summer-average" means a representative average of concentrations or measurements of nutrient enrichment factors, taken over one summer growing season from June 1 through September 30.

~~O.~~ W. "Transparency tube" means a graduated clear plastic tube, 24 inches or more in length by 1-1/2 inches in diameter, with a stopper at the bottom end, the inside surface of which is painted black and white. The tube is filled with water from a surface water; the water is released through a valve at the bottom end until the painted surface of the stopper is just visible through the water column when viewed from the top of the tube. The depth of water at the point of initial visibility is the transparency. The transparency tube measures water clarity and is usually used in rivers and streams.

~~P.~~ X. "Trophic status or condition" means the productivity of a lake as measured by the phosphorus content, algae abundance, and depth of light penetration.

~~Q.~~ Y. "Water body" means a lake, reservoir, wetland, or a geographically defined portion of a river or stream.

Subp. 5. **Impairment of waters due to excess algae or plant growth.** In evaluating whether the narrative standards in subpart 3, which prohibit any material increase in undesirable slime growths or aquatic plants including algae, are being met, the commissioner will use all readily available and reliable data and information for the following factors of use impairment:

A. representative summer-average concentrations of total phosphorus and total nitrogen measured in the water body throughout the summer growing season;

B. representative summer-average concentrations of chlorophyll-a measured in the water body throughout the summer growing season;

C. representative measurements of light transparency in the water body, as measured with a Secchi disk in lakes or a transparency tube in rivers and streams, throughout the growing season; and

D. any other scientifically objective, credible, and supportable factor.

A finding of an impaired condition must be supported by data showing elevated levels of nutrients in item A, and at least one factor showing impaired conditions resulting from nutrient over-enrichment in items B and C. The trophic status data described in items A to D must be assessed in light of the magnitude, duration, and frequency of nuisance algae blooms in the water body; and documented impaired recreational and aesthetic conditions observed by the users of the water body due to excess algae or plant growth, reduced transparency, or other deleterious conditions caused by nutrient over-enrichment.

Assessment of trophic status and the response of a given water body to nutrient enrichment will take into account the trophic status of reference water bodies; and all relevant factors that affect the trophic status of the given water body appropriate for its geographic region, such as the temperature, morphometry, hydraulic residence time, mixing status, watershed size, and location. The factors in this subpart apply to lakes, shallow lakes, and reservoirs and, where scientifically justified, to rivers, streams, and wetlands.

[For text of subps 6 to 8, see M.R.]

7050.0185 NONDEGRADATION FOR ALL WATERS.

Subpart 1. **Policy.** ~~The potential capacity of the water to assimilate additional wastes and~~ The beneficial uses inherent in water resources are valuable public resources. It is the policy of the state ~~of Minnesota~~ to protect all waters from significant degradation from point and nonpoint sources and wetland alterations~~;~~ and to maintain existing water uses~~;~~ and aquatic and wetland habitats~~, and the level of water quality necessary to protect these uses~~. Existing beneficial uses and the water quality necessary to protect the existing uses must be maintained and protected from point and nonpoint sources of pollution.

It is the policy of the agency that water quality conditions that are better than applicable water quality standards and are better than levels necessary to support existing beneficial uses must be maintained and protected unless the commissioner finds that, after full satisfaction of this part, a lowering of water quality is acceptable. In allowing a lowering of water quality, the existing beneficial uses must be fully maintained and protected and the provisions in subpart 3 must be applied.

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

[For text of items A to F, see M.R.]

G. "Significant discharge" means:

[For text of subitems (1) and (2), see M.R.]

(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~~ $7Q_{10}$ flow of the receiving water as defined in part ~~7050.0210~~ 7050.0130, subpart ~~7~~ 3; 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 water quality standards of this chapter and effluent ~~limitations and water quality standards of this chapter and shall maintain all existing, beneficial uses in the receiving waters~~ limits in chapter 7053 and other applicable federal and state point source treatment requirements. Nonpoint sources of pollution shall be controlled as required by this chapter, chapters 7020 and 7080, and any other applicable federal or state requirements. All existing beneficial uses shall be maintained in the receiving waters.

[For text of subps 4 to 9, see M.R.]

7050.0186 WETLAND ~~MITIGATION~~ STANDARDS AND MITIGATION.

Subpart 1. **Policy and wetland beneficial uses.** It is the policy of the state to protect wetlands ~~from significant adverse impacts on wetland designated uses~~ and prevent significant adverse impacts on wetland beneficial uses caused by chemical, physical, biological, or radiological changes. ~~Wetland mitigation maintains nondegradation of wetland designated uses.~~ The quality of wetlands shall be maintained to permit the propagation and maintenance of a healthy community of aquatic and terrestrial species indigenous to wetlands, preserve wildlife habitat, and support biological diversity of the landscape. In addition, these waters shall be suitable for boating and other forms of aquatic recreation as specified in part 7050.0222, subpart 6; general industrial use as specified in part 7050.0223, subpart 5; irrigation, use by wildlife and livestock, erosion control, groundwater recharge, low flow augmentation, stormwater retention, and stream sedimentation as specified in part 7050.0224, subpart 4; and aesthetic enjoyment as specified in part 7050.0225, subpart 2.

Subp. 1a. **Definitions.**

A. "Physical alteration" means the dredging, filling, draining, or permanent inundating of a wetland. Restoring a degraded wetland by reestablishing its hydrology is not a physical alteration.

B. "Wetlands" are those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes:

(1) a predominance of hydric soils;

(2) inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and

(3) under normal circumstances, support a prevalence of such vegetation.

Subp. 1b. **Wetland pollution prohibited.** Wetland conditions shall be protected from chemical, physical, biological, or radiological changes to prevent significant adverse impacts to the designated beneficial uses listed in subpart 1. The nondegradation provisions in this chapter are applicable to wetlands.

Subp. 2. **Wetland mitigation principles.** The wetland mitigative sequence incorporates the ~~following~~ principles in items A to C in descending order of priority~~:~~. *Wetland mitigation* maintains nondegradation of wetland designated uses:

[For text of items A to C, see M.R.]

[For text of subps 3 to 6, see M.R.]

7050.0190 VARIANCE FROM STANDARDS.

Subpart 1. **~~Standard~~ Variance.** 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~~ shall be advised of any ~~permits which~~ variances that may be issued under this ~~clause~~ part 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~~ The list ~~shall~~ must be available for public inspection and ~~shall~~ must be provided to the United States Environmental Protection Agency. ~~This~~ The list ~~shall~~ must 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 from water quality standards granted by the agency under this part shall be subject to agency and public

review at least every three years. Variances from discharge effluent limits and treatment requirements are granted by the agency under parts 7000.7000 and 7053.0195. Variances may be modified or suspended under the procedures in part 7000.7000.

7050.0210 GENERAL STANDARDS FOR ~~DISCHARGERS TO~~ WATERS OF THE STATE.

Subpart 1. [See repealer.]

[For text of subp 2, see M.R.]

Subp. 3. [See repealer.]

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

Subp. 5. **Mixing zones.** Reasonable allowance will be made for dilution of the effluents, which are in compliance with ~~part 7050.0211 or 7050.0212~~ this chapter and chapter 7053, as applicable, following discharge into waters of the state. The agency, by allowing dilution, ~~may~~ will 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 as specified in part 7053.0205, subpart 7, shall not violate the applicable water quality standards~~. 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~~ in this chapter and chapter 7052, including the nondegradation requirements contained in those chapters. This subpart also applies in cases where a Class 7 water is tributary to a Class 2 water.

Mixing zones must be established by the agency on an individual basis, with primary consideration being given to the following guidelines:

[For text of items A to E, see M.R.]

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. 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~~ this chapter 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~~ Point and nonpoint sources of water pollution shall be controlled so that the water quality standards will be maintained at all stream flows ~~which~~ that 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 tenyear recurrence interval) for the critical month(s), except for the purpose of setting ammonia effluent limits. Dischargers of ammonia in sewage, industrial waste, or other wastes shall be controlled so that the ammonia water quality standard will be maintained at all stream flows which are equal to or exceeded by 90 percent of the 30 consecutive daily average flows of record (the lowest 30day 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, runoff, and other relevant data~~ greater than the $7Q_{10}$ for the critical month or months, unless another flow condition is specifically stated as applicable in this chapter.

~~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. 9. [See repealer.]

Subp. 10. [See repealer.]

Subp. 12. [See repealer.]

[For text of subp 13, see M.R.]

Subp. 13a. [See repealer.]

Subp. 15. [See repealer.]

Subp. 17. [See repealer.]

Subp. 18. [See repealer.]

7050.0217 OBJECTIVES FOR PROTECTION OF SURFACE WATERS FROM TOXIC POLLUTANTS.

Subpart 1. **Purpose and applicability.** The purpose of ~~parts 7050.0217~~ this part and part 7050.0218 ~~are~~ is to establish methods for

developing site-specific water quality criteria for toxic pollutants in the absence of ~~numerical~~ numeric standards listed in parts ~~7050.0221 to 7050.0227~~ 7050.0220, 7050.0222, and 7050.0227. The site-specific ~~numerical~~ numeric criteria established by these methods protect ~~Class 1 surface waters for public and private domestic consumption and~~ Class 2 waters for the propagation and maintenance of fish and aquatic life, the consumption of fish and edible aquatic life by humans, the use of surface waters for public and private domestic consumption where applicable, 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 parts ~~7050.0221 to~~ 7050.0140 and 7050.0227.

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 7050.0222, subpart 7, item D.

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.

7050.0218 METHODS FOR ~~PROTECTION OF SURFACE WATERS FROM~~ DETERMINATION OF CRITERIA FOR TOXIC POLLUTANTS, FOR WHICH ~~NUMERICAL~~ NUMERIC STANDARDS NOT PROMULGATED.

Subpart 1. **Purpose.** The ~~numerical~~ Class 2 and Class 7 numeric water quality standards for toxic pollutants in parts ~~7050.0221 to~~ 7050.0220, 7050.0222, and 7050.0227 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 sitebysite and casebycase basis the discharge into surface waters of toxic pollutants not listed in parts ~~7050.0221 to~~ 7050.0220, 7050.0222, and 7050.0227.

The agency may also adopt new standards according to *Minnesota Statutes*, chapter 14, to replace those listed in parts ~~7050.0221 to~~ 7050.0220 to 7050.0227 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 parts 7050.0221 to 7050.0227~~.** Class 2 and Class 7 sitespecific criteria for toxic pollutants ~~not listed in parts 7050.0221 to 7050.0227~~ shall be derived by the commissioner using the procedures in this part.

[For text of items A and B, see M.R.]

Subp. 3. **Definitions.** For the purposes of parts 7050.0217 to 7050.0227, the following terms have the meanings given them.

[For text of items A to C, see M.R.]

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, diet, and bottom sediments, divided by the average concentration in the solution in which the organism had been living, under steady state conditions.

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, under steady state conditions.

[For text of items F and G, see M.R.]

H. "Chronic criterion" or "CC" means the highest water concentration of a toxicant or effluent to which organisms, including humans or wildlife, can be exposed indefinitely without causing chronic toxicity. "CC_{df}" means a chronic criterion based on protecting humans from exposure to the pollutant from both drinking water and eating sportcaught fish. "CC_{f}" means a chronic criterion based on protecting humans from exposure to the pollutant from eating sportcaught fish only. "CC_{w}" means a chronic criterion based on protecting wildlife from exposure to the pollutant from eating aquatic organisms.

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~~ parts 7050.0220 and 7050.0222.

[For text of items J to N, see M.R.]

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~~ 7053.0215, subpart 1; ~~7050.0212~~ 7053.0225, subpart 6; and ~~7050.0214~~ 7053.0245, subpart 1.

[For text of item P, see M.R.]

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 chemicalspecific 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.~~ R. "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.~~ S. "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.~~ T. "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 7050.0222.

~~V.~~ U. "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.~~ V. "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.~~ W. "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 twophase 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.~~ X. "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 density 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.~~ Y. "Percent effluent" means the representation of acute or chronic toxicity of an effluent as a percent of whole effluent mixed in dilution water, where acute toxicity is expressed by LC50s or EC50s and chronic toxicity is expressed by NOAELs.

~~AA.~~ 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~~, mg/kg/day.

AA. "Relative source contribution factor" or "RSC" 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 chemicalspecific RSC value, the RSC is 0.2.

[For text of items BB to HH, see M.R.]

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 Numerical 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.

[For text of item A, see M.R.]

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 and wetlands. Cool and warm water fisheries (Class 2Bd, 2B, and 2C) waters are defined in part 7050.0430 or listed in part 7050.0470. Wetlands (Class 2D) waters are defined in p~~art 705~~0.0425 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, and 2D criteria.

[For text of subitems (2) and (3), see M.R.]

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

[For text of units (a) to (f), see M.R.]

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

$$S^2 = \frac{\Sigma((\ln GMAV)^2)-((\Sigma(\ln GMAV))^2/4)}{\Sigma(P)-((\Sigma(\text{square root of } P))^2/4)}$$

~~L =~~ ~~(~~Σ(ln GMAV)-S(Σ(square root of P))~~)/4~~

$$L = \frac{\Sigma(\ln GMAV) - S(\Sigma(\text{square root of } P))}{4}$$

A = S(square root of 0.05) + L

$FAV = e^{A}$

where: FAV = final acute value
N = number of GMAVs
P = rank/N+1
ln = natural logarithm to base e
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, and 2D waters, the FAV for ~~the Class 2Bd, 2B, and 2C~~ these water classes is lower than the FAV for Class 2A waters, the Class 2Bd, 2B, ~~and~~ 2C, or 2D FAV will be changed to equal the Class 2A FAV, unless the lower Class 2Bd, 2B, ~~and~~ 2C, or 2D FAV is justified based on the available toxicological data.

[For text of subitems (6) and (7), see M.R.]

[For text of item C, see M.R.]

[For text of subp 5, see M.R.]

Subp. 6. **Human healthbased criteria.** Human healthbased 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 (includes Class 2A and 2Bd 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:

$$\text{~~dfCC~~ } CC_{df} \text{ mg/L} = \frac{\text{RfD mg/kg/day x 70 kg x ~~K~~ RSC}}{\text{2 L/day + [0.030 kg/day x ~~(~~BAF~~)~~]}}$$

where: ~~dfCC~~ CC_{df} = drinking water plus fish consumption chronic 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)~~
RSC = relative source contribution factor (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.~~ L/kg

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

$$\text{~~fCC~~ } CC_{f} \text{ mg/L} = \frac{\text{RfD mg/kg/day x 70 kg x ~~K~~ RSC}}{\text{0.01 L/day + [0.030 kg/day x ~~(~~BAF~~)~~]}}$$

where: ~~fCC~~ CC_{f} = fish consumption chronic criterion in mg/L
0.01 L/day = assumed incidental ingestion of water~~.~~
other variables as previously identified

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

~~dfCC~~ CC_{df} mg/L = $\frac{70 \text{ kg} \times 10\ 5}{1^* \times [2 \text{ L/day} + (0.030 \text{ kg/day} \times \text{~~(~~BAF)}]}$

where: 10 -5 = a cancer risk level of one chance in 100,000
1* = the cancer potency factor in days ~~x~~ times kg/mg~~.~~
other variables as previously identified

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

~~fCC~~ CC_f mg/L = $\frac{70 \text{ kg} \times 10\ -5}{1^* \times [0.01 \text{ L/day} + (0.030 \text{ kg/day} \times \text{(BAF)}]}$

where: variables as previously identified

E. A default ~~exposure value (K)~~ relative source qcontribution factor (RSC) of 0.2 ~~will~~ must 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.

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.

[For text of items A to C, see M.R.]

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 Kow values greater than six. The equation is: ~~log10 BCF = 0.79 log10 Kow value 0.40.~~

log10 BCF = 0.79 log10 Kow 0.40

where: log10 Kow = 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 quantitative structure activity relationships. The average percent lipid of the organisms used to establish this relationship is 7.6.

[For text of subitems (2) to (4), see M.R.]

[For text of subp 8, see M.R.]

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).

[For text of item A, see M.R.]

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

~~WCC~~ CC_w mg/L = $\frac{\text{NOAEL} \times \text{BWt} \times \text{SSF}}{\text{DW} + (\text{F} \times \text{BAF})}$

where: ~~WCC~~ CC_w = wildlife ~~CC~~ chronic criterion in 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.

[For text of item C, see M.R.]

D. A final BAF for calculating a wildlife chronic criterion ~~(WCC)~~ (CC_w) 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~~ CC_w applicable to Class 2A waters.

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

[For text of subitems (3) to (5), see M.R.]

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.

A. Applicable criteria for Class 2A, 2Bd, 2B, ~~and~~ 2C, and 2D 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~~ CC_{df} or ~~fCC~~ CC_f 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~~ CC_w from subpart 9.

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

(1) a ~~WCC~~ CC_w 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~~ 7050.0140.

C. ~~In~~ If the sitespecific application of criteria developed in this subpart is used 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 7050.0222, subpart 7, items B to E, ~~shall~~ apply.

7050.0220 SPECIFIC WATER QUALITY STANDARDS ~~OF QUALITY AND PURITY~~ BY ASSOCIATED USE CLASSES.

Subpart 1. ~~**General**~~ **Purpose and scope.** The ~~numerical~~ numeric and narrative water quality standards in ~~parts 7050.0221 to 7050.0227~~ this chapter 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~~ chapter 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.

~~Standards for metals are expressed as total metal but must be converted to dissolved metal standards to determine water qualitybased effluent limits. Water quality-based effluent limits for metals are expressed as total metal. Conversion factors for converting total to dissolved metal standards are listed in part 7050.0222, subpart 9. The conversion factor for metals not listed in part 7050.0222, subpart 9, is one. The dissolved metal standard equals the total metal standard times the conversion factor.~~

~~The~~ All surface waters are protected for multiple beneficial uses. Numeric water quality standards are ~~listed for associated classes in tables under~~ tabulated in this part for all uses applicable to four common categories of surface waters, so that all applicable standards for each category are listed together in subparts 3a to 6a. The four categories are:

A. ~~subpart 3a,~~ cold water sport fish (trout waters), also protected for drinking water: Classes 1B, 2A, 3A or 3B, 4A and 4B, and 5 (subpart 3a);

B. ~~subpart 4a,~~ cool and warm water sport fish, also protected for drinking water: Classes 1B or 1C, 2Bd, 3A or 3B, 4A and 4B, and 5 (subpart 4a);

C. ~~subpart 5a,~~ cool and warm water sport fish, indigenous aquatic life, and wetlands: Classes 2B, 2C, or 2D; 3A, 3B, 3C, or 3D; 4A and 4B or 4C; and 5 (subpart 5a); and

D. ~~subpart 6a,~~ limited resource value waters: Classes 3C, 4A and 4B, 5, and 7 (subpart 6a).

Subp. 2. **Explanation of tables.**

A. Class 1 domestic consumption (DC) standards ~~listed in the tables in subparts 3a and 4a~~ are the United States Environmental Protection Agency primary (maximum contaminant levels) and secondary drinking water standards, as contained in *Code of Federal Regulations*, title 40, ~~part~~ parts 141 and 143, ~~subparts B and G, and part 143 (1992); and sections 141.61 and 141.62~~ as amended through July ~~17~~ 1, ~~1992, excluding the bacteriological, radiological, treatment technological, and water treatment additive standards~~ 2004. The DC standards are listed in subparts 3a and 4a, except that individual pollutants, substances, or organisms in the treatment technological, disinfectants, microbiological, and radiological categories are not listed unless they are listed because a secondary drinking water standard or a standard for another use class exists.

B. Certain drinking water standards are not applicable to Class 1 waters. The following are not applicable to Class 1 surface waters: the primary drinking water standards for acrylamide, epichlorohydrin, copper, lead, and turbidity (treatment technique standards) and the standards in the disinfectants and microbiological organisms categories. The drinking water standards not applicable to Class 1 ground waters are listed in part 7050.0221.

C. Class 2 standards for metals are expressed as total metal in subparts 3a to 5a, but must be converted to dissolved metal standards for application to surface waters. Conversion factors for converting total metal standards to dissolved metal standards are listed in part 7050.0222, subpart 9. The conversion factor for metals not listed in part 7050.0222, subpart 9, is one. The dissolved metal standard equals the total metal standard times the conversion factor. Water qualitybased effluent limits for metals are expressed as total metal.

D. The tables of standards in subparts 3a to 6a include the following abbreviations and acronyms:

AN means aesthetic enjoyment and navigation, Class 5 waters

* an asterisk following the FAV and MS values or double dashes (--) means part 7050.0222, subpart 7, item E, applies

(c) means the chemical is assumed to be a human carcinogen

CS ~~or "~~means chronic standard~~" means the highest water concentration of a toxicant to which organisms can be exposed indefinitely without causing chronic toxicity~~, defined in part 7050.0218, subpart 3

DC means domestic consumption (drinking water), Class 1 waters

-- double dashes means there is no standard

exp. () means the natural antilogarithm (base e) of the expression in parenthesis

FAV ~~or "~~means final acute value~~" 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~~, defined in part 7050.0218, subpart 3

IC means industrial consumption, Class 3 waters

IR means agriculture irrigation use, Class 4A waters

LS means agriculture livestock and wildlife use, Class 4B waters

MS ~~or "~~means maximum standard~~" 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~~, defined in part 7050.0218, subpart 3

NA means not applicable

(S) means the associated value is a secondary drinking water standard

su means "standard unit." It is the reporting unit for pH

TH means total hardness in mg/L, which is the sum of the calcium and magnesium concentrations expressed as CaCO) 3

TON means threshold odor number

~~For the FAV and MS values noted with an asterisk (*), see part 7050.0222, subpart 7, item E.~~

E. Important synonyms or acronyms for some chemicals are listed in parentheses below the primary name. ~~Standards that vary with total hardness or pH are in the form of formulas and are listed as numbered notes at the end of the tables.~~

F. When two or more use classes have standards for the same pollutant, the most stringent standard applies pursuant to part 7050.0450. All surface waters are protected for Class 6, but this class has no ~~numerical~~ numeric standards so it is not included in the tables.

Subp. 3a. **~~Water quality standards applicable to use Classes 1B, 2A, 3A or 3B, 4A and 4B, and 5~~ Cold water sport fish, drinking water, and associated use classes.** Water quality standards applicable to use Classes 1B, 2A, 3A or 3B, 4A and 4B, and 5 surface waters.

A. MISCELLANEOUS SUBSTANCE ~~OR~~, CHARACTERISTIC, OR POLLUTANT ~~STANDARDS FOR USE CLASSES~~

	2A CS	**2A MS**	**2A FAV**	**1B DC**	**3A/3B IC**	**4A IR**	**4B LS**	**5 AN**
(1) Ammonia, un-ionized as N ~~Units:~~,	16	~~none~~	~~none~~	--	--	--	--	--
(2) Asbestos, >10 µm (c) ~~Units:~~,	--	--	--	7.0e+06	--	--	--	--
(3) Bicarbonates (HCO_3) ~~Units:~~,	--	--	--	--	--	5	--	--
(4) Bromate,	--	--	--	10	--	--	--	--
(5) Chloride ~~Units:~~,	230	860	1,720	250(S)	50/100			
~~(5)~~ (6) Chlorine, total residual ~~Units:~~, µg/L	11	19	38	--	--	--	--	--
(7) Chlorite, µg/L	--	--	--	1,000	--	--	--	--

~~(6)~~ (8) Color ~~Units:~~, Pt-Co
30 ~~none~~ ~~none~~ 15(S) -- -- -- --
-- --

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

~~(7)~~ (9) Cyanide, free ~~Units:~~, µg/L
5.2 22 45 200
~~(8) Dissolved oxygen Units: mg/l~~
- ~~7 as a daily minimum~~ - - - - - -
~~(9) Fecal coliform organisms See Note No. 1 below~~
(10) *Escherichia (E.) coli* bacteria, organisms/100 mL
See item D -- -- -- -- -- -- --
(11) Eutrophication standards for lakes and reservoirs (phosphorus, total, m\ag/L; chlorophylla, m\ag/L; Secchi depth transparency, meters)
See part 7050.0222, subparts 2 and 2a -- -- -- -- -- -- --
(12) Fluoride ~~Units:~~, mg/L
-- -- -- 4 -- -- -- --
~~(11)~~ (13) Fluoride ~~Units:~~, mg/L
-- -- -- 2(S) -- -- -- --
~~(12)~~ (14) Foaming agents ~~Units:~~, µg/L
-- -- -- 500(S) -- -- -- --
~~(13)~~ (15) Hardness, Ca+Mg as $CaCO_3$ ~~Units:~~, mg/L
-- -- -- -- 50/250 -- -- --
~~(14)~~ (16) Hydrogen sulfide ~~Units:~~, mg/L
-- -- -- -- -- -- -- 0.02

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

~~(15)~~ (17) Nitrate~~,~~ as N ~~Units:~~, mg/L
-- -- -- 10 -- -- -- --
~~(16)~~ (18) Nitrite~~,~~ as N ~~Units:~~, mg/L
-- -- -- 1 -- -- -- --
~~(17)~~ (19) Nitrate + Nitrite~~,~~ as N ~~Units:~~, mg/L
-- -- -- 10 -- -- -- --
~~(18)~~ (20) Odor, ~~Units:~~ TON
-- -- -- 3(S) -- -- -- --
~~(19)~~ (21) Oil ~~Units:~~, µg/L
500 5,000 10,000 -- -- -- -- --
(22) Oxygen, dissolved, mg/L
7, as a daily minimum -- -- -- -- -- -- --
~~(20)~~ (23) pH~~, low Units:~~ minimum, su
6.5 ~~none~~ ~~none~~ 6.5(S) 6.5/6.0 6.0 6.0 6.0
-- --
~~(21)~~ (24) pH~~, high Units:~~ maximum, su
8.5 ~~none~~ ~~none~~ 8.5(S) 8.5/9.0 8.5 9.0 9.0
-- --

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN
~~(22)~~ (25) Radioactive materials ~~See Note No. 2 below~~							
See item E	--	--	See item E	--	See item E	See item E	--
~~(23)~~ (26) Salinity, total ~~Units:~~, mg/L							
--	--	--	--	--	--	1,000	--
~~(24)~~ (27) Sodium ~~Units:~~ meq/L							
--	--	--	--	--	60% of total cations	--	--
(28) Specific conductance at 25°C µmhos/cm							
			1,000				
~~(25)~~ (29) Sulfate ~~Units:~~, mg/L							
--	--	--	250(S)	--	--	--	--
~~(26)~~ (30) Sulfates, wild rice present ~~Units:~~, mg/L							
--	--	--	--	--	10	--	--
~~(27) Specific conductance, at 25°C Units: µ mhos/cm~~							
--	--	--	--	--	~~1,000~~	--	--

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN
~~(28)~~ (31) Temperature ~~Units:~~, °F ~~No material~~ ~~increase~~							
No material increase	--	--	--	--	--	--	--
~~(29)~~ (32) Total dissolved salts ~~Units:~~, mg/L							
--	--	--	--	--	700	--	--
~~(30)~~ (33) Total dissolved solids ~~Units:~~, mg/L							
--	--	--	500(S)	--	--	--	--
~~(31)~~ (34) Turbidity ~~Units:~~, NTU							
10	~~none~~ --	~~none~~ --	~~15~~ NA	--	--	--	--

B. METALS AND ELEMENTS ~~SUBSTANCE OR CHARACTERISTIC STANDARDS FOR USE CLASSES~~

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN
(1) Aluminum ~~Units:~~, total, µg/L							
87	748	1,496	50-200(S)	--	--	--	--
(2) Antimony ~~Units:~~, total, µg/L							
5.5	90	180	6	--	--	--	--
(3) Arsenic ~~Units:~~, total, µg/L							
2.0	360	720	~~50~~ 10	--	--	--	--
(4) Barium ~~Units:~~, total, µg/L							
--	--	--	2,000	--	--	--	--
(5) Beryllium ~~Units:~~, total, µg/L							
--	--	--	4.0	--	--	--	--
(6) Boron ~~Units:~~, total, m\ag/L							
--	--	--	--	--	500	--	--

(7) Cadmium ~~Units:~~, total, µg/L ~~See Note No. 3 below~~

1.1 3.9 7.8 5 -- -- -- --

Class 2A cadmium standards are hardness dependent. Cadmium values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 2, for examples at other hardness values and equations to calculate cadmium standards for any hardness value between 10 and 400 mg/L.

(8) Chromium~~,~~ +3 ~~Units:~~, total, µg/L ~~See Note No. 4 below~~

207 1,737 3,469 -- -- -- -- --

Class 2A trivalent chromium standards are hardness dependent. Chromium +3 values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 2, for examples at other hardness values and equations to calculate trivalent chromium standards for any hardness value between 10 and 400 mg/L.

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

(9) Chromium~~,~~ +6 ~~Units:~~, total, µg/L

11 16 32 -- -- -- -- --

(10) Chromium, total ~~Units:~~, µg/L

-- -- -- 100 -- -- -- --

(11) Cobalt ~~Units:~~, total, µg/L

2.8 436 872 -- -- -- -- --

(12) Copper ~~Units:~~, total, µg/L ~~See Note No. 5 below~~

9.8 18 35 1,000 -- -- -- --
(S)

Class 2A copper standards are hardness dependent. Copper values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 2, for examples at other hardness values and equations to calculate copper standards for any hardness value between 10 and 400 mg/L.

(13) Iron ~~Units:~~, total, µg/L

-- -- -- 300(S) -- -- -- --

(14) Lead ~~Units:~~, total, µg/L ~~See Note No. 6 below~~

3.2 82 164 NA -- -- -- --

Class 2A lead standards are hardness dependent. Lead values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 2, for examples at other hardness values and equations to calculate lead standards for any hardness value between 10 and 400 mg/L.

(15) Manganese ~~Units:~~, total, µg/L

-- -- -- 50(S) -- -- -- --

(16) Mercury ~~Units: µg/L~~, total, in water, ng/L

~~0.0069~~ ~~2.4*~~ ~~4.9*~~ ~~2~~ -- -- -- --
6.9 2,400* 4,900* 2,000

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

(17) Mercury, total in edible fish tissue, mg/kg or parts per million

0.2 -- -- -- -- -- -- --

~~(17)~~ (18) Nickel ~~Units:~~, total, µg/L ~~See Note No. 7 below~~

158 1,418 2,836 ~~100~~ -- -- -- --
--

Class 2A nickel standards are hardness dependent. Nickel values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 2, for examples at other hardness values and equations to calculate nickel standards for any hardness value between 10 and 400 mg/L.

~~(18)~~ (19) Selenium ~~Units:~~, total, µg/L

5.0 20 40 50 -- -- -- --

~~(19)~~ (20) Silver ~~Units:~~, total, µg/L ~~See Note No. 8 below~~

0.12 2.0 4.1 100(S) -- -- -- --

Class 2A silver MS and FAV are hardness dependent. Silver values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 2, for examples at other hardness values and equations to calculate silver standards for any hardness value between 10 and 400 mg/L.

~~(20)~~ (21) Thallium ~~Units:~~, total, µg/L
0.28 64 128 2 -- -- -- --

~~(21)~~ (22) Zinc ~~Units:~~, total, µg/L ~~See Note No. 9 below~~
106 117 234 5,000 -- -- -- --
(S)

Class 2A zinc standards are hardness dependent. Zinc values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 2, for examples at other hardness values and equations to calculate zinc standards for any hardness value between 10 and 400 mg/L.

C. ~~ORGANICS SUBSTANCE OR CHARACTERISTIC~~ ORGANIC POLLUTANTS OR CHARACTERISTICS
~~STANDARDS FOR USE CLASSES~~

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN
(1) Acenaphthene ~~Units:~~, µg/L							
20	56	112	--	--	--	--	--
(2) Acetochlor, µg/L							
1.7	86	173	--	--	--	--	--
(3) Acrylonitrile (c) ~~Units:~~, µg/L							
0.38	1,140*	2,281*	--	--	--	--	--
~~(3)~~ (4) Alachlor (c) ~~Units:~~, µg/L							
3.8	800*	1,600*	2	--	--	--	--
~~(4)~~ (5) Aldicarb ~~Units:~~, µg/L							
--	--	--	3	--	--	--	--
~~(5)~~ (6) Aldicarb sulfone ~~Units:~~, µg/L							
--	--	--	2	--	--	--	--
~~(6)~~ (7) Aldicarb sulfoxide ~~Units:~~, µg/L							
--	--	--	4	--	--	--	--
~~(7)~~ (8) Anthracene ~~Units:~~, µg/L							
0.035	0.32	0.63	--	--	--	--	--
~~(8)~~ (9) Atrazine (c) ~~Units:~~, µg/L							
3.4	323	645	3	--	--	--	--

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN
~~(9)~~ (10) Benzene (c) ~~Units:~~, µg/L							
~~9.7~~ 5.4	4,487*	8,974*	5	--	--	--	--
~~(10)~~ (11) Benzo(a)pyrene ~~Units:~~, µg/L							
--	--	--	0.2	--	--	--	--
~~(11)~~ (12) Bromoform ~~Units:~~, µg/L							
33	2,900	5,800	See subitem (73)	--	--	--	--
~~(12)~~ (13) Carbofuran ~~Units:~~, µg/L							
--	--	--	40	--	--	--	--
~~(13)~~ (14) Carbon tetrachloride (c) ~~Units:~~, µg/L							
1.9	1,750*	3,500*	5	--	--	--	--
~~(14)~~ (15) Chlordane (c) ~~Units:~~, ng/L							
0.073	1,200*	2,400*	2,000	--	--	--	--

~~(15)~~ (16) Chlorobenzene ~~(Monochlorobenzene) Units:~~, µg/L (Monochlorobenzene)
20 423 846 100 -- -- -- --
~~(16)~~ (17) Chloroform (c) ~~Units:~~, µg/L
53 1,392 2,784 See subitem (73) -- -- -- --
~~(17)~~ (18) Chlorpyrifos ~~Units:~~, µg/L
0.041 0.083 0.17 -- -- -- -- --
~~(18)~~ (19) Dalapon ~~Units:~~, µg/L
-- -- -- 200 -- -- -- --

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

~~(19)~~ (20) DDT (c) ~~Units:~~, ng/L
0.11 550* 1,100* -- -- -- -- --
~~(20)~~ (21) 1,2-Dibromo-3-chloropropane (c) ~~Units:~~, µg/L
-- -- -- 0.2 -- -- -- --
~~(21)~~ (22) Dichlorobenzene (ortho) ~~Units:~~, µg/L
-- -- -- 600 -- -- -- --
~~(22)~~ (23) 1,4-Dichlorobenzene (para) (c) ~~Units:~~, µg/L
-- -- -- 75 -- -- -- --
~~(23)~~ (24) 1,2-Dichloroethane (c) ~~Units:~~, µg/L
3.5 45,050* 90,100* 5 -- -- -- --
~~(24)~~ (25) 1,1-Dichloroethylene ~~Units:~~, µg/L
-- -- -- 7 -- -- -- --
~~(25)~~ (26) 1,2-Dichloroethylene (cis) ~~Units:~~, µg/L
-- -- -- 70 -- -- -- --
~~(26)~~ (27) 1,2-Dichloroethylene (trans) ~~Units:~~, µg/L
-- -- -- 100 -- -- -- --
~~(27)~~ (28) 2,4-Dichlorophenoxyacetic acid (2,4-D) ~~Units:~~, µg/L
-- -- -- 70 -- -- -- --
~~(28)~~ (29) 1,2Dichloropropane (c) ~~Units:~~, µg/L
-- -- -- 5 -- -- -- --
~~(29)~~ (30) Dieldrin (c) ~~Units:~~, ng/L
0.0065 1,300* 2,500* -- -- -- -- --
~~(30)~~ (31) Di-2-ethylhexyl adipate ~~Units:~~, µg/L
-- -- -- 400 -- -- -- --

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

~~(31)~~ (32) Di-2-ethylhexyl phthalate (c) ~~Units:~~, µg/L
1.9 ~~none~~ * ~~none~~ * 6 -- -- -- --
~~(32)~~ (33) Di-n-Octyl phthalate ~~Units:~~, µg/L
30 825 1,650 -- -- -- -- --
~~(33)~~ (34) Dinoseb ~~Units:~~, µg/L
-- -- -- 7 -- -- -- --
~~(34)~~ (35) Diquat ~~Units:~~, m\ag/L
-- -- -- 20 -- -- -- --
~~(35)~~ (36) Endosulfan ~~Units:~~, µg/L
0.0076 0.084 0.17 -- -- -- -- --

~~(36)~~ (37) Endothall ~~Units:~~, µg/L
-- -- -- 100 -- -- -- --
~~(37)~~ (38) Endrin ~~Units:~~, µg/L
0.0039 0.090 0.18 2 -- -- -- --
~~(38)~~ (39) Ethylbenzene (c) ~~Units:~~, µg/L
68 1,859 3,717 700 -- -- -- --
~~(39)~~ (40) Ethylene dibromide ~~Units:~~, µg/L
-- -- -- 0.05 -- -- -- --
~~(40)~~ (41) Fluoranthene ~~Units:~~, µg/L
1.9 3.5 6.9 -- -- -- -- --
~~(41)~~ (42) Glyphosate ~~Units:~~, µg/L
-- -- -- 700 -- -- -- --

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

(43) Haloacetic acids (c), µg/L (Bromoacetic acid, Dibromoacetic acid, Dichloroacetic acid, Monochloroacetic acid, and Trichloroacetic acid)
-- -- -- 60 -- -- -- --
~~(42)~~ (44) Heptachlor (c) ~~Units:~~ ng/L
0.10 260* 520* 400 -- -- -- --
~~(43)~~ (45) Heptachlor epoxide (c) ~~Units:~~ ng/L
0.12 270* 530* 200 -- -- -- --
~~(44)~~ (46) Hexachlorobenzene (c) ~~Units:~~, ng/L
0.061 ~~none~~ ~~none~~ 1,000 -- -- -- --
-- * -- *
~~(45)~~ (47) Hexachlorocyclopentadiene ~~Units:~~ µg/L
-- -- -- 50 -- -- -- --
~~(46)~~ (48) Lindane (c), µg/L (Hexachlorocyclohexane, gamma-) ~~Units: µg/L~~
0.0087 1.0* 2.0* 0.2 -- -- -- --
~~(47)~~ (49) Methoxychlor ~~Units:~~, µg/L
-- -- -- 40 -- -- -- --
~~(48)~~ (50) Methylene chloride (c) ~~(Dichloromethane)~~ ~~Units:~~, µg/L (Dichloromethane)
45 13,875* 27,749* 5 -- -- -- --
~~(49) Oxamyl (Vydate) Units: µg/l~~
~~- - - 200 - - - -~~
(51) Metolachlor
23 271 543 -- -- -- -- --
~~(50)~~ (52) Naphthalene ~~Units:~~, µg/L
~~81~~ 65 409 818 -- -- -- -- --
(53) Oxamyl, µg/L (Vydate)
-- -- -- 200 -- -- -- --

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

~~(51)~~ (54) Parathion ~~Units:~~, µg/L
0.013 0.07 0.13 -- -- -- -- --
~~(52)~~ (55) Pentachlorophenol ~~Units:~~, µg/L
0.93 ~~See Note No. 10 below~~ 1 -- -- -- --
30
15
Class 2A MS and FAV are pH dependent. Pentachlorophenol values shown are for a pH of 7.5 only. See part 7050.0222, subpart 2, for

examples at other pH values and equations to calculate pentachlorophenol standards for any pH value.

~~(53)~~ (56) Phenanthrene ~~Units:~~, µg/L

3.6	32	64	--	--	--	--	--

~~(54)~~ (57) Phenol ~~Units:~~, µg/L

123	2,214	4,428	--	--	--	--	--

~~(55)~~ (58) Picloram ~~Units:~~, µg/L

--	--	--	500	--	--	--	--

~~(56)~~ (59) Polychlorinated biphenyls (c) ~~(PCBs, total) Units:~~, ng/L (PCBs, total)

0.014	1,000*	2,000*	500	--	--	--	--

~~(57)~~ (60) Simazine ~~Units:~~, µg/L

--	--	--	4	--	--	--	--

~~(58)~~ (61) Styrene (c) ~~Units:~~, µg/L

--	--	--	100	--	--	--	--

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

~~(59)~~ (62) 2,3,7,8-Tetrachlorodibenzopdioxin ~~(TCDD-dioxin) Units:~~, ng/L (TCDD-dioxin)

--	--	--	0.03	--	--	--	--

~~(60)~~ (63) 1,1,2,2-Tetrachloroethane (c) ~~Units:~~, µg/L

1.1	1,127*	2,253*	--	--	--	--	--

~~(61)~~ (64) Tetrachloroethylene (c) ~~Units:~~, µg/L

3.8	428*	857*	5	--	--	--	--

~~(62)~~ (65) Toluene ~~Units:~~, µg/L

253	1,352	2,703	1,000	--	--	--	--

~~(63)~~ (66) Toxaphene (c) ~~Units:~~, ng/L

0.31	730*	1,500*	3,000	--	--	--	--

~~(64)~~ (67) 2,4,5-TP ~~(Silvex) Units:~~, µg/L (Silvex)

--	--	--	50	--	--	--	--

~~(65)~~ (68) 1,2,4-Trichlorobenzene ~~Units:~~, µg/L

--	--	--	70	--	--	--	--

~~(66)~~ (69) 1,1,1-Trichloroethane ~~Units:~~, µg/L

329	2,957	5,913	200	--	--	--	--

~~(67)~~ (70) 1,1,2-Trichloroethane ~~Units:~~, µg/L

--	--	--	5	--	--	--	--

2A CS	2A MS	2A FAV	1B DC	3A/3B IC	4A IR	4B LS	5 AN

~~(68)~~ (71) 1,1,2-Trichloroethylene (c) ~~Units:~~, µg/L

25	6,988*	13,976*	5	--	--	--	--

~~(69)~~ (72) 2,4,6-Trichlorophenol ~~Units:~~, µg/L

2.0	102	203	--	--	--	--	--

~~(70)~~ (73) Trihalomethanes, total (c) ~~(Bromodichloromethane) (Bromoform) (Chlorodibromomethane) (Chloroform) Units:~~, µg/L (Bromodichloromethane, Bromoform, Chlorodibromomethane, and Chloroform)

--	--	--	~~100~~ 80	--	--	--	--

~~(71)~~ (74) Vinyl chloride (c) ~~Units:~~, µg/L

0.17	~~none~~ --*	~~none~~ --*	2	--	--	--	--

~~(72)~~ (75) Xylenes, total, ~~Units:~~ µg/L

166	1,407	2,814	10,000	--	--	--	--

~~Note No. 1, FECAL COLIFORM ORGANISMS~~

~~D. *Escherichia (E.) coli* bacteria shall~~ not ~~to~~ exceed ~~200~~ 126 organisms per 100 milliliters as a geometric mean of not less than five samples ~~in~~ representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar

month individually exceed ~~400~~ 1,260 organisms per 100 milliliters. The standard applies only between April 1 and October 31.

~~Note No. 2, RADIOACTIVE MATERIALS~~

E. For radioactive materials, see parts 7050.0221, ~~subparts~~ subpart 2~~, 3, 4, and 5~~; 7050.0222, ~~subparts 4, 5, and 6~~ subpart 2; and 7050.0224, subparts 2~~;~~ and 3~~, and 4~~.

~~Note No. 3, CADMIUM~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400~~
~~CS = exp.(0.7852[ln(TH mg/l)]3.49)~~	~~0.66 1.1 2.0 2.7 3.4~~
~~MS = exp.(1.128[ln(TH mg/l)]3.828)~~	~~1.8 3.9 8.6 14 19~~
~~FAV = exp.(1.128[ln(TH mg/l)]3.1349)~~	~~3.6 7.8 17 27 37~~

~~Note No. 4, CHROMIUM +3~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400~~
~~CS = exp.(0.819[ln(TH mg/l)]+1.561)~~	~~117 207 365 509 644~~
~~MS = exp.(0.819[ln(TH mg/l)]+3.688)~~	~~984 1737 3064 4270 5405~~
~~FAV = exp.(0.819[ln(TH mg/l)]+4.380)~~	~~1966 3469 6120 8530 10797~~

~~Note No. 5, COPPER~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400~~
~~CS = exp.(0.620[ln(TH mg/l)]0.57)~~	~~6.4 9.8 15 19 23~~
~~MS = exp.(0.9422[ln(TH mg/l)]1.464)~~	~~9.2 18 34 50 65~~
~~FAV = exp.(0.9422[ln(TH mg/l)]0.7703)~~	~~18 35 68 100 131~~

~~Note. No. 6, LEAD~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400~~
~~CS = exp.(1.273[ln(TH mg/l)]4.705)~~	~~1.3 3.2 7.7 13 19~~

MS = exp.(1.273[ln(TH mg/l)]1.460)	34 82 197 331 477
FAV = exp.(1.273[ln(TH mg/l)]0.7643)	68 164 396 663 956
Note No. 7, NICKEL STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = exp.(0.846[ln(TH mg/l)]+1.1645) not to exceed 297 µg/l	88 158 283 297 297
MS = exp.(0.846]ln(TH mg/l)]+3.3612)	789 1418 2549 3592 4582
FAV = exp.(0.846[ln(TH mg/l)]+4.0543)	1578 2836 5098 7185 9164
Note No. 8, SILVER STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = 0.12	0.12 0.12 0.12 0.12 0.12
MS = exp.(1.72[ln(TH mg/l)]7.2156)	0.61 2.0 6.7 13 22
FAV = exp.(1.72[ln(TH mg/l)]6.520) The MS and FAV shall be no less than 0.12 µg/l	1.2 4.1 13 27 44
Note No. 9, ZINC STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = exp.(0.8473[ln(TH mg/l)]+0.7615)	59 106 191 269 343
MS = exp.(0.8473[ln(TH mg/l)]+0.8604)	65 117 211 297 379
FAV = exp.(0.8473[ln(TH mg/l)]+1.5536)	130 234 421 594 758
Note No. 10, PENTACHLOROPHENOL STANDARD THAT VARIES WITH pH	EXAMPLE STANDARDS IN µg/l AT pH OF: 6.5 7.0 7.5 8.0 8.5

~~CS = 0.93~~	~~0.93 0.93 0.93 0.93 0.93~~
~~MS = exp.(1.005(pH)4.830)~~	~~5.5 9.1 15 25 41~~
~~FAV = exp.(1.005(pH)4.1373)~~	~~11 18 30 50 82~~

Subp. 4a. **~~Water quality standards applicable to use Classes 1B or 1C, 2Bd, 3A or 3B, 4A and 4B, and 5~~ Cool and warm water sport fish, drinking water, and associated use classes.** Water quality standards applicable to use Classes 1B or 1C, 2Bd, 3A or 3B, 4A and 4B, and 5 surface waters.

A. MISCELLANEOUS SUBSTANCE ~~OR~~, CHARACTERISTIC, OR POLLUTANT ~~STANDARDS FOR USE CLASSES~~

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN
(1) Ammonia, un-ionized as N ~~Units:~~, µg/L							
40	~~none~~ --	~~none~~ --	--	--	--	--	--
(2) Asbestos, >10 µm (c) ~~Units:~~, fibers/L							
--	--	--	7.0e+06	--	--	--	--
(3) Bicarbonates (HCO) 3) ~~Units:~~, meq/L							
--	--	--	5	--	--	--	--
(4) Bromate, µg/L							
--	--	--	10	--	--	--	--
(5) Chloride ~~Units:~~, mg/L							
230	860	1,720	250(S)	50/100	--	--	--
~~(5)~~ (6) Chlorine, total residual ~~Units:~~, µg/L							
11	19	38	--	--	--	--	--
(7) Chlorite, µg/L							
--	--	--	1,000	--	--	--	--
~~(6)~~ (8) Color ~~Units:~~, Pt-Co							
			15(S)				
~~(7)~~ (9) Cyanide, free ~~Units:~~, µg/L							
5.2	22	45	200	--	--	--	--

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN
~~(8) Dissolved oxygen Units: mg/l See part 7050.0222, subp. 3~~							
~~(9) Fecal coliform organisms See Note No. 1 below~~							
(10) *Escherichia (E.) coli* bacteria, organisms/100 mL							
See item D	--	--	--	--	--	--	--
(11) Eutrophication standards for lakes, shallow lakes, and reservoirs (phosphorus, total, µg/L; chlorophyll-a, µg/L; Secchi depth transparency, meters).							
See part 7050.0222, subparts 3 and 3a	--	--	--	--	--	--	--

(12) Fluoride ~~Units:~~ mg/L

--	--	--	4	--	--	--	--

~~(11)~~ (13) Fluoride ~~Units:~~ mg/L

--	--	--	2(S)	--	--	--	--

~~(12)~~ (14) Foaming agents ~~Units:~~ µg/L

--	--	--	500(S)	--	--	--	--

~~(13)~~ (15) Hardness, Ca+Mg as $CaCO_3$ ~~Units:~~ mg/L

--	--	--	50/250	--	--	--	--

~~(14)~~ (16) Hydrogen sulfide ~~Units:~~ mg/L

--	--	--	0.02	--	--	--	--

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(15)~~ (17) Nitrate~~,~~ as N ~~Units:~~ mg/L

--	--	--	10	--	--	--	--

~~(16)~~ (18) Nitrite~~,~~ as N ~~Units:~~ mg/L

--	--	--	1	--	--	--	--

~~(17)~~ (19) Nitrate + Nitrite~~,~~ as N ~~Units:~~, mg/L

--	--	--	10	--	--	--	--

~~(18)~~ (20) Odor ~~Units:~~ TON

--	--	--	3(S)	--	--	--	--

~~(19)~~ (21) Oil ~~Units:~~ µg/L

500	5,000	10,000	--	--	--	--	--

(22) Oxygen, dissolved, mg/L

See part 7050.0222, subpart 3	--	--	--	--	--	--	--

~~(20)~~ (23) pH~~, low Units:~~ minimum, su

6.5	~~none~~ --	~~none~~ --	6.5(S)	6.5/6.0	6.0	6.0	6.0

~~(21)~~ (24) pH~~, high Units:~~ maximum, su

9.0	~~none~~ --	~~none~~ --	8.5(S)	8.5/9.0	8.5	9.0	9.0

~~(22)~~ (25) Radioactive materials ~~See Note No. 2 below~~

See item E	--	--	See item E	--	See item E	See item E	--

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(23)~~ (26) Salinity, total ~~Units:~~ mg/L

--	--	--	--	--	--	1,000	--

~~(24)~~ (27) Sodium ~~Units:~~ meq/L

--	--	--	--	--	60% of total cations	--	--

~~(25)~~ (28) Specific conductance~~,~~ at 25°C ~~Units:~~ µmhos/cm

--	--	--	--	--	1,000	--	--

~~(26)~~ (29) Sulfate ~~Units:~~ mg/L

--	--	--	250(S)	--	--	--	--

~~(27)~~ (30) Sulfates, wild rice present ~~Units:~~ mg/L

--	--	--	--	--	10	--	--

~~(28)~~ (31) Temperature ~~Units:~~ °F ~~See Note No. 3 below~~

See item F	--	--	--	--	--	--	--

~~(29)~~ (32) Total dissolved salts ~~Units:~~, mg/L

--	--	--	--	--	700	--	--

~~(30)~~ (33) Total dissolved solids ~~Units:~~, mg/L

--	--	--	500(S)	--	--	--	--

~~(31)~~ (34) Turbidity ~~Units:~~, NTU

25	~~none~~ --	~~none~~ --	~~1-5/25~~ NA	--	--	--	--

B. METALS AND ELEMENTS ~~SUBSTANCE OR CHARACTERISTIC STANDARDS FOR USE CLASSES~~

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN
(1) Aluminum ~~Units:~~, total, µg/L							
125	1,072	2,145	50-200(S)	--	--	--	--
(2) Antimony ~~Units:~~, total, µg/L							
5.5	90	180	6	--	--	--	--
(3) Arsenic ~~Units:~~, total, µg/L							
2.0	360	720	~~50~~ 10	--	--	--	--
(4) Barium ~~Units:~~, total, µg/L							
--	--	--	2,000	--	--	--	--
(5) Beryllium ~~Units:~~, total, µg/L							
--	--	--	~~4~~ 4.0	--	--	--	--
(6) Boron ~~Units:~~, total, µg/L							
--	--	--	--	--	500	--	--
(7) Cadmium ~~Units:~~, total, µg/L ~~See Note No. 4 below~~							
1.1	33	67	5	--	--	--	--

Class 2Bd cadmium standards are hardness dependent. Cadmium values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 3, for examples at other hardness values and equations to calculate cadmium standards for any hardness value between 10 and 400 mg/L.

(8) Chromium~~,~~ +3 ~~Units:~~, total, µg/L ~~See Note No. 5 below~~

207	1,737	3,469	--	--	--	--	--

Class 2Bd trivalent chromium standards are hardness dependent. Chromium +3 values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 3, for examples at other hardness values and equations to calculate trivalent chromium standards for any hardness value between 10 and 400 mg/L.

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN
(9) Chromium~~,~~ +6 ~~Units:~~, total, µg/L							
11	16	32	--	--	--	--	--
(10) Chromium, total ~~Units:~~ µg/L							
--	--	--	100	--	--	--	--
(11) Cobalt ~~Units:~~, total, µg/L							
2.8	436	872	--	--	--	--	--
(12) Copper ~~Units:~~, total, µg/L ~~See Note No. 6 below~~							
9.8	18	35	1,000 (S)	--	--	--	--

Class 2Bd copper standards are hardness dependent. Copper values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 3, for examples at other hardness values and equations to calculate copper standards for any hardness value between 10 and 400 mg/L.

(13) Iron ~~Units:~~, total, µg/L

--	--	--	300(S)	--	--	--	--

(14) Lead ~~Units:~~, total, µg/L ~~See Note No. 7 below~~

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN
3.2	82	164	NA	--	--	--	--

Class 2Bd lead standards are hardness dependent. Lead values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 3, for examples at other hardness values and equations to calculate lead standards for any hardness value between 10 and 400 mg/L.

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

(15) Manganese ~~Units:~~, total, µg/L

--	--	--	50(S)	--	--	--	--

(16) Mercury ~~Units: µg/L~~, total in water, ng/L

~~0.0069~~ 6.9	~~2.4*~~ 2,400*	~~4.9*~~ 4,900*	~~2~~ 2,000	--	--	--	--

(17) Mercury, total in edible fish tissue, mg/kg or parts per million

0.2	--	--	--	--	--	--	--

~~(17)~~ (18) Nickel ~~Units:~~, total, µg/L ~~See Note No. 8 below~~

158	1,418	2,836	~~100~~ --	--	--	--	--

Class 2Bd nickel standards are hardness dependent. Nickel values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 3, for examples at other hardness values and equations to calculate nickel standards for any hardness value between 10 and 400 mg/L.

~~(18)~~ (19) Selenium ~~Units:~~, total, µg/L

5.0	20	40	50	--	--	--	--

~~(19)~~ (20) Silver ~~Units:~~, total, µg/L ~~See Note No. 9 below~~

1.0	2.0	4.1	100(S)	--	--	--	--

Class 2Bd silver MS and FAV are hardness dependent. Silver values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 3, for examples at other hardness values and equations to calculate silver standards for any hardness value between 10 and 400 mg/L.

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(20)~~ (21) Thallium ~~Units:~~, total, µg/L

0.28	64	128	2	--	--	--	--

~~(21)~~ (22) Zinc ~~Units:~~, total, µg/L ~~See Note No. 10 below~~

106	117	234	5,000 (S)	--	--	--	--

Class 2Bd zinc standards are hardness dependent. Zinc values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 3, for examples at other hardness values and equations to calculate zinc standards for any hardness value between 10 and 400 mg/L.

C. ~~ORGANICS SUBSTANCE OR CHARACTERISTIC~~ ORGANIC POLLUTANTS OR CHARACTERISTICS ~~STANDARDS FOR USE CLASSES~~

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

(1) Acenaphthene ~~Units:~~, µg/L

20	56	112	--	--	--	--	--

(2) Acetochlor, µg/L

1.7	86	173	--	--	--	--	--

(3) Acrylonitrile (c) ~~Units:~~, µg/L

0.38	1,140*	2,281*	--	--	--	--	--

~~(3)~~ (4) Alachlor (c) ~~Units:~~, µg/L

4.2	800*	1,600*	2	--	--	--	--

~~(4)~~ (5) Aldicarb ~~Units:~~, µg/L
-- -- -- 3 -- -- -- --
~~(5)~~ (6) Aldicarb sulfone ~~Units:~~, µg/L
-- -- -- 2 -- -- -- --
~~(6)~~ (7) Aldicarb sulfoxide ~~Units:~~, µg/L
-- -- -- 4 -- -- -- --
~~(7)~~ (8) Anthracene ~~Units:~~, µg/L
0.035 0.32 0.63 -- -- -- -- --
~~(8)~~ (9) Atrazine (c) ~~Units:~~, µg/L
3.4 323 645 3 -- -- -- --

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(9)~~ (10) Benzene (c) ~~Units:~~, µg/L
~~11~~ 6.0 4,487* 8,974* 5 -- -- -- --
~~(10)~~ (11) Benzo(a)pyrene ~~Units:~~, µg/L
-- -- -- 0.2 -- -- -- --
~~(11)~~ (12) Bromoform ~~Units:~~, µg/L
41 2,900 5,800 see subitem (73) -- -- -- --
~~(12)~~ (13) Carbofuran ~~Units:~~, µg/L
-- -- -- 40 -- -- -- --
~~(13)~~ (14) Carbon tetrachloride (c) ~~Units:~~, µg/L
1.9 1,750* 3,500* 5 -- -- -- --
~~(14)~~ (15) Chlordane (c) ~~Units:~~, ng/L
0.29 1,200* 2,400* 2,000 -- -- -- --
~~(15)~~ (16) Chlorobenzene ~~(Monochlorobenzene) Units:~~, µg/L (Monochlorobenzene)
20 423 846 100 -- -- -- --
~~(16)~~ (17) Chloroform (c) ~~Units:~~, µg/L
53 1,392 2,784 see subitem (73) -- -- -- --
~~(17)~~ (18) Chlorpyrifos ~~Units:~~, µg/L
0.041 0.083 0.17 -- -- -- -- --

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(18)~~ (19) Dalapon ~~Units:~~, µg/L
-- -- -- 200 -- -- -- --
~~(19)~~ (20) DDT (c) ~~Units:~~, ng/L
1.7 550* 1,100* -- -- -- -- --
~~(20)~~ (21) 1,2-Dibromo-3-chloropropane (c) ~~Units:~~, µg/L
-- -- -- 0.2 -- -- -- --
~~(21)~~ (22) Dichlorobenzene (ortho) ~~Units:~~, µg/L
-- -- -- 600 -- -- -- --
~~(22)~~ (23) 1,4-Dichlorobenzene (para) (c) ~~Units:~~, µg/L
-- -- -- 75 -- -- -- --
~~(23)~~ (24) 1,2-Dichloroethane (c) ~~Units:~~, µg/L
3.8 45,050* 90,100* 5 -- -- -- --
~~(24)~~ (25) 1,1-Dichloroethylene ~~Units:~~, µg/L
-- -- -- 7 -- -- -- --

~~(25)~~ (26) 1,2-Dichloroethylene (cis) ~~Units:~~ µg/L
-- -- -- 70 -- -- -- --
~~(26)~~ (27) 1,2-Dichloroethylene (trans) ~~Units:~~ µg/L
-- -- -- 100 -- -- -- --
~~(27)~~ (28) 2,4-Dichlorophenoxyacetic acid (2,4-D) ~~Units:~~ µg/L
-- -- -- 70 -- -- -- --

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(28)~~ (29) 1,2-Dichloropropane (c) ~~Units:~~ µg/L
-- -- -- 5 -- -- -- --
~~(29)~~ (30) Dieldrin (c) ~~Units:~~ ng/L
0.026 1,300* 2,500* -- -- -- -- --
~~(30)~~ (31) Di2ethylhexyl adipate ~~Units:~~ µg/L
-- -- -- 400 -- -- -- --
~~(31)~~ (32) Di-2-ethylhexyl phthalate (c) ~~Units:~~ µg/L
1.9 ~~none~~ ~~none~~ 6 -- -- -- --
-- * -- *
~~(32)~~ (33) Di-n-Octyl phthalate ~~Units:~~ µg/L
30 825 1,650 -- -- -- -- --
~~(33)~~ (34) Dinoseb ~~Units:~~ µg/L
-- -- -- 7 -- -- -- --
~~(34)~~ (35) Diquat ~~Units:~~ µg/L
-- -- -- 20 -- -- -- --
~~(35)~~ (36) Endosulfan ~~Units:~~ µg/L
0.029 0.28 0.56 -- -- -- -- --
~~(36)~~ (37) Endothall ~~Units:~~ µg/L
-- -- -- 100 -- -- -- --
~~(37)~~ (38) Endrin ~~Units:~~ µg/L
0.016 0.090 0.18 2 -- -- -- --
~~(38)~~ (39) Ethylbenzene (c) ~~Units:~~ µg/L
68 1,859 3,717 700 -- -- -- --
~~(39)~~ (40) Ethylene dibromide ~~Units:~~ µg/L
-- -- -- 0.05 -- -- -- --

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(40)~~ (41) Fluoranthene ~~Units:~~ µg/L
1.9 3.5 6.9 -- -- -- -- --
~~(41)~~ (42) Glyphosate ~~Units:~~ µg/L
-- -- -- 700 -- -- -- --
(43) Haloacetic acids (c), µg/L (Bromoacetic acid, Dibromoacetic acid, Dichloroacetic acid, Monochloroacetic acid, and Trichloroacetic acid)
-- -- -- 60 -- -- -- --
~~(42)~~ (44) Heptachlor (c) ~~Units:~~ ng/L
0.39 260* 520* 400 -- -- -- --
~~(43)~~ (45) Heptachlor epoxide (c) ~~Units:~~, ng/L
0.48 270* 530* 200 -- -- -- --
~~(44)~~ (46) Hexachlorobenzene (c) ~~Units:~~, ng/L
0.24 ~~none~~ ~~none~~ 1,000 -- -- -- --
-- * -- *

~~(45)~~ (47) Hexachlorocyclopentadiene ~~Units:~~ µg/L
-- -- -- 50 -- -- -- --
~~(46)~~ (48) Lindane (c) ~~(Hexachlorocyclohexane, gamma) Units:~~ µg/L (Hexachlorocyclohexane, gamma-)
0.032 4.4* 8.8* 0.2 -- -- -- --

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(47)~~ (49) Methoxychlor ~~Units:~~ µg/L
-- -- -- 40 -- -- -- --
~~(48)~~ (50) Methylene chloride (c) ~~(Dichloromethane) Units:~~ µg/L (Dichloromethane)
46 13,875* 27,749* 5 -- -- -- --
(51) Metolachlor
23 271 543 -- -- -- -- --
(52) Naphthalene, µg/L
81 409 818 -- -- -- -- --
~~(49)~~ (53) Oxamyl ~~(Vydate) Units:~~ µg/L (Vydate)
-- -- -- 200 -- -- -- --
~~(50) Naphthalene Units: µg/L~~
~~81 409 818~~ -- -- -- -- --
~~(51)~~ (54) Parathion ~~Units:~~ µg/L
0.013 0.07 0.13 -- -- -- -- --
~~(52)~~ (55) Pentachlorophenol ~~Units:~~ µg/L ~~See Note No. 11 below~~
1.9 15 30 1 -- -- -- --
Class 2Bd MS and FAV are pH dependent. Pentachlorophenol values shown are for a pH of 7.5 only. See part 7050.0222, subpart 3, for examples at other pH values and equations to calculate pentachlorophenol standards for any pH value.
~~(53)~~ (56) Phenanthrene ~~Units:~~ µg/L
3.6 32 64 -- -- -- -- --
~~(54)~~ (57) Phenol ~~Units:~~ µg/L
123 2,214 4,428 -- -- -- -- --
~~(55)~~ (58) Picloram ~~Units:~~ µg/L
-- -- -- 500 -- -- -- --
~~(56)~~ (59) Polychlorinated biphenyls (c) ~~(PCBs, total) Units:~~ ng/L (PCBs, total)
0.029 1,000* 2,000* 500 -- -- -- --

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(57)~~ (60) Simazine ~~Units:~~ µg/L
-- -- -- 4 -- -- -- --
~~(58)~~ (61) Styrene (c) ~~Units:~~ µg/L
-- -- -- 100 -- -- -- --
~~(59)~~ (62) 2,3,7,8-Tetrachlorodibenzo-p-dioxin ~~(TCDDdioxin) Units:~~ ng/L (TCDD-dioxin)
-- -- -- 0.03 -- -- -- --
~~(60)~~ (63) 1,1,2,2-Tetrachloroethane (c) ~~Units:~~ µg/L
1.5 1,127* 2,253* -- -- -- -- --
~~(61)~~ (64) Tetrachloroethylene (c) ~~Units:~~ µg/L
3.8 428* 857* 5 -- -- -- --
~~(62)~~ (65) Toluene ~~Units:~~ µg/L
253 1,352 2,703 1,000 -- -- -- --
~~(63)~~ (66) Toxaphene (c) ~~Units:~~ ng/L
1.3 730* 1,500* 3,000 -- -- -- --
~~(64)~~ (67) 2,4,5-TP ~~(Silvex) Units:~~ µg/L (Silvex)
-- -- -- 50 -- -- -- --

~~(65)~~ (68) 1,2,4-Trichlorobenzene ~~Units:~~, µg/L

--	--	--	70	--	--	--	--

~~(66)~~ (69) 1,1,1-Trichloroethane ~~Units:~~, µg/L

329	2,957	5,913	200	--	--	--	--

2Bd CS	2Bd MS	2Bd FAV	1B/1C DC	3A/3B IC	4A IR	4B LS	5 AN

~~(67)~~ (70) 1,1,2-Trichloroethane ~~Units:~~, µg/L

--	--	--	5	--	--	--	--

~~(68)~~ (71) 1,1,2-Trichloroethylene (c) ~~Units:~~, µg/L

25	6,988*	13,976*	5	--	--	--	--

~~(69)~~ (72) 2,4,6-Trichlorophenol ~~Units:~~, µg/L

2.0	102	203	--	--	--	--	--

~~(70)~~ (73) Trihalomethanes, total (c) ~~(Bromodichloromethane) (Bromoform) (Chlorodibromomethane) (Chloroform) Units:~~, µg/L (Bromodichloromethane, Bromoform, Chlorodibromomethane, and Chloroform)

--	--	--	~~100~~ 80	--	--	--	--

~~(71)~~ (74) Vinyl chloride (c) ~~Units:~~, µg/L

0.18	~~none~~ --*	~~none~~ --*	2	--	--	--	--

~~(72)~~ (75) Xylenes, total ~~Units:~~, µg/L

166	1,407	2,814	10,000

~~Note No. 1, FECAL COLIFORM ORGANISMS~~

D. *Escherichia (E.) coli* bacteria shall not ~~to~~ exceed ~~200~~ 126 organisms per 100 milliliters as a geometric mean of not less than five samples ~~in~~ representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed ~~2,000~~ 1,260 organisms per 100 milliliters. The standard applies only between April 1 and October 31.

~~Note No. 2, RADIOACTIVE MATERIALS~~

E. For radioactive materials, see parts 7050.0221, ~~subparts 2,~~ subpart 3~~, 4, and 5~~; 7050.0222, ~~subparts 4, 5, and 6~~ subpart 3; and 7050.0224, subparts 2~~,~~ and 3~~, and 4~~. ~~Note No. 3, TEMPERATURE.~~

F. Temperature must not exceed five degrees Fahrenheit above natural in streams and three degrees Fahrenheit above natural in lakes, based on monthly average of maximum daily temperature, except in no case shall it exceed the daily average temperature of 86 degrees Fahrenheit.

~~Note No. 4, CADMIUM~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF:~~
	~~50 100 200 300 400~~
~~CS = exp.(0.7852[ln(TH mg/l)]3.490)~~	~~0.66 1.1 2.0 2.7 3.4~~
~~MS = exp.(1.128[ln(TH mg/l)]1.685)~~	~~15 33 73 116 160~~
~~FAV = exp.(1.128[ln(TH mg/l)]0.9919)~~	~~31 67 146 231 319~~

~~Note No. 5, CHROMIUM +3~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF:~~
	~~50 100 200 300 400~~
~~CS = exp.(0.819[ln(TH mg/l)]+1.561)~~	~~117 207 365 509 644~~

MS =
exp.(0.819[ln(TH mg/l)]+3.688) | 984 1737 3064 4270 5405

FAV =
exp.(0.819[ln(TH mg/l)]+4.380) | 1966 3469 6120 8530 10797

Note No. 6, COPPER

STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = exp.(0.620[ln(TH mg/l)]0.57)	6.4 9.8 15 19 23
MS = exp.(0.9422[ln(TH mg/l)]1.464)	9.2 18 34 50 65
FAV = exp.(0.9422[ln(TH mg/l)]0.7703)	18 35 68 100 131

Note. No. 7, LEAD

STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = exp.(1.273[ln(TH mg/l)]4.705)	1.3 3.2 7.7 13 19
MS = exp.(1.273[ln(TH mg/l)]1.460)	34 82 197 331 477
FAV = exp.(1.273[ln(TH mg/l)]0.7643)	68 164 396 663 956

Note No. 8, NICKEL

STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = exp.(0.846[ln(TH mg/l)]+1.1645) not to exceed 297 m\ag/l	88 158 283 297 297
MS = exp.(0.846[ln(TH mg/l)]+3.3612)	789 1418 2549 3592 4582
FAV = exp.(0.846[ln(TH mg/l)]+4.0543)	1578 2836 5098 7185 9164

Note No. 9, SILVER

STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400

~~CS = 1.0~~ ~~1.0 1.0 1.0 1.0 1.0~~

~~MS = exp.(1.72[ln(TH mg/l)]7.2156)~~ ~~1.0 2.0 6.7 13 22~~

~~FAV = exp.(1.72[ln(TH mg/l)]6.520)~~ ~~1.2 4.1 13 27 44~~
~~The MS and FAV shall be no less than 1.0 m\ag/l~~

~~Note No. 10, ZINC~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF:~~
	~~50 100 200 300 400~~
~~CS = exp.(0.8473[ln(TH mg/l)]+0.7615)~~	~~59 106 191 269 343~~
~~MS = exp.(0.8473[ln(TH mg/l)]+0.8604)~~	~~65 117 211 297 379~~
~~FAV = exp.(0.8473[ln(TH mg/l)]+1.5536)~~	~~130 234 421 594 758~~

~~Note No. 11, PENTACHLOROPHENOL~~

~~STANDARD THAT VARIES WITH pH~~	~~EXAMPLE STANDARDS IN µg/l AT pH OF:~~
	~~6.5 7.0 7.5 8.0 8.5~~
~~CS = 1.9~~	~~1.9 1.9 1.9 1.9 1.9~~
~~MS = exp.(1.005(pH)4.830)~~	~~5.5 9.1 15 25 41~~
~~FAV = exp.(1.005(pH)4.1373)~~	~~11 18 30 50 82~~

Subp. 5a. **~~Water quality standards applicable to use Classes 2B, 2C, or 2D; 3A, 3B, 3C, or 3D; 4A and 4B or 4C; and 5~~ Cool and warm water sport fish and associated use classes.** Water quality standards applicable to use Classes 2B, 2C, or 2D; 3A, 3B, or 3C; 4A and 4B; and 5 surface waters. See ~~Note No. 1 below~~ parts 7050.0223, subpart 5; 7050.0224, subpart 4; and 7050.0225, subpart 2, for Class 3D, 4C, and 5 standards applicable to wetlands, respectively.

A. MISCELLANEOUS SUBSTANCE ~~OR~~, CHARACTERISTIC, OR POLLUTANT

~~STANDARDS FOR USE CLASSES~~

2B,C&D CS	**2B,C&D MS**	**2B,C&D FAV**	**3A/3B/3C IC**	**4A IR**	**4B LS**	**5 AN**
(1) Ammonia, un-ionized as N ~~Units:~~, µg/L						
40	~~none~~ --	~~none~~ --	--	--	--	--
(2) Bicarbonates (HCO_3) ~~Units:~~, meq/L						
--	--	--	5	--	--	--
(3) Chloride ~~Units:~~, mg/L						
230	860	1,720	50/100/250	--	--	--

(4) Chlorine, total residual ~~Units:~~ µg/L

11	19	38	--	--	--	--

(5) Cyanide, free ~~Units:~~ µg/L

5.2	22	45	--	--	--	--

(6) ~~Dissolved oxygen Units: mg/l See Note No. 2 below~~ *Escherichia (E.) coli* bacteria, organisms/100 mL

See item D	--	--	--	--	--	--

(7) ~~Fecal coliform organisms See Note No. 3 below~~ Eutrophication standards for lakes, shallow lakes, and reservoirs (phosphorus, total, µg/L; chlorophyll-a, µg/L; Secchi depth transparency, meters)

See part 7050.0222, subparts 4, 4a, and 5	--	--	--	--	--	--

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN

(8) Hardness, Ca+Mg as $CaCO_3$ ~~Units:~~ mg/L

--	--	--	50/250/500	--	--	--

(9) Hydrogen sulfide ~~Units:~~ mg/L

--	--	--	--	--	--	0.02

(10) Oil ~~Units:~~ µg/L

500	5,000	10,000	--	--	--	--

(11) Oxygen, dissolved, mg/L

See part 7050.0222, subparts 4 to 6	--	--	--	--	--	--

(12) pH~~, low Units:~~ minimum, su ~~See Note No. 4 below~~

6.5	--	--	6.5/6.0/6.0	6.0	6.0	6.0

See item E

~~(12)~~ (13) pH~~, high Units:~~ maximum, su ~~See Note No. 4 below~~

9.0	--	--	8.5/9.0/9.0	8.5	9.0	9.0

See item E

~~(13)~~ (14) Radioactive materials ~~See Note No. 5 below~~

See item F	--	--	--	See item F	See item F	--

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN

~~(14)~~ (15) Salinity, total ~~Units:~~ mg/L

--	--	--	--	--	1,000	--

~~(15)~~ (16) Sodium ~~Units:~~ meq/L

--	--	--	--	60% of total cations	--	--

~~(16)~~ (17) Specific conductance~~,~~ at 25°C ~~Units:~~ µ mhos/cm

--	--	--	--	1,000	--	--

~~(17)~~ (18) Sulfates, wild rice present ~~Units:,~~ mg/L

--	--	--	--	10	--	--

~~(18)~~ (19) Temperature ~~Units:,~~ °F ~~See Note No. 6 below~~

See item G	--	--	--	--	--	--

~~(19)~~ (20) Total dissolved salts ~~Units:,~~ mg/L

--	--	--	--	700	--	--

~~(20)~~ (21) Turbidity ~~Units:,~~ NTU

25	~~none~~ --	~~none~~ --	--	--	--	--

B. METALS AND ELEMENTS ~~SUBSTANCE OR CHARACTERISTIC~~ ~~STANDARDS FOR USE CLASSES~~

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN
(1) Aluminum ~~Units:~~, total, µg/L						
125	1,072	2,145	--	--	--	--
(2) Antimony ~~Units:~~, total, µg/L						
31	90	180	--	--	--	--
(3) Arsenic ~~Units:~~, total, µg/L						
53	360	720	--	--	--	--
(4) Boron ~~Units:~~, total, µg/L						
--	--	--	--	500	--	--
(5) Cadmium ~~Units:~~, total, µg/L ~~See Note No. 7 below~~						
1.1	33	67	--	--	--	--

Class 2B, 2C, and 2D cadmium standards are hardness dependent. Cadmium values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 4, for examples at other hardness values and equations to calculate cadmium standards for any hardness value between 10 and 400 mg/L.

(6) Chromium~~,~~ +3 ~~Units:~~, total, µg/L ~~See Note No. 8 below~~						
207	1,737	3,469	--	--	--	--

Class 2B, 2C, and 2D trivalent chromium standards are hardness dependent. Chromium +3 values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 4, for examples at other hardness values and equations to calculate trivalent chromium standards for any hardness value between 10 and 400 mg/L.

(7) Chromium~~,~~ +6 ~~Units:~~, total, µg/L						
11	16	32	--	--	--	--
(8) Cobalt ~~Units:~~, total, µg/L						
5.0	436	872	--	--	--	--

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN
(9) Copper ~~Units:~~, total, µg/L ~~See Note No. 9 below~~						
9.8	18	35	--	--	--	--

Class 2B, 2C, and 2D copper standards are hardness dependent. Copper values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 4, for examples at other hardness values and equations to calculate copper standards for any hardness value between 10 and 400 mg/L.

(10) Lead ~~Units:~~, total, µg/L ~~See Note No. 10 below~~						
3.2	82	164	--	--	--	--

Class 2B, 2C, and 2D lead standards are hardness dependent. Lead values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 4, for examples at other hardness values and equations to calculate lead standards for any hardness value between 10 and 400 mg/L.

(11) Mercury ~~Units: µg/L~~, total in water, ng/L

~~0.0069~~	~~2.4*~~	~~4.9*~~	--	--	--	--
6.9	2,400*	4,900*				

(12) Mercury, total in edible fish tissue, mg/kg or parts per million

0.2	--	--	--	--	--	--

~~(12)~~ (13) Nickel ~~Units:~~, total, µg/L ~~See Note No. 11 below~~

158	1,418	2,836	--	--	--	--

Class 2B, 2C, and 2D nickel standards are hardness dependent. Nickel values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 4, for examples at other hardness values and equations to calculate nickel standards for any hardness value between 10 and 400 mg/L.

~~(13)~~ (14) Selenium ~~Units:~~, total, µg/L

5.0	20	40	--	--	--	--

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN

~~(14)~~ (15) Silver ~~Units:~~, total, µg/L ~~See Note No. 12 below~~

1.0	2.0	4.1	--	--	--	--

Class 2B, 2C, and 2D silver MS and FAV are hardness dependent. Silver values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 4, for examples at other hardness values and equations to calculate silver standards for any hardness value between 10 and 400 mg/L.

~~(15)~~ (16) Thallium ~~Units:~~, total, µg/L

0.56	64	128	--	--	--	--

~~(16)~~ (17) Zinc ~~Units:~~, total, µg/L ~~See Note No. 13 below~~

106	117	234	--	--	--	--

Class 2B, 2C, and 2D zinc standards are hardness dependent. Zinc values shown are for a total hardness of 100 mg/L only. See part 7050.0222, subpart 4, for examples at other hardness values and equations to calculate zinc standards for any hardness value between 10 and 400 mg/L.

C. ~~ORGANICS SUBSTANCE OR CHARACTERISTIC~~ ORGANIC POLLUTANTS OR CHARACTERISTICS ~~STANDARDS FOR USE CLASSES~~

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN

(1) Acenaphthene ~~Units:~~, µg/L

20	56	112	--	--	--	--

(2) Acetochlor, µg/L

1.7	86	173	--	--	--	--

(3) Acrylonitrile (c) ~~Units:~~, µg/L

0.89	1,140*	2,281*	--	--	--	--

~~(3)~~ (4) Alachlor ~~Units:~~ (c), µg/L

59	800	1,600	--	--	--	--

~~(4)~~ (5) Anthracene ~~Units:~~, µg/L

0.035	0.32	0.63	--	--	--	--

~~(5)~~ (6) Atrazine ~~Units:~~ (c), µg/L

10	323	645				

~~(6)~~ (7) Benzene ~~Units:~~ (c), µg/L

~~114~~ 98	4,487	8,974	--	--	--	--

~~(7)~~ (8) Bromoform ~~Units:~~, µg/L

466	2,900	5,800	--	--	--	--

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN
~~(8)~~ (9) Carbon tetrachloride (c) ~~Units:~~, µg/L						
5.9	1,750*	3,500*	--	--	--	--
~~(9)~~ (10) Chlordane (c) ~~Units:~~, ng/L						
0.29	1,200*	2,400*	--	--	--	--
~~(10)~~ (11) Chlorobenzene ~~(Monochlorobenzene) Units:~~, µg/L (Monochlorobenzene)						
20	423	846	--	--	--	--
~~(11)~~ (12) Chloroform ~~Units:~~ (c), µg/L						
155	1,392	2,784	--	--	--	--
~~(12)~~ (13) Chlorpyrifos ~~Units:~~, µg/L						
0.041	0.083	0.17	--	--	--	--
~~(13)~~ (14) DDT (c) ~~Units:~~, ng/L						
1.7	550*	1,100*	--	--	--	--
~~(14)~~ (15) 1,2-Dichloroethane (c) ~~Units:~~, µg/L						
190	45,050*	90,100*	--	--	--	--
~~(15)~~ (16) Dieldrin (c) ~~Units:~~, ng/L						
0.026	1,300*	2,500*	--	--	--	--
~~(16)~~ (17) Di-2-ethylhexyl phthalate (c) ~~Units:~~, µg/L						
2.1	~~none~~ --*	~~none~~ --*	--	--	--	--
~~(17)~~ (18) Di-n-Octyl phthalate ~~Units:~~, µg/L						
30	825	1,650	--	--	--	--

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN
~~(18)~~ (19) Endosulfan ~~Units:~~, µg/L						
0.031	0.28	0.56	--	--	--	--
~~(19)~~ (20) Endrin ~~Units:~~, µg/L						
0.016	0.090	0.18	--	--	--	--
~~(20)~~ (21) Ethylbenzene (c) ~~Units:~~, µg/L						
68	1,859	3,717	--	--	--	--
~~(21)~~ (22) Fluoranthene ~~Units:~~, µg/L						
1.9	3.5	6.9	--	--	--	--
~~(22)~~ (23) Heptachlor (c) ~~Units:~~, ng/L						
0.39	260*	520*	--	--	--	--
~~(23)~~ (24) Heptachlor epoxide (c) ~~Units:~~, ng/L						
0.48	270*	530*	--	--	--	--
~~(24)~~ (25) Hexachlorobenzene (c) ~~Units:~~, ng/L						
0.24	~~none~~ --*	~~none~~ --*	--	--	--	--
~~(25)~~ (26) Lindane (c) ~~(Hexachlorocyclohexane, gamma) Units:~~, µg/L (Hexachlorocyclohexane, gamma-)						
0.036	4.4*	8.8*	--	--	--	--
~~(26)~~ (27) Methylene chloride (c) ~~(Dichloromethane) Units:~~, µg/L (Dichloromethane)						
1,940	13,875	27,749	--	--	--	--
(28) Metolachlor						
23	271	543	--	--	--	--

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN
~~(27)~~ (29) Naphthalene ~~Units:~~ µg/L						
81	409	818	--	--	--	--
~~(28)~~ (30) Parathion ~~Units:~~ µg/L						
0.013	0.07	0.13	--	--	--	--
~~(29)~~ (31) Pentachlorophenol ~~Units:~~ µg/L ~~See Note~~ ~~No. 14 below~~						
5.5	15	30	--	--	--	--

Class 2B, 2C, and 2D standards are pH dependent, except that the CS will not exceed 5.5 µg/L. Pentachlorophenol values shown are for a pH of 7.5 only. See part 7050.0222, subpart 4, for examples at other pH values and equations to calculate pentachlorophenol standards for any pH value.

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN
~~(30)~~ (32) Phenanthrene ~~Units:~~ µg/L						
3.6	32	64	--	--	--	--
~~(31)~~ (33) Phenol ~~Units:~~ µg/L						
123	2,214	4,428	--	--	--	--
~~(32)~~ (34) Polychlorinated biphenyls (c) ~~(PCBs, total)~~ ~~Units:~~ ng/L (PCBs, total)						
0.029	1,000*	2,000*	--	--	--	--

2B,C&D CS	2B,C&D MS	2B,C&D FAV	3A/3B/3C IC	4A IR	4B LS	5 AN
~~(33)~~ (35) 1,1,2,2-Tetrachloroethane (c) ~~Units:~~ µg/L						
13	1,127	2,253	--	--	--	--
~~(34)~~ (36) Tetrachloroethylene (c) ~~Units:~~ µg/L						
8.9	428	857	--	--	--	--
~~(35)~~ (37) Toluene ~~Units:~~ µg/L						
253	1,352	2,703	--	--	--	--
~~(36)~~ (38) Toxaphene (c) ~~Units:~~ ng/L						
1.3	730*	1,500*	--	--	--	--
~~(37)~~ (39) 1,1,1-Trichloroethane ~~Units:~~ µg/L						
329	2,957	5,913	--	--	--	--
~~(38)~~ (40) 1,1,2-Trichloroethylene (c) ~~Units:~~ µg/L						
120	6,988	13,976	--	--	--	--
~~(39)~~ (41) 2,4,6-Trichlorophenol ~~Units:~~ µg/L						
2.0	102	203	--	--	--	--
~~(40)~~ (42) Vinyl chloride (c) ~~Units:~~ µg/L						
9.2	~~none~~ --*	~~none~~ --*	--	--	--	--
~~(41)~~ (43) Xylenes, total ~~Units:~~ µg/L						
166	1,407	2,814	--	--	--	--

~~Note No. 1, CLASS 3D, 4C, and 5 STANDARDS, applicable to wetlands~~
~~In general, if Class 3, 4, or 5 standards are exceeded, background conditions shall be maintained. See parts 7050.0223, subpart 5; 7050.0224, subpart 4; and 7050.0225, subpart 2.~~

~~Note No. 2, DISSOLVED OXYGEN~~
~~See part 7050.0222, subparts 4 and 5 for the Class 2B and 2C Dissolved Oxygen standards, respectively. Class 2D standard: If background is less than 5 mg/l, as a daily minimum, maintain background.~~

~~Note No. 3, FECAL COLIFORM ORGANISMS~~

D. *Escherichia (E.) coli* bacteria shall not ~~to~~ exceed ~~200~~ 126 organisms per 100 milliliters as a geometric mean of not less than five samples ~~in~~ representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar

month individually exceed ~~2,000~~ 1,260 organisms per 100 milliliters. The standard applies only between April 1 and October 31.
~~Note No. 4,~~

E. For pH,

~~Class 2D standard:~~ maintain background. See part 7050.0222, subpart 6.

~~Note No. 5, RADIOACTIVE MATERIALS~~

F. For radioactive materials, see parts 7050.0222, ~~subparts~~ subpart ~~4, 5, and 6~~; and 7050.0224, subparts 2~~,~~ and 3~~, and 4. Note No. 6, TEMPERATURE~~

G. Temperature must not exceed:

(1) Class 2B standard: five degrees Fahrenheit above natural in streams and three degrees Fahrenheit above natural in lakes, based on monthly average of maximum daily temperature, except in no case shall it exceed the daily average temperature of 86 degrees Fahrenheit~~.~~;

(2) Class 2C standard: five degrees Fahrenheit above natural in streams and three degrees Fahrenheit above natural in lakes, based on monthly average of maximum daily temperature, except in no case shall it exceed the daily average temperature of 90 degrees Fahrenheit~~.~~; and

(3) Class 2D standard: maintain background as defined in part 7050.0222, subpart 6.

~~Note No. 7, CADMIUM~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400~~
~~CS = exp.(0.7852[ln(TH mg/l)]3.490)~~	~~0.66 1.1 2.0 2.7 3.4~~
~~MS = exp.(1.128[ln(TH mg/l)] 1.685)~~	~~15 33 73 116 160~~
~~FAV = exp.(1.128[ln(TH mg/l)]0.9919)~~	~~31 67 146 231 319~~

~~Note No. 8, CHROMIUM +3~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400~~
~~CS = exp.(0.819[ln(TH mg/l)]+1.561)~~	~~117 207 365 509 644~~
~~MS = exp.(0.819[ln(TH mg/l)]+3.688)~~	~~984 1737 3064 4270 5405~~
~~FAV = exp.(0.819[ln(TH mg/l)]+4.380)~~	~~1966 3469 6120 8530 10797~~

~~Note No. 9, COPPER~~

~~STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)~~	~~EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400~~
~~CS = exp.(0.620[ln(TH mg/l)]0.570)~~	~~6.4 9.8 15 19 23~~
~~MS = exp.(0.9422[ln(TH mg/l)]1.464)~~	~~9.2 18 34 50 65~~

FAV = exp.(0.9422[ln(TH mg/l)]0.7703)	18 35 68 100 131
Note. No. 10, LEAD STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = exp.(1.273[ln(TH mg/l)]4.705)	1.3 3.2 7.7 13 19
MS = exp.(1.273[ln(TH mg/l)]1.460)	34 82 197 331 477
FAV = exp.(1.273[ln(TH mg/l)]0.7643)	68 164 396 663 956
Note No. 11, NICKEL STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = exp.(0.846[ln(TH mg/l)]+1.1645)	88 158 283 399 509
MS = exp.(0.846[ln(TH mg/l)]+3.3612)	789 1418 2549 3592 4582
FAV = exp.(0.846[ln(TH mg/l)]+4.0543)	1578 2836 5098 7185 9164
Note No. 12, SILVER STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400
CS = 1.0	1.0 1.0 1.0 1.0 1.0
MS = exp.(1.72[ln(TH mg/l)]7.2156)	1.0 2.0 6.7 13 22
FAV = exp.(1.72[ln(TH mg/l)]6.520)	1.2 4.1 13 27 44
The MS and FAV shall be no less than 1.0 µg/l	
Note No. 13, ZINC STANDARDS THAT VARY WITH TOTAL HARDNESS (TH)	EXAMPLE STANDARDS IN µg/l AT TOTAL HARDNESS OF: 50 100 200 300 400

~~CS =~~
~~exp.(0.8473[ln(TH mg/l)]+0.7615)~~ ~~59 106 191 269 343~~

~~MS =~~
~~exp.(0.8473[ln(TH mg/l)]+0.8604)~~ ~~65 117 211 297 379~~

~~FAV =~~
~~exp.(0.8473[ln(TH mg/l)]+1.5536)~~ ~~130 234 421 594 758~~

~~Note No. 14, PENTACHLOROPHENOL STANDARD THAT VARIES WITH pH~~ ~~EXAMPLE STANDARDS IN µg/l AT pH OF: 6.5 7.0 7.5 8.0 8.5~~

~~CS =~~
~~exp.(1.005(pH)5.290)~~
~~not to exceed 5.5 µg/l~~ ~~3.5 5.5 5.5 5.5 5.5~~

~~MS =~~
~~exp.(1.005(pH)4.830)~~ ~~5.5 9.1 15 25 41~~

~~FAV =~~
~~exp.(1.005(pH)4.1373)~~ ~~11 18 30 50 82~~

Subp. 6a. **~~Water quality standards applicable to use Classes 3C, 4A and 4B, 5, and 7~~ Limited resource value waters and associated use classes.**

A. WATER QUALITY STANDARDS APPLICABLE TO USE CLASSES 3C, 4A, 4B, 5, AND 7 SURFACE WATERS

~~MISCELLANEOUS SUBSTANCE OR CHARACTERISTIC~~
~~STANDARDS FOR USE CLASSES~~

7	**3C**	**4A**	**4B**	**5**
LIMITED	**IC**	**IR**	**LS**	**AN**
~~RESOURCES~~				
RESOURCE				
VALUE				
(1) Bicarbonates (HCO 3) ~~Units:~~, meq/L				
--	--	5	--	--
(2) Boron ~~Units:~~, µg/L				
--	--	500	--	--
(3) Chloride ~~Units:~~, mg/L				
--	250	--	--	--
(4) ~~Dissolved oxygen Units: mg/l See Note No. 1 below~~ *Escherichia (E.) coli* bacteria, organisms/100 mL				
See item B	--	--	--	--
~~(5) Fecal coliform organisms See Note No. 2 below~~				
~~(6)~~ Hardness, Ca+Mg as $CaCO_3$ ~~Units:~~, mg/L				
--	500	--	--	--
~~(7)~~ (6) Hydrogen sulfide ~~Units:~~, mg/L				
--	--	--	--	0.02
(7) Oxygen, dissolved, mg/L				
See item C	--	--	--	--

(8) pH~~, low Units:~~ minimum, su

6.0	6.0	6.0	6.0	6.0
7	**3C**	**4A**	**4B**	**5**
LIMITED RESOURCE VALUE	**IC**	**IR**	**LS**	**AN**

(9) pH~~, high Units:~~ maximum, su

9.0	9.0	8.5	9.0	9.0

(10) Radioactive materials ~~See Note No. 3 below~~

--	See item D	See item D	--	--

(11) Salinity, total ~~Units:~~, mg/L

--	--	1,000	--	--

(12) Sodium ~~Units:~~, meq/L

--	--	60% of total cations	--	--

(13) Specific conductance~~,~~ at 25°C ~~Units:~~, µmhos/cm

--	--	1,000	--	--

(14) Sulfates, wild rice present ~~Units:~~, mg/L

--	--	10	--	--

(15) Total dissolved salts ~~Units:~~, mg/L

--	--	700	--	--

(16) Toxic pollutants ~~See Note No. 4 below~~

See item E	--	--	--	--

B. *Escherichia (E.) coli* bacteria shall not exceed 630 organisms per 100 milliliters as a geometric mean of not less than five samples representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 1,260 organisms per 100 milliliters. The standard applies only between May 1 and October 31.

~~Note No. 1, DISSOLVED OXYGEN~~

C. The level of dissolved oxygen shall be maintained at concentrations ~~which~~ qthat will avoid odors or putrid conditions in the receiving water or at concentrations at not less than ~~1 mg/L~~ qone milligram per liter (daily average) provided that measurable concentrations are present at all times.

~~Note No. 2, FECAL COLIFORM ORGANISMS~~

~~Not to exceed 1,000 organisms per 100 milliliters in any calendar month as determined by a geometric 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.~~

~~Note No. 3, RADIOACTIVE MATERIALS~~

D. For radioactive materials, see part 7050.0224, subparts 2~~,~~ qand 3~~, and 4~~.

~~Note No. 4, TOXIC POLLUTANTS~~

E. Toxic pollutants shall not be allowed in such quantities or concentrations that will impair the specified uses.

Subp. 7. **Site-specific modifications of standards.**

A. The standards in this part and in parts 7050.0221 to 7050.0227 are subject to review and modification as applied to a specific surface water body, reach, or segment. If site-specific information is available that shows that a site-specific modification is more appropriate than the statewide or ecoregion standard for a particular water body, reach, or segment, the site-specific information shall be applied.

B. 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 relevant data in support of a modified standard and determine whether a change in the standard for a specific water body or reach is justified.

C. Any effluent limit determined to be necessary based on a modified standard shall only be required after the discharger has been given notice of the specific proposed effluent limits and an opportunity to request a hearing as provided in part 7000.1800.

7050.0221 SPECIFIC WATER QUALITY STANDARDS ~~OF QUALITY AND PURITY~~ FOR CLASS 1 WATERS OF THE STATE; DOMESTIC CONSUMPTION.

Subpart 1. **General.**

A. The ~~numerical~~ numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that are necessary for the domestic consumption designated public uses and benefits. If the standards in this part are exceeded in waters of the state that have the Class 1 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses.

B. The Class 1 standards in this part are the United States Environmental Protection Agency primary (maximum contaminant levels) and secondary drinking water standards, as contained in *Code of Federal Regulations*, title 40, parts 141 and 143, as amended through July 1, 2004. These Environmental Protection Agency drinking water standards are adopted and incorporated by reference with the exceptions in this item. The following standards are not applicable to Class 1 ground waters: the primary drinking water standards for acrylamide, epichlorohydrin, copper, and lead (treatment technique standards) and standards in the disinfectants and disinfection by-products categories. The following standards are not applicable to Class 1 surface waters: the primary drinking water standards for acrylamide, epichlorohydrin, copper, lead, and turbidity (treatment technique standards) and the standards in the disinfectants and microbiological organisms categories.

Subp. 2. **Class 1A waters; domestic consumption.** The quality of Class 1A waters of the state shall be such that without treatment of any kind the raw waters will meet in all respects both the primary (maximum contaminant levels) and secondary drinking water standards issued by the United States Environmental Protection Agency as ~~contained in *Code of Federal Regulations*, title 40, part 141, subparts B and G, and part 143, (1992); and section 141.61 and 141.62, as amended through July 17, 1992~~ referenced in subpart 1. ~~These~~ The Environmental Protection Agency drinking water standards are adopted and incorporated by reference, except as noted in subpart 1.

These standards will ordinarily be restricted to underground waters with a high degree of natural protection.

Subp. 3. **Class 1B waters.** The quality of Class 1B waters of the state shall be such that with approved disinfection, such as simple chlorination or its equivalent, the treated water will meet both the primary (maximum contaminant levels) and secondary drinking water standards issued by the United States Environmental Protection Agency ~~as contained in *Code of Federal Regulations*, title 40, part 141, subparts B and G, and part 143, (1992); and sections 141.61 and 141.62, as amended through July 17, 1992; except that the bacteriological standards shall not apply~~ as referenced in subpart 1. ~~These~~ The Environmental Protection Agency drinking water standards~~, as modified in this part,~~ are adopted and incorporated by reference, except as noted in subpart 1.

These standards will ordinarily be restricted to surface and underground waters with a moderately high degree of natural protection and apply to these waters in the untreated state.

Subp. 4. **Class 1C waters.** The quality of Class 1C 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 both the primary (maximum contaminant levels) and secondary drinking water standards issued by the United States Environmental Protection Agency ~~as contained in *Code of Federal Regulations*, title 40, part 141, subparts B and G, and part 143, (1992); and sections 141.61 and 141.62, as amended through July 17, 1992; except that the bacteriological standards shall not apply, and the turbidity standard shall be 25 NTU~~ as referenced in subpart 1. ~~These~~ The Environmental Protection Agency drinking water standards~~, as modified in this part,~~ are adopted and incorporated by reference, except as noted in subpart 1.

These standards 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. These standards shall also apply to these waters in the untreated state.

Subp. 5. [See repealer.]

[For text of subp 6, see M.R.]

7050.0222 SPECIFIC WATER QUALITY STANDARDS ~~OF QUALITY AND PURITY~~ FOR CLASS 2 WATERS OF THE STATE; AQUATIC LIFE AND RECREATION.

Subpart 1. **General.**

A. The ~~numerical~~ numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that are necessary for the aquatic life and recreation designated public uses and benefits. If the standards in this part are exceeded in

waters of the state that have the Class 2 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses.

B. Standards for metals are expressed as total metal in this part, but must be converted to dissolved metal standards ~~to determine water quality-based effluent limits~~ for application to surface waters. ~~Water quality-based effluent limits for metals are expressed as total metal.~~ Conversion factors for converting total to dissolved metal standards are listed in subpart 9. The conversion factor for metals not listed in subpart 9 is one. The dissolved metal standard equals the total metal standard times the conversion factor. Water quality-based effluent limits for metals are expressed as total metal.

C. The tables of standards in this part include the following abbreviations and acronyms:

* an asterisk following the FAV and MS values or double dashes (--) means subpart 7, item E, applies

(c) means the chemical is assumed to be a human carcinogen

°C means degrees Celsius

CS means chronic standard, defined in part 7050.0218, subpart 3

-- double dashes means there is no standard

°F means degrees Fahrenheit

FAV means final acute value, defined in part 7050.0218, subpart 3

HH in the "basis" column means the standard is human health-based

MS means maximum standard, defined in part 7050.0218, subpart 3

NA means not applicable

su means standard unit. It is the reporting unit for pH

TH means total hardness in milligrams per liter, which is the sum of the calcium and magnesium concentrations expressed as $CaCO_3$

Tox in the "basis" column means the standard is toxicity-based

D. Important synonyms or acronyms for some chemicals are listed in parentheses below the primary name.

Subp. 2. **Class 2A waters; aquatic life and recreation.** The quality of Class 2A surface waters shall be such as to permit the propagation and maintenance of a healthy community of cold water sport or commercial fish and associated aquatic life, and their habitats. These waters shall 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 followed by a (c). The basis columns to the right of the chronic standards and to the right of the acute standards indicate whether the chronic and acute standards, respectively, are based on the protection of the aquatic community from adverse toxic effects (Tox.), or the protection of human consumers of drinking water and sport-caught fish (HH). "NA" means not applicable. Subpart 7, item E, should be referenced for FAV and MS values and "none" noted with an asterisk (*):~~ Abbreviations, acronyms, and symbols are explained in subpart 1.

Substance ~~or~~, Characteristic, ~~(c) = carcinogen~~ or Pollutant (Class 2A)	Units	CS	~~Class 2A Chronic Standard~~ Basis for CS	MS	~~Class 2A Acute Standards~~ FAV	Basis for MS, FAV
Acenaphthene	µg/L	20	HH	56	112	Tox~~.~~
Acetochlor	µg/L	1.7	Tox	86	173	Tox
Acrylonitrile (c)	µg/L	0.38	HH	1,140*	2,281*	Tox~~.~~
Alachlor (c)	µg/L	3.8	HH	800*	1,600*	Tox~~.~~
Aluminum, total	µg/L	87	Tox~~.~~	748	1,496	Tox~~.~~
Ammonia unionized as N	µg/L	16	Tox~~.~~	~~None~~ --	~~None~~ --	NA

The percent unionized ammonia can be calculated for any temperature and pH by using the following ~~formula~~ equation 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 Research Board of Canada 32: 23792383~~.~~ (1975):

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

where:

f = the percent of total ammonia in the unionized state

~~pk) a = 0.09 + 2730/T, dissociation constant for ammonia~~

pk) a = 0.09 + (2730/T) (dissociation constant for ammonia)

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

Anthracene	µg/L	0.035	Tox~~.~~	0.32	0.63	Tox~~.~~
Antimony, total	µg/L	5.5	HH	90	180	Tox~~.~~
Arsenic, total	µg/L	2.0	HH	360	720	Tox~~.~~
Atrazine (c)	µg/L	3.4	HH	323	645	Tox~~.~~

Substance, Characteristic, or Pollutant (Class 2A)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
Benzene (c)	µg/L	~~9.7~~ 5.4	HH	4,487*	8,974*	Tox~~.~~
Bromoform	µg/L	33	HH	2,900	5,800	Tox~~.~~
Cadmium, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Cadmium, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

The CS in µg/L shall not exceed: exp. (0.7852 [**ln(total hardness mg/L)**]-3.490)

The MS in µg/L shall not exceed: exp.(1.128[**ln(total hardness mg/L)**]-3.828)
The FAV in µg/L shall not exceed: exp.(1.128[**ln(total hardness mg/L)**]-3.1349)
Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.
For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.
Example of total cadmium standards ~~in µg/l~~ for ~~three~~ five hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~
~~Standard: CS~~	~~0.66~~	~~1.1~~	~~2.0~~
~~MS~~	~~1.8~~	~~3.9~~	~~8.6~~
~~FAV~~	~~3.6~~	~~7.8~~	~~17~~

TH in mg/L	50	100	200	300	400
Cadmium, total					
CS µg/L	0.66	1.1	2.0	2.7	3.4
MS µg/L	1.8	3.9	8.6	14	19
FAV µg/L	3.6	7.8	17	27	37

Carbon tetra-chloride (c)	µg/L	1.9	HH	1750*	3500*	Tox.
Chlordane (c)	ng/L	0.073	HH	1200*	2400*	Tox.
Chloride	mg/L	230	Tox.	860	1720	Tox.
Chlorine, total	µg/L	11	Tox.	19	38	Tox. residual

Chlorine standard 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.

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Chlorobenzene (Monochlorobenzene)	µg/L	20	HH	423	846	Tox.
Chloroform (c)	µg/L	53	HH	1,392	2,784	Tox.
Chlorpyrifos	µg/L	0.041	Tox.	0.083	0.17	Tox.
Chromium +3, total	µg/L	~~Formula~~ equation	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Chromium +3, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:
The CS in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)]**+1.561)
The MS in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)]**+3.688)

The FAV in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)]**+4.380)

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total chromium +3 standards ~~in m\ag/L~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~
~~Standard:~~	~~CS~~	~~117~~	~~207~~	~~365~~
	~~MS~~	~~984~~	~~1737~~	~~3064~~
	~~FAV~~	~~1966~~	~~3469~~	~~6120~~

TH in mg/L	50	100	200	300	400
Chromium +3, total					
CS µg/L	117	207	365	509	644
MS µg/L	984	1,737	3,064	4,270	5,405
FAV µg/L	1,966	3,469	6,120	8,530	10,797

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Chromium +6, total	µg/L	11	Tox~~.~~	16	32	Tox~~.~~
Cobalt, total	µg/L	2.8	HH	436	872	Tox~~.~~
Color value	Pt/Co	30	NA	~~None~~ --	~~None~~ --	NA
Copper, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Copper, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

The CS in µg/L shall not exceed: exp.(0.620[**ln(total hardness mg/L)**]-0.570)

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

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total copper standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~		
~~Standard: CS~~		~~6.4~~	~~9.8~~	~~15~~		
~~MS~~		~~9.2~~	~~18~~	~~34~~		
~~FAV~~		~~18~~	~~35~~	~~68~~		
TH in mg/L	50	100	200	300	400	
Copper, total						
CS µg/L	6.4	9.8	15	19	23	
MS µg/L	9.2	18	34	50	65	
FAV µg/L	18	35	68	100	131	
Cyanide, free	µg/L	5.2	Tox~~.~~	22	45	Tox~~.~~
DDT (c)	ng/L	0.11	HH	550*	1100*	Tox~~.~~
1,2-Dichloro ethane (c)	µg/L	3.5	HH	45,050*	90,100*	Tox~~.~~
Dieldrin (c)	ng/L	0.0065	HH	1,300*	2,500*	Tox~~.~~
Di-2-ethylhexyl phthalate (c)	µg/L	1.9	HH	~~None~~ --*	~~None~~ --*	NA
Di-n-octyl phthalate	µg/L	30	Tox~~.~~	825	1,650	Tox~~.~~

~~Dissolved oxygen mg/l 7.0 as a daily minimum~~
~~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 tenyear recurrence interval (7Q10).~~

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Endosulfan	µg/L	0.0076	HH	0.084	0.17	Tox~~.~~
Endrin	µg/L	0.0039	HH	0.090	0.18	Tox~~.~~
Escherichia (E.) coli	See below	See below	HH	See below	See below	NA

Not to exceed 126 organisms per 100 milliliters as a geometric mean of not less than five samples representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 1,260 organisms per 100 milliliters. The standard applies only between April 1 and October 31.

Ethylbenzene	µg/L	68	Tox~~.~~	1,859	3,717	Tox~~.~~

Eutrophication standards for Class 2A lakes and reservoirs. See definitions in part 7050.0150, subpart 4, and ecoregion map in part 7050.0467.

Designated lake trout lakes in all ecoregions (lake trout lakes support natural populations of lake trout, *Salvelinus namaycush*):

Phosphorus, total	µg/L	12	NA	--	--	NA
Chlorophyll-a	µg/L	3	NA	--	--	NA

Secchi disk transparency	meters	No less than 4.8	NA	--	--	NA

Designated trout lakes in all ecoregions, except lake trout lakes:

Phosphorus, total	µg/L	20	NA	--	--	NA
Chlorophyll-a	µg/L	6	NA	--	--	NA
Secchi disk transparency	meters	No less than 2.5	NA	--	--	NA

Additional narrative eutrophication standards for Class 2A lakes and reservoirs are found under subpart 2a.

~~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 April 1 and October 31.~~

Fluoranthene	µg/L	1.9	Tox~~.~~	3.5	6.9	Tox~~.~~
Heptachlor (c)	ng/L	0.10	HH	260*	520*	Tox~~.~~
Heptachlor epoxide (c)	ng/L	0.12	HH	270*	530*	Tox~~.~~
Hexachloro benzene (c)	ng/L	0.061	HH	~~None~~ --*	~~None~~ --*	Tox~~.~~

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Lead, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Lead, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

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

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

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total lead standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~

~~Standard: CS~~		~~1.3~~	~~3.2~~	~~7.7~~		
~~MS~~		~~34~~	~~82~~	~~197~~		
~~FAV~~		~~68~~	~~164~~	~~396~~		
TH in mg/L	50	100	200	300	400	
Lead, total						
CS µg/L	1.3	3.2	7.7	13	19	
MS µg/L	34	82	197	331	477	
FAV µg/L	68	164	396	663	956	
Lindane (c) (Hexachlorocyclo-hexane, gamma-)	µg/L	0.0087	HH	1.0*	2.0*	Tox~~.~~
Mercury, total in water	~~µg/l~~ ng/L	~~0.0069~~ 6.9	HH	~~2.4*~~ 2,400*	~~4.9*~~ 4,900*	Tox~~.~~
Mercury, total in edible fish tissue	mg/kg ppm	0.2	HH	NA	NA	NA

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Methylene chloride (c) (Dichloromethane)	µg/L	45	HH	13,875*	27,749*	Tox~~.~~
Metolachlor	µg/L	23	Tox	271	543	Tox
Naphthalene	µg/L	~~81~~ 65	~~Tox.~~ HH	409	818	Tox~~.~~
Nickel, total	µg/L	~~Formula~~ equation	Tox/HH	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Nickel, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

The CS shall not exceed the human health-based standard of 297 m\ag/L. For waters with total hardness values less than 212 mg/L, the CS in µg/L is toxicity-based and shall not exceed: exp.(0.846[**ln(total hardness mg/L)]**+1.1645)

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

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total nickel standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~
~~Standard:~~ ~~CS~~		~~88~~	~~158~~	~~283~~
~~MS~~		~~789~~	~~1418~~	~~2549~~
~~FAV~~		~~1578~~	~~2836~~	~~5098~~

TH in mg/L	50	100	200	300	400
Nickel, total					
CS µg/L	88	158	283	297	297
MS µg/L	789	1,418	2,549	3,592	4,582
FAV µg/L	1,578	2,836	5,098	7,185	9,164

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Oil	µg/L	500	NA	5,000	10,000	NA
Oxygen, dissolved	mg/L	See below	NA	--	--	NA

7.0 mg/L as a daily minimum. 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 7Q) 10.

Parathion	µg/L	0.013	Tox.	0.07	0.13	Tox.
Pentachlorophenol	µg/L	0.93	HH	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Pentachlorophenol~~ The MS and FAV vary with pH and are calculated using the following equations:

~~The CS shall not exceed: 0.93~~

The MS in µg/L shall not exceed: exp.(1.005[**pH]**4.830)

The FAV in µg/L shall not exceed: exp.(1.005[**pH]-**4.1373)

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For pH values less than 6.0, 6.0 shall be used to calculate the standard and for pH values greater than 9.0, 9.0 shall be used to calculate the standard.

Example of pentachlorophenol standards ~~in µg/l~~ for ~~three~~ five pH values:

~~pH (su)~~		~~7.0~~	~~7.5~~	~~8.0~~
~~Standard:~~ ~~CS~~		~~0.93~~	~~0.93~~	~~0.93~~
~~MS~~		~~9.1~~	~~15~~	~~25~~
~~FAV~~		~~18~~	~~30~~	~~50~~

~~pH (su) Not less than 6.5 nor greater than 8.5~~

pH su	6.5	7.0	7.5	8.0	8.5	
Pentachlorophenol						
CS µg/L	0.93	0.93	0.93	0.93	0.93	
MS µg/L	5.5	9.1	15	25	41	
FAV µg/L	11	18	30	50	82	
pH, minimum	su	6.5	NA	--	--	NA
pH, maximum	su	8.5	NA	--	--	NA
Phenanthrene	µg/L	3.6	Tox.	32	64	Tox.
Phenol	µg/L	123	Tox.	2,214	4,428	Tox.
Polychlorinated biphenyls, total (c)	ng/L	0.014	HH	1,000*	2,000*	Tox.

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Radioactive materials	NA	See below	NA	See below	See below	NA

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

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

Selenium, total	µg/L	5.0	Tox.	20	40	Tox.
Silver, total	µg/L	0.12	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Silver, total~~ The MS and FAV vary with total hardness and are calculated using the following equations:

~~The CS shall not exceed: 0.12~~

The MS in µg/L shall not exceed: exp.(1.720[**ln(total hardness mg/L)**]-7.2156)

The FAV in µg/L shall not exceed: exp.(1.720[**ln(total hardness mg/L)**]-6.520) ~~provided that the MS and FAV shall be no less than 0.12 m\ag/l~~

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of silver standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~

~~Standard: CS~~ ~~0.12~~ ~~0.12~~ ~~0.12~~
~~MS~~ ~~0.61~~ ~~2.0~~ ~~6.7~~
~~FAV~~ ~~1.2~~ ~~4.1~~ ~~13~~

TH in mg/L	50	100	200	300	400
Silver, total					
CS µg/L	0.12	0.12	0.12	0.12	0.12
MS µg/L	1.0	2.0	6.7	13	22
FAV µg/L	1.2	4.1	13	27	44

~~Temperature~~ ~~No material increase~~

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Temperature	°C or °F	No material increase	NA	--	--	NA
1,1,2,2 -Tetrachloroethane (c)	µg/L	1.1	HH	1,127*	2,253*	Tox.
Tetrachloroethylene (c)	µg/L	3.8	HH	428*	857*	Tox.
Thallium, total	µg/L	0.28	HH	64	128	Tox.
Toluene	µg/L	253	Tox.	1,352	2,703	Tox.
Toxaphene (c)	ng/L	0.31	HH	730*	1,500*	Tox.
1,1,1 -Trichloroethane	µg/L	329	Tox.	2,957	5,913	Tox.
1,1,2 -Trichloroethylene (c)	µg/L	25	HH	6,988*	13,976*	Tox.
2,4,6 -Trichlorophenol	µg/L	2.0	HH	102	203	Tox.
Turbidity value	NTU	10	NA	~~None~~ --	~~None~~ --	NA
Vinyl chloride (c)	µg/L	0.17	HH	~~None~~ -- *	~~None~~ -- *	NA
Xylene, total m,p,o	µg/L	166	Tox.	1,407	2,814	Tox.
Zinc, total	µg/L	~~Formula~~ equation	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Zinc, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:
The CS in µg/L shall not exceed: exp.(0.8473[**ln(total hardness mg/L)]**+0.7615)
The MS in µg/L shall not exceed: exp.(0.8473[**ln(total hardness mg/L)]**+0.8604)

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of zinc standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~	
~~Standard:~~ ~~CS~~		~~59~~	~~106~~	~~191~~	
~~MS~~		~~65~~	~~117~~	~~211~~	
~~FAV~~		~~130~~	~~234~~	~~421~~	
TH in mg/L	50	100	200	300	400
Zinc, total					
CS µg/L	59	106	191	269	343
MS µg/L	65	117	211	297	379
FAV µg/L	130	234	421	594	758

Subp. 2a. **Narrative eutrophication standards for Class 2A lakes and reservoirs.**

A. Eutrophication standards are compared to data averaged over the summer season (June through September). Exceedance of the total phosphorus and either the chlorophylla or Secchi disk standard is required to indicate a polluted condition.

B. It is the policy of the agency to protect all lakes and reservoirs from the undesirable effects of cultural eutrophication. Lakes and reservoirs with a baseline quality better than the numeric eutrophication standards in subpart 2 must be maintained in that condition through the strict application of all relevant federal, state, and local requirements governing nondegradation, the discharge of nutrients from point and nonpoint sources, and the protection of lake or reservoir resources, including, but not limited to:

(1) the nondegradation requirements in parts 7050.0180 and 7050.0185;

(2) the phosphorus effluent limits for point sources, where applicable in chapter 7053;

(3) the requirements for feedlots in chapter 7020;

(4) the requirements for individual sewage treatment systems in chapter 7080;

(5) the requirements for control of stormwater in chapter 7090;

(6) county shoreland ordinances; and

(7) implementation of mandatory and voluntary best management practices to minimize point and nonpoint sources of nutrients.

C. Lakes and reservoirs with a baseline quality that is poorer than the numeric eutrophication standards in subpart 2 must be considered to be in compliance with the standards if the baseline quality is the result of natural causes. The commissioner shall determine baseline quality and compliance with these standards using summeraverage data and the procedures in part 7050.0150, subpart 5. "Natural causes" is defined in part 7050.0150, subpart 4, item N.

D. When applied to reservoirs, the eutrophication standards in this subpart and subpart 2 may be modified on a sitespecific basis to account for characteristics unique to reservoirs that can affect trophic status, such as water temperature, variations in hydraulic residence time, watershed size, and the fact that reservoirs may receive drainage from more than one ecoregion. Information supporting a sitespecific standard 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 reservoir is justified. Any total phosphorus effluent limit determined to be necessary based on a modified standard shall only be required after the discharger has been given notice of the specific proposed effluent limits and an opportunity to request a hearing as provided in part 7000.1800.

Subp. 3. **Class 2Bd waters.** The quality of Class 2Bd surface waters shall be such as to permit the propagation and maintenance of a healthy community of cool or warm water sport or commercial fish and associated aquatic life and their habitats. These waters shall be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. This class of surface waters ~~are~~ qis also protected as a source of drinking water. The applicable standards are given below~~, with substances considered carcinogenic followed by a (c).The basis columns to the right of the chronic standards and to the right of the acute standards indicate whether the chronic and acute~~

~~standards, respectively, are based on the protection~~ of the aquatic community from adverse toxic effects (Tox.), ~~or the protection of human consumers of drinking water and sportcaught fish (HH). "NA" means not applicable. Subpart 7, item E, should be referenced for FAV and MS values and "none" noted with an asterisk (*).~~. Abbreviations, acronyms, and symbols are explained in subpart 1.

Substance ~~or,~~ Characteristic, ~~(c) = carcinogen~~ or Pollutant (Class 2Bd)		~~**Class 2Bd Chronic Standard**~~		~~**Class 2Bd Acute Standards**~~		
	Units	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Acenaphthene	µg/L	20	HH	56	112	Tox~~.~~
Acetochlor	µg/L	1.7	Tox	86	173	Tox
Acrylonitrile (c)	µg/L	0.38	HH	1,140*	2,281*	Tox~~.~~
Alachlor (c)	µg/L	4.2	HH	800*	1,600*	Tox~~.~~
Aluminum, total	µg/L	125	Tox~~.~~	1,072	2,145	Tox~~.~~
Ammonia unionized as N	µg/L	40	Tox~~.~~	~~None~~ --	~~None~~ --	NA

The percent un-ionized ammonia can be calculated for any temperature and pH ~~as described in subpart 2~~ by using the following equation taken from Emerson, K., R.C. Russo, R.E. Lund, and R.V. Thurston, Aqueous ammonia equilibrium calculations; effect of pH and temperature. Journal of the Fisheries Research Board of Canada 32: 2379-2383 (1975):

f = 1/(10 (pkapH) + 1) x 100

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

pk) a = 0.09 + (2730/T) (dissociation constant for ammonia)

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

Anthracene	µg/L	0.035	Tox~~.~~	0.32	0.63	Tox~~.~~
Antimony, total	µg/L	5.5	HH	90	180	Tox~~.~~
Arsenic, total	µg/L	2.0	HH	360	720	Tox~~.~~
Atrazine (c)	µg/L	3.4	HH	323	645	Tox~~.~~
Benzene (c)	µg/L	~~11~~ 6.0	HH	4,487*	8,974*	Tox~~.~~
Bromoform	µg/L	41	HH	2,900	5,800	Tox~~.~~

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Cadmium, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Cadmium, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

The CS in µg/L shall not exceed: exp.(0.7852[**ln(total hardness mg/L)**]-3.490)

The MS in µg/L shall not exceed: exp.(1.128[**ln(total hardness mg/L)**]-1.685)
The FAV in µg/L shall not exceed: exp.(1.128[**ln(total hardness mg/L)**]-0.9919)
Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.
For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.
Example of total cadmium standards ~~in µg/l~~ for ~~three~~ five hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~		
~~Standard: CS~~		~~0.66~~	~~1.1~~	~~2.0~~		
~~MS~~		~~15~~	~~33~~	~~73~~		
~~FAV~~		~~31~~	~~67~~	~~146~~		
TH in mg/L		50	100	200	300	400
Cadmium, total						
CS	µg/L	0.66	1.1	2.0	2.7	3.4
MS	µg/L	15	33	73	116	160
FAV	µg/L	31	67	146	231	319

Carbon tetrachloride (c)	µg/L	1.9	HH	1,750*	3,500*	Tox.
Chlordane (c)	ng/L	0.29	HH	1,200*	2,400*	Tox.
Chloride	mg/L	230	Tox.	860	1,720	Tox.
Chlorine, total residual	µg/L	11	Tox.	19	38	Tox.

Chlorine standard 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.

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Chlorobenzene (Monochlorobenzene)	µg/L	20	HH	423	846	Tox.
Chloroform (c)	µg/L	53	HH	1,392	2,784	Tox.
Chlorpyrifos	µg/L	0.041	Tox.	0.083	0.17	Tox.
Chromium +3, total	µg/L	~~Formula~~ equation	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Chromium +3, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:
The CS in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)]**+1.561)

The MS in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)]**+3.688)
The FAV in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)**+4.380)
Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.
For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.
Example of total chromium +3 standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~	
~~Standard:~~ ~~CS~~		~~117~~	~~207~~	~~365~~	
~~MS~~		~~984~~	~~1737~~	~~3064~~	
~~FAV~~		~~1966~~	~~3469~~	~~6120~~	
TH in mg/L	50	100	200	300	400
Chromium +3, total					
CS µg/L	117	207	365	509	644
MS µg/L	984	1,737	3,064	4,270	5,405
FAV µg/L	1,966	3,469	6,120	8,530	10,797

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Chromium +6, total	µg/L	11	Tox~~.~~	16	32	Tox~~.~~
Cobalt, total	µg/L	2.8	HH	436	872	Tox~~.~~
Copper, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Copper, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:
The CS in µg/L shall not exceed: exp.(0.620[**ln(total hardness mg/L)**]-0.570)
The MS in µg/L shall not exceed: exp.(0.9422[**ln(total hardness mg/L)**]-1.464)
The FAV in µg/L shall not exceed: exp.(0.9422[**ln(total hardness mg/L)**]-0.7703)
Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.
For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.
Example of total copper standards ~~in µg/l~~ for ~~three~~ five

total hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~		
~~Standard: CS~~		~~6.4~~	~~9.8~~	~~15~~		
~~MS~~		~~9.2~~	~~18~~	~~34~~		
~~FAV~~		~~18~~	~~35~~	~~68~~		
TH in mg/L	50	100	200	300	400	
Copper, total						
CS µg/L	6.4	9.8	15	19	23	
MS µg/L	9.2	18	34	50	65	
FAV µg/L	18	35	68	100	131	
Cyanide, free	µg/L	5.2	Tox.	22	45	Tox.

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
DDT (c)	ng/L	1.7	HH	550*	1,100*	Tox.
1,2-Dichloro ethane (c)	µg/L	3.8	HH	45,050*	90,100*	Tox.
Dieldrin (c)	ng/L	0.026	HH	1,300*	2,500*	Tox.
Di-2-ethylhexyl phthalate (c)	µg/L	1.9	HH	~~None~~ --*	~~None~~ --*	NA
Di-n-octyl phthalate	µg/L	30	Tox.	825	1,650	Tox.

~~Dissolved oxygen mg/l 5 as a daily minimum~~
~~This dissolved oxygen standard may be modified on a sitespecific basis according to subpart 8, except that no sitespecific standard shall be less than 5 mg/l as a daily average and 4 mg/l as a daily minimum. Compliance with this standard is required 50 percent of the days at which the flow of the receiving water is equal to the lowest weekly flow with a once in tenyear recurrence interval (7Q10).~~

Endosulfan	µg/L	0.029	HH	0.28	0.56	Tox.
Endrin	µg/L	0.016	HH	0.090	0.18	Tox.
Escherichia (E.) coli	See below	See below	HH	See below	See below	NA

Not to exceed 126 organisms per 100 milliliters as a geometric mean of not less than five samples representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 1,260 organisms per 100 milliliters. The standard applies only between April 1 and October 31.

Ethylbenzene	µg/L	68	Tox.	1,859	3,717	Tox.

~~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 2000 organisms per 100 milliliters. The standard applies only between April 1 and October 31.~~

Substance, Characteristic, or Pollutant (Class 2Bd)	Units	CS for CS	Basis	MS	FAV for MS, FAV	Basis
Eutrophication standards for Class 2Bd lakes, shallow lakes, and reservoirs. See definitions in part 7050.0150, subpart 4, and ecoregion map in part 7050.0467.						
Lakes, Shallow Lakes, and Reservoirs in Northern Lakes and Forest Ecoregion						
Phosphorus, total	µg/L	30	NA	--	--	NA
Chlorophyll-a	µg/L	9	NA	--	--	NA
Secchi disk transparency	meters	Not less than 2.0	NA	--	--	NA
Lakes and Reservoirs in North Central Hardwood Forest Ecoregion						
Phosphorus, total	µg/L	40	NA	--	--	NA
Chlorophyll-a	µg/L	14	NA	--	--	NA
Secchi disk transparency	meters	Not less than 1.4	NA	--	--	NA
Lakes and Reservoirs in Western Corn Belt Plains and Northern Glaciated Plains Ecoregions						
Phosphorus, total	µg/L	65	NA	--	--	NA
Chlorophyll-a	µg/L	22	NA	--	--	NA
Secchi disk transparency	meters	Not less than 0.9	NA	--	--	NA
Shallow Lakes in North Central Hardwood Forest Ecoregion						
Phosphorus, total	µg/L	60	NA	--	--	NA
Chlorophyll-a	µg/L	20	NA	--	--	NA
Secchi disk transparency	meters	Not less than 1.0	NA	--	--	NA
Shallow Lakes in Western Corn Belt Plains and Northern Glaciated Plains Ecoregions						
Phosphorus, total	µg/L	90	NA	--	--	NA
Chlorophyll-a	µg/L	30	NA	--	--	NA
Secchi disk transparency	meters	Not less than 0.7	NA	--	--	NA

Additional narrative eutrophication standards for Class 2Bd lakes, shallow lakes, and reservoirs are found under subpart 3a.

Substance, Characteristic, or Pollutant (Class 2Bd)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV

Fluoranthene	µg/L	1.9	Tox~~.~~	3.5	6.9	Tox~~.~~
Heptachlor (c)	ng/L	0.39	HH	260*	520*	Tox~~.~~
Heptachlor epoxide (c)	ng/L	0.48	HH	270*	530*	Tox~~.~~
Hexachloro benzene (c)	ng/L	0.24	HH	~~None~~ --*	~~None~~ --*	Tox~~.~~
Lead, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Lead, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

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

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

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total lead standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~
~~Standard: CS~~	~~1.3~~	~~3.2~~	~~7.7~~
~~MS~~	~~34~~	~~82~~	~~197~~
~~FAV~~	~~68~~	~~164~~	~~396~~

TH in mg/L	50	100	200	300	400
Lead, total					
CS µg/L	1.3	3.2	7.7	13	19
MS µg/L	34	82	197	331	477
FAV µg/L	68	164	396	663	956

Lindane (c) (Hexachlorocyclo hexane, gamma)	µg/L	0.032	HH	4.4*	8.8*	Tox~~.~~

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Mercury, total in water	~~µg/L~~ ng/L	~~0.0069~~ 6.9	HH	~~2.4*~~ 2,400*	~~4.9*~~ 4,900*	Tox~~.~~

Mercury, total in edible fish tissue	mg/kg ppm	0.2	HH	NA	NA	NA
Methylene chloride (c) (Dichloromethane)	µg/L	46	HH	13,875*	27,749*	Tox.
Metolachlor	µg/L	23	Tox	271	543	Tox
Naphthalene	µg/L	81	Tox.	409	818	Tox.
Nickel, total	µg/L	Formula equation	Tox/HH	Formula equation	Formula equation	Tox.

Nickel, total The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

The CS shall not exceed the human health-based standard of 297 m\ag/L. For waters with total hardness values less than 212 mg/L, the CS in µg/L is toxicity-based and shall not exceed: exp.(0.846[**ln(total hardness mg/L)]**+1.1645)

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

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total nickel standards in µg/L for three five total hardness values:

Hardness (mg/l)	50	100	200		
Standard: CS	88	158	283		
MS	789	1418	2549		
FAV	1578	2836	5098		

TH in mg/L	50	100	200	300	400
Nickel, total					
CS µg/L	88	158	283	297	297
MS µg/L	789	1,418	2,549	3,592	4,582
FAV µg/L	1,578	2,836	5,098	7,185	9,164

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Oil	µg/L	500	NA	5,000	10,000	NA
Oxygen, dissolved	mg/L	See below	NA	--*	--*	NA

5.0 mg/L as a daily minimum. This dissolved oxygen standard may be modified on a sitespecific basis according to part 7050.0220, subpart 7, except that no sitespecific standard shall be less than 5 mg/L as a daily average and 4 mg/L as a daily minimum. Compliance with this standard is required 50 percent of the days at which the flow of the receiving water is equal to the 7Q) 10.

Parathion	µg/L	0.013	Tox~~.~~	0.07	0.13	Tox~~.~~
Pentachlorophenol	µg/L	1.9	HH	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Pentachlorophenol~~ The MS and FAV vary with pH and are calculated using the following equations:

~~The CS shall not exceed: 1.9~~

The MS in µg/L shall not exceed: exp.(1.005[**pH]**4.830)

The FAV in µg/L shall not exceed: exp.(1.005[**pH]**4.1373)

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For pH values less than 6.0, 6.0 shall be used to calculate the standard and for pH values greater than 9.0, 9.0 shall be used to calculate the standard.

Example of pentachlorophenol standards ~~in µg/l~~ for ~~three~~ five pH values:

~~pH (su)~~	~~7.0~~	~~7.5~~	~~8.0~~
~~Standard: CS~~	~~1.9~~	~~1.9~~	~~1.9~~
~~MS~~	~~9.1~~	~~15~~	~~25~~
~~FAV~~	~~18~~	~~30~~	~~50~~

~~pH (su)~~ ~~Not less than 6.5 nor greater than 9.0~~

pH su	6.5	7.0	7.5	8.0	8.5
Pentachlorophenol					
CS µg/L	1.9	1.9	1.9	1.9	1.9
MS µg/L	5.5	9.1	15	25	41
FAV µg/L	11	18	30	50	82

pH, minimum	su	6.5	NA	--	--	NA
pH, maximum	su	9.0	NA	--	--	NA
Phenanthrene	µg/L	3.6	Tox~~.~~	32	64	Tox~~.~~
Phenol	µg/L	123	Tox~~.~~	2,214	4,428	Tox~~.~~
Polychlorinated biphenyls, total (c)	ng/L	0.029	HH	1,000*	2,000*	Tox~~.~~

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

Substance, Characteristic, or Pollutant (Class 2Bd)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
Radioactive materials	NA	See below	NA	See below	See below	NA

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

Selenium, total	µg/L	5.0	Tox.	20	40	Tox.
Silver, total	µg/L	1.0	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Silver, total~~ The MS and FAV vary with total hardness and are calculated using the following equations:

~~The CS shall not exceed: 1.0~~

The MS in µg/L shall not exceed: exp.(1.720[**ln(total hardness mg/L)**]-7.2156)

The FAV in µg/L shall not exceed: exp.(1.720[**ln(total hardness mg/L)**]-6.520)

~~Provided that the MS and FAV shall be no less than 1.0 µg/l~~

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total silver standards ~~in m\ag/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~
~~Standard: CS~~	~~1.0~~	~~1.0~~	~~1.0~~
~~MS~~	~~1.0~~	~~2.0~~	~~6.7~~
~~FAV~~	~~1.2~~	~~4.1~~	~~13~~

~~Temperature 5 :\aF above natural in streams and 3 :\aF 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 :\aF~~

TH in mg/L	50	100	200	300	400
Silver, total					
CS µg/L	1.0	1.0	1.0	1.0	1.0
MS µg/L	1.0	2.0	6.7	13	22
FAV µg/L	1.2	4.1	13	27	44

Substance, Characteristic, or Pollutant (Class 2Bd)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
Temperature	°F	See below	NA	--	--	NA
5°F above natural in streams and 3°F above natural in lakes, based on monthly average of the maximum daily temperatures, except in no case shall it exceed the daily average temperature of 86°F.						
1,1,2,2 -Tetrachloroethane (c)	µg/L	1.5	HH	1,127*	2,253*	Tox.
Tetrachloroethylene (c)	µg/L	3.8	HH	428*	857*	Tox.
Thallium, total	µg/L	0.28	HH	64	128	Tox.
Toluene	µg/L	253	Tox.	1,352	2,703	Tox.
Toxaphene (c)	ng/L	1.3	HH	730*	1,500*	Tox.
1,1,1 -Trichloroethane	µg/L	329	Tox.	2,957	5,913	Tox.
1,1,2 -Trichloroethylene (c)	µg/L	25	HH	6,988*	13,976*	Tox.
2,4,6 -Trichlorophenol	µg/L	2.0	HH	102	203	Tox.
Turbidity value	NTU	25	NA	~~None~~ --	~~None~~ --	NA
Vinyl chloride (c)	µg/L	0.18	HH	~~None~~ --*	~~None~~ --*	NA
Xylene, total m,p,o	µg/L	166	Tox.	1,407	2,814	Tox.

Substance, Characteristic, or Pollutant (Class 2Bd)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
Zinc, total	µg/L	~~Formula~~ equation	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Zinc, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

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

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

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total zinc standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~	
~~Standard:~~	~~CS~~	~~59~~	~~106~~	~~191~~	
	~~MS~~	~~65~~	~~117~~	~~211~~	
	~~FAV~~	~~130~~	~~234~~	~~421~~	
TH in mg/L	50	100	200	300	400
Zinc, total					
CS µg/L	59	106	191	269	343
MS µg/L	65	117	211	297	379
FAV µg/L	130	234	421	594	758

Subp. 3a. **Narrative eutrophication standards for Class 2Bd lakes, shallow lakes, and reservoirs.**

A. Eutrophication standards applicable to lakes, shallow lakes, and reservoirs that lie on the border between two ecoregions or that are in the Red River Valley, Northern Minnesota Wetlands, or Driftless Area Ecoregions must be applied on a casebycase basis. The commissioner shall use the standards applicable to adjacent ecoregions as a guide.

B. Eutrophication standards are compared to data averaged over the summer season (June through September). Exceedance of the total phosphorus and either the chlorophylla or Secchi disk standard is required to indicate a polluted condition.

C. It is the policy of the agency to protect all lakes, shallow lakes, and reservoirs from the undesirable effects of cultural eutrophication. Lakes, shallow lakes, and reservoirs with a baseline quality better than the numeric eutrophication standards in subpart 3 must be maintained in that condition through the strict application of all relevant federal, state, and local requirements governing nondegradation, the discharge of nutrients from point and nonpoint sources, and the protection of lake, shallow lake, and reservoir resources, including, but not limited to:

(1) the nondegradation requirements in parts 7050.0180 and 7050.0185;

(2) the phosphorus effluent limits for point sources, where applicable in chapter 7053;

(3) the requirements for feedlots in chapter 7020;

(4) the requirements for individual sewage treatment systems in chapter 7080;

(5) the requirements for control of stormwater in chapter 7090;

(6) county shoreland ordinances; and

(7) implementation of mandatory and voluntary best management practices to minimize point and nonpoint sources of nutrients.

D. Lakes, shallow lakes, and reservoirs with a baseline quality that is poorer than the numeric eutrophication standards in subpart 3 must be considered to be in compliance with the standards if the baseline quality is the result of natural causes. The commissioner shall determine baseline quality and compliance with these standards using summeraverage data and the procedures in part 7050.0150, subpart 5. "Natural causes" is defined in part 7050.0150, subpart 4, item N.

E. When applied to reservoirs, the eutrophication standards in this subpart and subpart 3 may be modified on a site-specific basis to account for characteristics of reservoirs that can affect trophic status, such as water temperature, variations in hydraulic residence time, watershed size, and the fact that reservoirs may receive drainage from more than one ecoregion. Information supporting a sitespecific standard 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 reservoir is justified. Any total phosphorus effluent limit determined to be necessary based on amodified standard shall only be required after the discharger has been given notice of the specific proposed effluent limits and an opportunity to request a hearing as provided in part 7000.1800.

Subp. 4. **Class 2B waters.** The quality of Class 2B surface waters shall be such as to permit the propagation and maintenance of a healthy community of cool or warm water sport or commercial fish and associated aquatic life, and their habitats. These waters shall 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 followed by a (c). The basis columns to the right of the chronic standards and to the right of the acute standards indicate whether the chronic and acute~~

~~standards, respectively, are based on the protection of the aquatic community from adverse toxic effects (Tox.), or the protection of human consumers of sportcaught fish (HH). "NA" means not applicable. Subpart 7, item E, should be referenced for FAV and MS values and "none" noted with an asterisk (*).~~. Abbreviations, acronyms, and symbols are explained in subpart 1.

Substance ~~or~~, Characteristic, or ~~(c) = carcinogen~~ Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
		~~Class 2B Chronic Standard~~		**~~Class 2B Acute Standards~~**		
Acenaphthene	µg/l	20	HH	56	112	Tox.
Acetochlor	µg/L	1.7	Tox	86	173	Tox
Acrylonitrile (c)	µg/l	0.89	HH	1,140*	2,281*	Tox.
Alachlor (c)	µg/L	59	Tox.	800	1,600	Tox.
Aluminum, total	µg/L	125	Tox.	1,072	2,145	Tox.
Ammonia un-ionized as N	µg/L	40	Tox.	~~None~~ --	~~None~~ --	NA

The percent un-ionized ammonia can be calculated for any temperature and pH ~~as described in subpart 2.~~ by using the following equation taken from Emerson, K., R.C. Russo, R.E. Lund, and R.V. Thurston, Aqueous ammonia equilibrium calculations; effect of pH and temperature. Journal of the Fisheries Research Board of Canada 32: 23792383 (1975):

$f = 1/(10^{(pkapH)} + 1) \times 100$

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

$pk_a = 0.09 + (2730/T)$ (dissociation constant for ammonia)

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

Anthracene	µg/L	0.035	Tox.	0.32	0.63	Tox.
Antimony, total	µg/L	31	Tox.	90	180	Tox.
Arsenic, total	µg/L	53	HH	360	720	Tox.
Atrazine (c)	µg/L	10	Tox.	323	645	Tox.
Benzene (c)	µg/L	~~114~~ 98	~~Tox.~~ HH	4,487	8,974	Tox.
Bromoform	µg/L	466	HH	2,900	5,800	Tox.

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Cadmium, total	µg/L	~~Formula~~ equation	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Cadmium, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

The CS in µg/L shall not exceed: exp.(0.7852[**ln(total hardness mg/L)**]-3.490)
The MS in µg/L shall not exceed: exp.(1.128[**ln(total hardness mg/L)**]-1.685)
The FAV in µg/L shall not exceed: exp.(1.128[**ln(total hardness mg/L)**]-0.9919)
Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.
For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.
Example of total cadmium standards ~~in m\ag/L~~ for ~~three~~ five hardness values:

~~Hardness (mg/l)~~		~~50~~	~~100~~	~~200~~
~~Standard:~~	~~CS~~	~~0.66~~	~~1.1~~	~~2.0~~
	~~MS~~	~~15~~	~~33~~	~~73~~
	~~FAV~~	~~31~~	~~67~~	~~146~~

TH in mg/L	50	100	200	300	400
Cadmium, total					
CS µg/L	0.66	1.1	2.0	2.7	3.4
MS µg/L	15	33	73	116	160
FAV µg/L	31	67	146	231	319

Carbon tetrachloride (c)	µg/L	5.9	HH	1,750*	3,500*	Tox.
Chlordane (c)	ng/L	0.29	HH	1,200*	2,400*	Tox.
Chloride	mg/L	230	Tox.	860	1,720	Tox.
Chlorine, total residual	µg/L	11	Tox.	19	38	Tox.

Chlorine standard 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 24hour period.

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Chlorobenzene (Monochlorobenzene)	µg/L	20	HH	423	846	Tox.
Chloroform (c)	µg/L	155	Tox.	1,392	2,784	Tox.
Chlorpyrifos	µg/L	0.041	Tox.	0.083	0.17	Tox.
Chromium +3, total	µg/L	~~Formula~~ equation	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Chromium +3, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

The CS in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)]**+1.561)
The MS in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)]**+3.688)
The FAV in µg/L shall not exceed: exp.(0.819[**ln(total hardness mg/L)]**+4.380)
Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.
For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.
Example of total chromium +3 standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~		
~~Standard: CS~~	~~117~~	~~207~~	~~365~~		
~~MS~~	~~984~~	~~1737~~	~~3064~~		
~~FAV~~	~~1966~~	~~3469~~	~~6120~~		
TH in mg/L	50	100	200	300	400
Chromium +3, total					
CS µg/L	117	207	365	509	644
MS µg/L	984	1,737	3,064	4,270	5,405
FAV µg/L	1,966	3,469	6,120	8,530	10,797

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Chromium +6, total	µg/L	11	Tox~~.~~	16	32	Tox
Cobalt, total	µg/L	5.0	Tox~~.~~	436	872	Tox~~.~~
Copper, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Copper, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:
The CS in µg/L shall not exceed: exp.(0.6200[**ln(total hardness mg/L)**]-0.570)
The MS in µg/L shall not exceed: exp.(0.9422[**ln(total hardness mg/L)**]-1.464)
The FAV in µg/L shall not exceed: exp.(0.9422[**ln(total hardness mg/L)**]-0.7703)
Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.
For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values

greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total copper standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~
~~Standard: CS~~	~~6.4~~	~~9.8~~	~~15~~
~~MS~~	~~9.2~~	~~18~~	~~34~~
~~FAV~~	~~18~~	~~35~~	~~68~~

TH in mg/L	50	100	200	300	400
Copper, total					
CS µg/L	6.4	9.8	15	19	23
MS µg/L	9.2	18	34	50	65
FAV µg/L	18	35	68	100	131

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Cyanide, free	µg/L	5.2	Tox.	22	45	Tox.
DDT (c)	ng/L	1.7	HH	550*	1,100*	Tox.
1,2-Dichloro-ethane (c)	µg/L	190	HH	45,050*	90,100*	Tox.
Dieldrin (c)	ng/L	0.026	HH	1,300*	2,500*	Tox.
Di-2-ethylhexyl phthalate (c)	µg/L	2.1	HH	~~None~~ --*	~~None~~ --*	NA
Di-n-octyl phthalate	µg/L	30	Tox.	825	1,650	Tox.
~~Dissolved oxygen~~	~~mg/l~~	~~5.0 as a daily minimum This dissolved oxygen standard may be modified on a sitespecific basis according to subpart 8, except that no sitespecific standard shall be less than 5 mg/l as a daily average and 4 mg/l as a daily minimum. Compliance with this standard is required 50 percent of the days at which the flow of the receiving water is equal to the lowest weekly flow with a once in tenyear recurrence interval (7Q10). This standard applies to all Class 2B waters except for those portions 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 5 mg/l as a daily average from April 1 through November 30, and not less than 4 mg/l at other times.~~					
Endosulfan	µg/L	0.031	HH	0.28	0.56	Tox.
Endrin	µg/L	0.016	HH	0.090	0.18	Tox.
Escherichia (E.) coli	See below	See below	HH	See below	See below	NA

Not to exceed 126 organisms per 100 milliliters as a geometric mean of not less than five samples representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 1,260 organisms per 100 milliliters. The standard applies only between April 1 and October 31.

Ethylbenzene	µg/L	68	Tox~~.~~	1,859	3,717	Tox~~.~~

~~Fecal coliform~~ ~~Not to exceed 200 organisms per 100 organisms 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 April 1 and October 31.~~

Eutrophication standards for Class 2B lakes, shallow lakes, and reservoirs. See definitions in part 7050.0150, subpart 4, and ecoregion map in part 7050.0467.

Lakes, Shallow Lakes, and Reservoirs in Northern Lakes and Forest Ecoregions

Phosphorus, total	µg/L	30	NA	--	--	NA
Chlorophyll-a	µg/L	9	NA	--	--	NA
Secchi disk transparency	meters	Not less than 2.0	NA	--	--	NA

Lakes and Reservoirs in North Central Hardwood Forest Ecoregion

Phosphorus, total	µg/L	40	NA	--	--	NA
Chlorophyll-a	µg/L	14	NA	--	--	NA
Secchi disk transparency	meters	Not less than 1.4	NA	--	--	NA

Lakes and Reservoirs in Western Corn Belt Plains and Northern Glaciated Plains Ecoregions

Phosphorus, total	µg/L	65	NA	--	--	NA
Chlorophyll-a	µg/L	22	NA	--	--	NA
Secchi disk transparency	meters	Not less than 0.9	NA	--	--	NA

Shallow Lakes in North Central Hardwood Forest Ecoregion

Phosphorus, total	µg/L	60	NA	--	--	NA
Chlorophyll-a	µg/L	20	NA	--	--	NA
Secchi disk transparency	meters	Not less than 1.0	NA	--	--	NA

Shallow Lakes in Western Corn Belt Plains and Northern Glaciated Plains Ecoregions

Phosphorus, total	µg/L	90	NA	--	--	NA

Chlorophyll-a	µg/L	30	NA	--	--	NA
Secchi disk transparency	meters	Not less than 0.7	NA	--	--	NA

Additional narrative eutrophication standards for Class 2B lakes, shallow lakes, and reservoirs are found in subpart 4a.

Fluoranthene	µg/L	1.9	Tox~~.~~	3.5	6.9	Tox~~.~~

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Heptachlor (c)	ng/L	0.39	HH	260*	520*	Tox~~.~~
Heptachlor epoxide (c)	ng/L	0.48	HH	270*	530*	Tox~~.~~
Hexachloro-benzene (c)	ng/L	0.24	HH	~~None~~ --*	~~None~~ --*	Tox~~.~~
Lead, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Lead, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

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

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

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total lead standards ~~in m\ag/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~		
~~Standard: CS~~	~~1.3~~	~~3.2~~	~~7.7~~		
~~MS~~	~~34~~	~~82~~	~~197~~		
~~FAV~~	~~68~~	~~164~~	~~396~~		
TH in mg/L	50	100	200	300	400
Lead, total					
CS µg/L	1.3	3.2	7.7	13	19
MS µg/L	34	82	197	331	477
FAV µg/L	68	164	396	663	956

Lindane (c) (Hexachlorocyclo-hexane, gamma)	µg/L	0.036	HH	4.4*	8.8*	Tox~~.~~

Substance, Characteristic, or Pollutant (Class 2B)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
Mercury, total in water	~~µg/L~~ ng/L	~~0.0069~~ 6.9	HH	~~2.4*~~ 2,400*	~~4.9*~~ 4,900*	Tox~~.~~
Mercury, total in edible fish tissue	mg/kg ppm	0.2	HH	NA	NA	NA
Methylene chloride (c) (Dichloromethane)	µg/L	1 ,940	HH	13,875	27,749	Tox~~.~~
Metolachlor	µg/L	23	Tox	271	543	Tox
Naphthalene	µg/L	81	Tox~~.~~	409	818	Tox~~.~~
Nickel, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Nickel, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

The CS in µg/L shall not exceed: exp.(0.846[**ln(total hardness mg/L)]**+1.1645)

The MS in µg/L shall not exceed: exp.(0.846{**ln(total hardness mg/L)]**+3.3612)

The FAV in µg/L shall not exceed: exp.(0.846{**ln(total hardness mg/l)}**+4.0543)

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total nickel standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~		
~~Standard: CS~~	~~88~~	~~158~~	~~283~~		
~~MS~~	~~789~~	~~1418~~	~~2549~~		
~~FAV~~	~~1578~~	~~2836~~	~~5098~~		
TH in mg/L	50	100	200	300	400
Nickel, total					
CS µg/L	88	158	283	399	509
MS µg/L	789	1,418	2,549	3,592	4,582
FAV µg/L	1,578	2,836	5,098	7,185	9,164

Substance, Characteristic, or Pollutant (Class 2B)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
Oil	µg/l	500	NA	5,000	10,000	NA
Oxygen, dissolved	mg/L	See below	NA	--	--	NA

5.0 mg/L as a daily minimum. This dissolved oxygen standard may be modified on a sitespecific basis according to part 7050.0220, subpart 7, except that no sitespecific standard shall be less than 5 mg/L as a daily average and 4 mg/L as a daily minimum. Compliance with this standard is required 50 percent of the days at which the flow of the receiving water is equal to the 7Q) 10. This standard applies to all Class 2B waters except for those portions 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 5 mg/L as a daily average from April 1 through November 30, and not less than 4 mg/L at other times.

Parathion	µg/L	0.013	Tox~~.~~	0.07	0.13	Tox~~.~~
Pentachloro-phenol	µg/L	~~Formula~~ equation	Tox. /HH	~~Formula~~ equation	~~Formula~~ qequation	Tox~~.~~

The CS, MS, and FAV vary with pH and are calculated using the following equations:

For waters with pH values greater than 6.95, the CS shall not exceed the human health-based standard of 5.5 µg/L.

For waters with pH values less than 6.96, the CS in µg/L shall not exceed~~:~~ the toxicity-based standard of exp.(1.005[**pH]**-5.290)

The MS in µg/L shall not exceed: exp.(1.005[**pH]**-4.830)

The FAV in µg/L shall not exceed: exp.(1.005[**pH]**-4.1373)

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For pH values less than 6.0, 6.0 shall be used to calculate the standard and for pH values greater than 9.0, 9.0 shall be used to calculate the standard.

Example of pentachlorophenol standards ~~in µg/l~~ for ~~three~~ five pH values:

~~pH (su)~~	~~7.0~~	~~7.5~~	~~8.0~~
~~Standard: CS~~	~~5.5~~	~~5.5~~	~~5.5~~
~~MS~~	~~9.1~~	~~15~~	~~25~~
~~FAV~~	~~18~~	~~30~~	~~50~~

~~pH (su) Not less than 6.5 nor greater than 9.0~~

pH su	6.5	7.0	7.5	8.0	8.5
Pentachlorophenol					
S µg/L	3.5	5.5	5.5	5.5	5.5
MS µg/L	5.5	9.1	15	25	41
FAV µg/L	11	18	30	50	82

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
pH, minimum	su	6.5	NA	--	--	NA
pH, maximum	su	9.0	NA	--	--	NA
Phenanthrene	µg/L	3.6	Tox.	32	64	Tox.
Phenol	µg/L	123	Tox.	2,214	4,428	Tox.
Polychlorinated biphenyls, total (c)	ng/L	0.029	HH	1,000*	2,000*	Tox.
~~Radioactive materials~~	~~Not to exceed the lowest concentrations permitted to be discharged to an uncontrolled environment as permitted by the appropriate authority having control over their use.~~					
Radioactive materials	NA	See below	NA	See below	See below	NA

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

Selenium, total	µg/L	5.0	Tox.	20	40	Tox.
Silver, total	µg/L	1.0	Tox.	~~Formula~~ equation	~~Formula~~ equation	Tox.

~~Silver, total~~ The MS and FAV vary with total hardness and are calculated using the following equations:

~~The CS shall not exceed: 1.0~~

The MS in µg/L shall not exceed: exp.(1.720[**ln(total hardness mg/L)**]-7.2156)

The FAV in µg/L shall not exceed: exp.(1.720[**ln(total hardness mg/L)**]-6.520)

~~Provided that the MS and FAV shall be no less than 1.0 µg/l~~

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total silver standards ~~in µg/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~

~~Standard: CS~~	~~1.0~~	~~1.0~~	~~1.0~~
~~MS~~	~~1.0~~	~~2.0~~	~~6.7~~
~~FAV~~	~~1.2~~	~~4.1~~	~~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~~

TH in mg/L	50	100	200	300	400
Silver, total					
CS µg/L	1.0	1.0	1.0	1.0	1.0
MS µg/L	1.0	2.0	6.7	13	22
FAV µg/L	1.2	4.1	13	27	44

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Temperature	°F	See below	NA	--	--	NA
5°F above natural in streams and 3°F above natural in lakes, based on monthly average of the maximum daily temperatures, except in no case shall it exceed the daily average temperature of 86°F.						
1,1,2,2 -Tetrachloroethane (c)	µg/L	13	HH	1,127	2,253	Tox.
Tetrachloroethylene (c)	µg/L	8.9	HH	428	857	Tox.
Thallium, total	µg/L	0.56	HH	64	128	Tox.
Toluene	µg/L	253	Tox.	1,352	2,703	Tox.
Toxaphene (c)	ng/L	1.3	HH	730*	1,500*	Tox.
1,1,1 -Trichloroethane	µg/L	329	Tox.	2,957	5,913	Tox.
1,1,2 -Trichloroethylene (c)	µg/L	120	HH	6,988	13,976	Tox.
2,4,6 -Trichlorophenol	µg/L	2.0	HH	102	203	Tox.
Turbidity value	NTU	25	NA	~~None~~	~~None~~	NA
Vinyl chloride (c)	µg/L	9.2	HH	~~None~~ --*	~~None~~ --*	NA
Xylene, total m,p,o	µg/L	166	Tox.	1,407	2,814	Tox.

Substance, Characteristic, or Pollutant (Class 2B)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
Zinc, total	µg/L	~~Formula~~ equation	Tox~~.~~	~~Formula~~ equation	~~Formula~~ equation	Tox~~.~~

~~Zinc, total~~ The CS, MS, and FAV vary with total hardness and are calculated using the following equations:

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

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

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

Where: exp. is the natural antilogarithm (base e) of the expression in parenthesis.

For hardness values less than 10 mg/L, 10 mg/L shall be used to calculate the standard and for hardness values greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total zinc standards ~~in m\ag/l~~ for ~~three~~ five total hardness values:

~~Hardness (mg/l)~~	~~50~~	~~100~~	~~200~~		
~~Standard: CS~~	~~59~~	~~106~~	~~191~~		
~~MS~~	~~65~~	~~117~~	~~211~~		
~~FAV~~	~~130~~	~~234~~	~~421~~		
TH in mg/L	50	100	200	300	400
Zinc, total					
CS µg/L	59	106	191	269	343
MS µg/L	65	117	211	297	379
FAV µg/L	130	234	421	594	758

Subp. 4a. **Narrative eutrophication standards for Class 2B lakes, shallow lakes, and reservoirs.**

A. Eutrophication standards applicable to lakes, shallow lakes, and reservoirs that lie on the border between two ecoregions or that are in the Red River Valley, Northern Minnesota Wetlands, or Driftless Area Ecoregions must be applied on a case-by-case basis. The commissioner shall use the standards applicable to adjacent ecoregions as a guide.

B. Eutrophication standards are compared to data averaged over the summer season (June through September). Exceedance of the total phosphorus and either the chlorophylla or Secchi disk standard is required to indicate a polluted condition.

C. It is the policy of the agency to protect all lakes, shallow lakes, and reservoirs from the undesirable effects of cultural eutrophication. Lakes, shallow lakes, and reservoirs with a baseline quality better than the numeric eutrophication standards in subpart 4 must be maintained in that condition through the strict application of all relevant federal, state, and local requirements governing nondegradation, the discharge of nutrients from point and nonpoint sources, and the protection of lake, shallow lake, and reservoir resources, including, but not limited to:

(1) the nondegradation requirements in parts 7050.0180 and 7050.0185;

(2) the phosphorus effluent limits for point sources, where applicable in chapter 7053;

(3) the requirements for feedlots in chapter 7020;

(4) the requirements for individual sewage treatment systems in chapter 7080;

(5) the requirements for control of stormwater in chapter 7090;

(6) county shoreland ordinances; and

(7) implementation of mandatory and voluntary best management practices to minimize point and nonpoint sources of nutrients.

D. Lakes, shallow lakes, and reservoirs with a baseline quality that is poorer than the numeric eutrophication standards in subpart 4 must be considered to be in compliance with the standards if the baseline quality is the result of natural causes. The commissioner shall determine baseline quality and compliance with these standards using summer-average data and the procedures in part 7050.0150, subpart 5. "Natural causes" is defined in part 7050.0150, subpart 4, item N.

E. When applied to reservoirs, the eutrophication standards in this subpart and subpart 4 may be modified on a sitespecific basis to account for characteristics of reservoirs that can affect trophic status, such as water temperature, variations in hydraulic residence time, watershed size, and the fact that reservoirs may receive drainage from more than one ecoregion. Information supporting a sitespecific standard 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 reservoir is justified. Any total phosphorus effluent limit determined to be necessary based on a modified standard shall only be required after the discharger has been given notice of the specific proposed effluent limits and an opportunity to request a hearing as provided in part 7000.1800.

Subp. 5. **Class 2C waters.** The quality of Class 2C surface waters shall be such as to permit the propagation and maintenance of a healthy community of indigenous fish and associated aquatic life, and their habitats. These waters shall 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 ~~subpart~~ subparts 4 and 4a shall apply to these waters except as listed below:

Substance ~~or~~, Characteristic, or Pollutant	
Escherichia (E.) coli.	Not to exceed 126 organisms per 100 milliliters as a geometric mean of not less than five samples representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 1,260 organisms per 100 milliliters. The standard applies only between April 1 and October 31.
~~Dissolved~~ Oxygen, dissolved.	5 mg/L as a daily minimum. This dissolved oxygen standard may be modified on a sitespecific basis according to part 7050.0220, subpart ~~8~~ 7, except that no site-specific standard shall be less than 5 mg/L as a daily average and 4 mg/L as a daily minimum. Compliance with this standard is required 50 percent of the days at which the flow of the receiving water is equal to the ~~lowest weekly flow with a once in tenyear recurrence interval ($7Q_{10}$)~~ $7Q_{10}$. This dissolved oxygen standard applies to all Class 2C waters except for those portions 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 5 mg/L as a daily average from April 1 through November 30, and not less than 4 mg/L at other times. For the specified reach of the Minnesota River the standard shall be not less than 5 mg/L as a daily average year-round.
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.

Subp. 6. **Class 2D waters; wetlands.**

A. The quality of Class 2D wetlands shall be such as to permit the propagation and maintenance of a healthy community of aquatic and terrestrial species indigenous to wetlands, and their habitats. Wetlands also add to the biological diversity of the landscape. These waters

shall be suitable for boating and other forms of aquatic recreation for which the wetland may be usable. The standards for Class 2B waters listed under subpart 4 shall apply to these waters except as listed below:

Substance ~~or,~~ Characteristic, or Pollutant	Class 2D Standard
~~Dissolved~~ Oxygen, dissolved	If background is less than 5.0 mg/L as a daily minimum, maintain background~~*~~
pH	Maintain background
Temperature	Maintain background

~~*~~B. "Maintain background," as used in this subpart, means the concentration of the water quality ~~substance or characteristic~~ substances, characteristics, or pollutants shall not deviate from the range of natural background concentrations or conditions such that there is a potential significant adverse impact to the designated uses.

C. Activities in wetlands which involve the normal farm practices of planting with annually seeded crops or the utilization of a crop rotation seeding of pasture grasses or legumes, including the recommended applications of fertilizer and pesticides, are excluded from the standards in this subpart and the wetland standards in parts 7050.0224, subpart 4; 7050.0225, subpart 2; and 7050.0227. All other activities in these wetlands must meet water quality standards.

Subp. 7. **Additional standards; Class 2 waters.** The following additional standards and requirements apply to all Class 2 waters.

A. 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, or pollutants which may impair the quality of the waters of the state or the aquatic biota of any of the classes in subparts 2 to 6 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.

B. 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, item D; ~~7050.0211~~ 7053.0215, subpart 1; ~~7050.0212~~ 7053.0225, subpart 6; and ~~7050.0214~~ 7053.0245, 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~~ equation:

$$\frac{C_1}{FAV_1} + \frac{C_2}{FAV_2} + \ldots + \frac{C_n}{FAV_n}$$ equals a value of one or more, an acutely toxic condition is indicated

where: $C_1 \ldots C_n$ is the concentration of the first to the

n th toxicant.

FAV) 1 .... FAV) n is the FAV for the first to the

n th toxicant.

[For text of item C, see M.R.]

D. 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~~ equation unless an alternative model is supported by available scientific evidence. The additive ~~formula~~ equation applies to chemicals that have a human health-based standard calculated with a cancer potency factor.

$$\frac{C_1}{CC_1} + \frac{C_2}{CC_2} + \ldots + \frac{C_n}{CC_n}$$ equals a value of one or more, a risk level greater than 10^{-5} is indicated

where: C_1 .... C_n is the concentration of the first to the

n th carcinogen.

CC_1 .... CC_n is the drinking water plus fish

consumption criterion (~~dfCC~~ CC_{df}) or fish consumption

criterion (~~fCC~~ CC_f) for the first to n th carcinogenic

chemical.

E. The provisions of this item apply to maximum standards (MS), final acute values (FAV), and double dashes (--) in this part and part 7050.0220 marked with an asterisk (*). For carcinogenic or highly bioaccumulative chemicals with BCFs greater than 5,000 or log K ow values greater than 5.19, the human health-based chronic standard (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~~ limit derived using the procedures of this item shall only be required after the discharger has been given notice of the specific proposed effluent ~~limitations~~ limits and an opportunity to request a hearing as provided in part 7000.1800. ~~The relevant MS and FAV values, or if there is no MS or FAV, the word "none," are marked by an asterisk (*) in subparts 2 to 4 and part 7050.0220.~~

Subp. 8. [See repealer.]

Subp. 9. **Conversion factors for dissolved metal standards.**

Metal	~~Chronic standard~~ Conversion Factor for CS	~~Maximum standard and Final Acute Value~~ Conversion Factor for MS and FAV
Cadmium~~*~~	0.909 1.1017[(ln TH, mg/L) (0.0418)]	0.946 1.1367[(ln TH, mg/L) (0.0418)]
Chromium ~~III~~ +3	0.860	0.316
Chromium ~~VI~~ +6	0.962	0.982
Copper	0.960	0.960
Lead~~*~~	0.791 1.4620[(ln TH, mg/L) (0.1457)]	0.791 1.4620[(ln TH, mg/L) (0.1457)]
Mercury	1.0	0.850
Nickel	0.997	0.998
Silver	0.850	0.850
Zinc	0.986	0.978

~~*~~Conversion factors for cadmium and lead are hardness (TH) dependent. The ~~values~~ factors shown in the table above are for a total hardness of 100 mg/L ~~(as CaCO) 3)~~ only. ~~The hardness dependent conversion factors for cadmium are calculated using the following formulas:~~ Conversion factors for cadmium and lead for other hardness values shall be calculated using the equations included in the table. The dissolved standard is the total standard times the conversion factor.

~~Chronic standard: 1.101672~~**~~(ln total hardness)~~**

~~(0.041838)~~
~~Maximum standard and final acute value: 1.136672~~**(ln total hardness) (0.041838)**
~~The hardness dependent conversion factors for lead are calculated using the following formula:~~
~~Chronic and maximum standards and final acute value: 1.46203~~**(ln total hardness) (0.145712)**

7050.0223 SPECIFIC WATER QUALITY STANDARDS ~~OF QUALITY AND PURITY~~ FOR CLASS 3 WATERS OF THE STATE; INDUSTRIAL CONSUMPTION.

Subpart 1. **General.** The ~~numerical~~ numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that are necessary for the industrial consumption designated public uses and benefits. If the standards in this part are exceeded in waters of the state that have the Class 3 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses.

Subp. 2. **Class 3A waters; industrial consumption.** The quality of Class 3A 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~~ The following standards shall not be exceeded in the waters of the state:

Substance ~~or,~~ Characteristic, or Pollutant	Class 3A Standard
Chlorides (Cl)	50 ~~milligrams per liter~~ mg/L
Hardness, Ca + Mg as $CaCO_3$	50 ~~milligrams per liter~~ mg/L
pH, minimum value	6.5 ~~8.5~~
pH, maximum value	8.5

Subp. 3. **Class 3B waters.** The quality of Class 3B 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~~ The following standards shall not be exceeded in the waters of the state:

Substance ~~or,~~ Characteristic, or Pollutant	Class 3B Standard
Chlorides (Cl)	100 ~~milligrams per liter~~ mg/L
Hardness, Ca + Mg as $CaCO_3$	250 ~~milligrams per liter~~ mg/L
pH, minimum value	6.0 ~~9.0~~
pH, maximum value	9.0

Subp. 4. **Class 3C waters.** The quality of Class 3C 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 standards shall not be exceeded in the waters of the state:

Substance ~~or,~~ Characteristic, or Pollutant	Class 3C Standard
Chlorides (Cl)	250 ~~milligrams per liter~~ mg/L
Hardness, Ca + Mg as $CaCO_3$	500 ~~milligrams per liter~~ mg/L
pH, minimum value	6.0 ~~9.0~~
pH, maximum value	9.0

Subp. 5. **Class 3D waters; wetlands.** The quality of Class 3D wetlands shall be such as to permit their use for general industrial purposes, except for food processing, with only a moderate degree of treatment. The following standards apply:

Substance ~~or,~~ Characteristic, or Pollutant	Class 3D Standard
Chlorides (Cl)	Maintain background
Hardness, Ca + Mg as $CaCO_3$	Maintain background
pH	Maintain background

For the purposes of this subpart, "maintain background" means the concentration of the water quality substance ~~or~~, characteristic, or pollutant shall not deviate from the range of natural background concentrations or conditions such that there is a potential significant adverse impact to the designated uses.

[For text of subp 6, see M.R.]

7050.0224 SPECIFIC WATER QUALITY STANDARDS ~~OF QUALITY AND PURITY~~ FOR CLASS 4 WATERS OF THE STATE; AGRICULTURE AND WILDLIFE.

Subpart 1. **General.** The ~~numerical~~ numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that are necessary for the agriculture and wildlife designated public uses and benefits. Wild rice is an aquatic plant resource found in certain waters within the state. The harvest and use of grains from this plant serve as a food source for wildlife and humans. In recognition of the ecological importance of this resource, and in conjunction with Minnesota Indian tribes, selected wild rice waters have been specifically identified **WR** and listed in ~~parts 7050.0460 and~~ part 7050.0470, subpart 1. The quality of these waters and the aquatic habitat necessary to support the propagation and maintenance of wild rice plant species must not be materially impaired or degraded. If the standards in this part are exceeded in waters of the state that have the Class 4 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses.

Subp. 2. **Class 4A waters.** The quality of Class 4A 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 standards 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, or Pollutant	Class 4A Standard
Bicarbonates (HCO_3)	5 milliequivalents per liter
Boron (B)	0.5 ~~milligram per liter~~ mg/L
pH, minimum value	6.0 ~~8.5~~
pH, maximum value	8.5
Specific conductance	1,000 micromhos per centimeter at 25°C
Total dissolved salts	700 ~~milligrams per liter~~ mg/L
Sodium (Na)	60% of total cations as milliequivalents per liter
Sulfates (SO_4)	10 ~~milligrams per liter~~ mg/L, 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.

Subp. 3. **Class 4B waters.** The quality of Class 4B waters of the state shall be such as to permit their use by livestock and wildlife without inhibition or injurious effects. The standards for substances ~~or~~ , characteristics, or pollutants given below shall not be exceeded in the waters of the state:

Substance ~~or~~, Characteristic, or Pollutant	Class 4B Standard
pH, minimum value	6.0 ~~9.0~~
pH, maximum value	9.0

Total salinity	1,000 ~~milligrams per liter~~ mg/L
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.

Subp. 4. **Class 4C waters; wetlands.** The quality of Class 4C wetlands shall be such as to permit their use for irrigation and by wildlife and livestock without inhibition or injurious effects and be suitable for erosion control, groundwater recharge, low flow augmentation, stormwater retention, and stream sedimentation. The standards for Classes 4A and 4B waters shall apply to these waters except as listed below:

Substance ~~or,~~ Characteristic, or Pollutant	Class 4C Standard
pH	Maintain background
Settleable solids	Shall not be allowed in concentrations sufficient to create the potential for significant adverse impacts on one or more designated uses.

For the purposes of this subpart, "maintain background" means the concentration of the water quality substance ~~or,~~ characteristic, or pollutant shall not deviate from the range of natural background concentrations or conditions such that there is a potential significant adverse impact to the designated uses.

7050.0225 SPECIFIC WATER QUALITY STANDARDS ~~OF QUALITY AND PURITY~~ FOR CLASS 5 WATERS OF THE STATE; AESTHETIC ENJOYMENT AND NAVIGATION.

Subpart 1. **General.** The ~~numerical~~ numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that are necessary for the aesthetic enjoyment and navigation designated public uses and benefits. If the standards in this part are exceeded in waters of the state that have the Class 5 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses.

Subp. 2. **Class 5 waters; aesthetic enjoyment and navigation.** The quality of Class 5 waters of the state shall be such as to be suitable for aesthetic enjoyment of scenery, to avoid any interference with navigation or damaging effects on property. The following standards shall not be exceeded in the waters of the state:

Substance ~~or,~~ Characteristic, or Pollutant	Class 5 Standard
~~For nonwetlands~~	
~~pH value~~	~~6.0–9.0~~
~~Hydrogen sulfide as S~~	~~0.02 milligram per liter~~
~~For wetlands~~	
~~pH value~~	~~Maintain background~~
~~Hydrogen sulfide as S~~	~~Maintain background~~

	For nonwetlands	For wetlands
pH, minimum	6.0	Maintain background
pH, maximum	9.0	Maintain background
Hydrogen sulfide as S	0.02 mg/L	Maintain background

For the purposes of this subpart, "maintain background" means the concentration of the water quality substance ~~or,~~ characteristic, or pollutant shall not deviate from the range of natural background concentrations or conditions such that there is a potential significant adverse impact to the designated uses.

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

7050.0226 SPECIFIC WATER QUALITY STANDARDS ~~OF QUALITY AND PURITY~~ FOR CLASS 6 WATERS OF THE STATE; OTHER USES.

Subpart 1. **General.** The ~~numerical~~ numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that are necessary for other designated public uses and benefits. If the standards in this part are exceeded in waters of the state that have the Class 6 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses.

[For text of subp. 2, see M.R.]

7050.0227 SPECIFIC WATER QUALITY STANDARDS ~~OF QUALITY AND PURITY~~ FOR CLASS 7 WATERS OF THE STATE; LIMITED RESOURCE VALUE WATERS.

Subpart 1. **General.** The ~~numerical~~ numeric and narrative water quality standards in this part prescribe the qualities or properties of the waters of the state that have limited resource value designated public uses and benefits. If the standards in this part are exceeded in waters of the state that have the Class 7 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses.

Subp. 2. **Class 7 waters; limited resource value waters.** The quality of Class 7 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. Standards ~~of~~ for substances ~~or,~~ characteristics, or pollutants given below shall not be exceeded in the waters:

Substance ~~or,~~ Characteristic,	Class 7 Standard or Pollutant
~~Fecal coliform organisms~~	~~Not to exceed 1,000 organisms per 100 milliliters in any calendar month as determined by a geometric 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.~~
Escherichia (E.) coli	Not to exceed 630 organisms per 100 milliliters as a geometric mean of not less than five samples representative of conditions within any calendar month, nor shall more than ten percent of all samples taken during any calendar month individually exceed 1,260 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

dissolved	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.
pH, minimum value	6.0
pH, maximum value	9.0
Toxic pollutants	Toxic pollutants shall not be allowed in such quantities or concentrations that will impair the specified uses.

7050.0400 ~~PURPOSE~~ BENEFICIAL USE CLASSIFICATIONS FOR SURFACE WATERS; SCOPE.

Parts ~~7050.0400~~ 7050.0405 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~~ 7050.0140.

7050.0420 TROUT WATERS.

Trout lakes identified in part 6264.0050, subpart 2, as amended through ~~September 14, 1999~~ June 14, 2004, are classified as trout waters and are listed under part 7050.0470. Trout streams and their tributaries within the sections specified that are identified in part 6264.0050, subpart 4, as amended through ~~September 14, 1999~~ June 14, 2004, are classified as trout waters. Trout streams are listed in part 7050.0470. Other lakes that are classified as trout waters are listed in part 7050.0470. All waters listed in part 7050.0470 as Class 1B, 2A, and 3B are also classified as Class ~~3C,~~ 4A, 4B, 5, and 6 waters.

7050.0425 UNLISTED WETLANDS.

Those waters of the state that are wetlands as defined ~~by~~ in part ~~7050.0130, item F~~ 7050.0186, subpart 1a, and that are not listed in part 7050.0470 are classified as Class 2D, 3D, 4C, 5, and 6 waters.

7050.0430 UNLISTED WATERS.

All surface waters of the state that are not listed in part 7050.0470 and that are not wetlands as defined ~~under~~ in part ~~7050.0130, item F~~ 7050.0186, subpart 1a, are hereby classified as Class 2B, ~~3B~~ 3C, 4A, 4B, 5, and 6 waters.

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~~.

7050.0450 MULTICLASSIFICATIONS.

~~If a water~~ All surface waters of the state ~~is~~ are classified in more than one class~~,~~ and 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.

7050.0460 WATERS SPECIFICALLY CLASSIFIED; EXPLANATION OF LISTINGS IN PART 7050.0470.

Subpart 1. **Explanation of listings.** 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~~ water body 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. Most waters of the state are not specifically listed in part 7050.0470. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

~~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.~~

Subp. 2. **Outstanding international waters.** The waters listed in part 7050.0470, subpart 1, that are not designated as outstanding resource value waters or classified as Class 7 waters are designated as outstanding international resource waters under part 7052.0300, subpart 3. Unlisted waters classified in part 7050.0430 and unlisted wetlands classified in part 7050.0425 that are located in the Lake Superior Basin are also designated as outstanding international resource waters under part 7052.0300, subpart 3.

~~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 7050.0222, subpart 3.~~

~~Waters designated as wild rice waters in part 7050.0470, subpart 1, are identified by the letters WR appearing in brackets following the name of the water.~~

Subp. 3. **Abbreviations and symbols.** The listings in part 7050.0470 include the following abbreviations and symbols:

T., R., S. means township, range, and section, respectively.

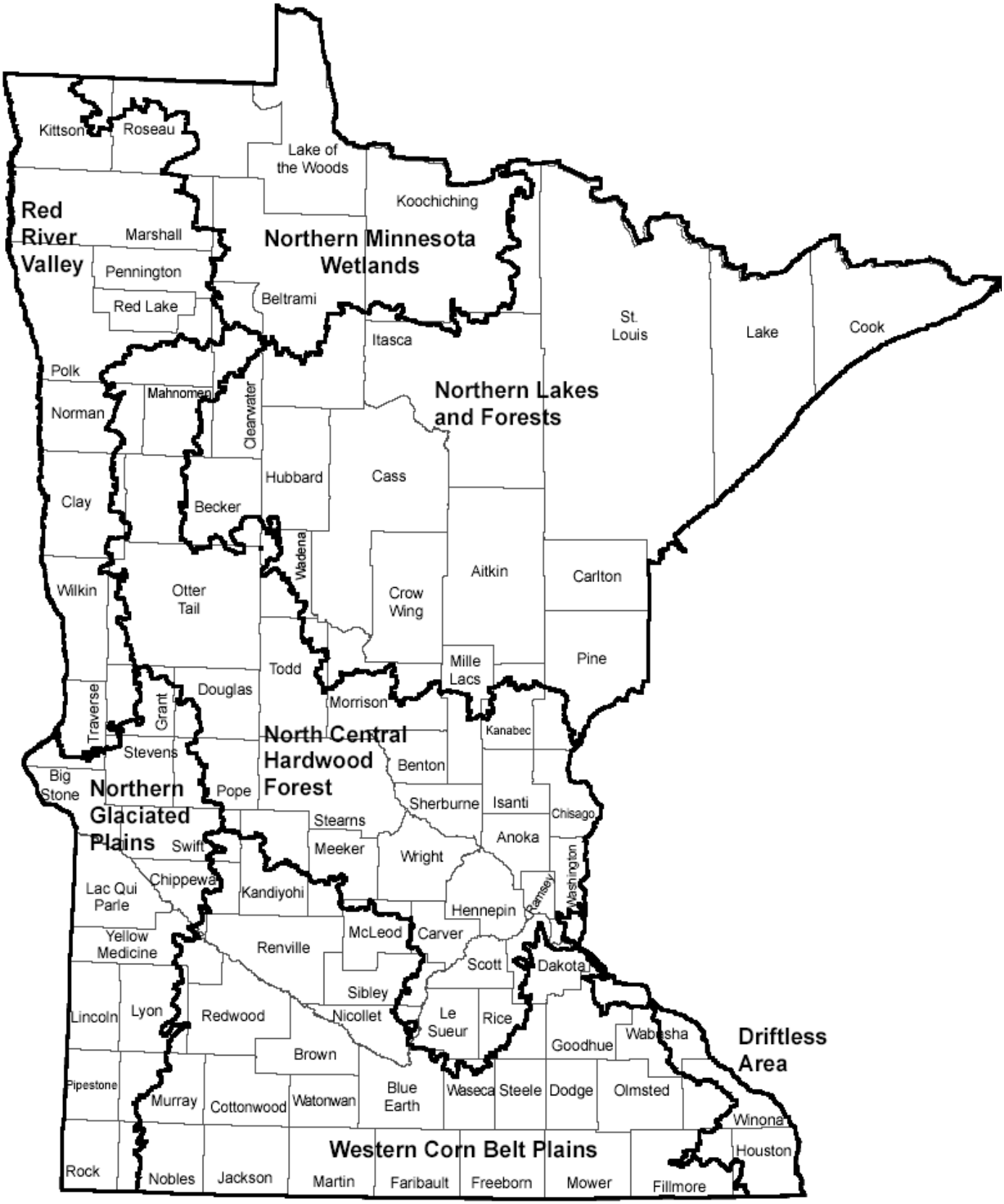
An asterisk (*) preceding the name of the water body means the water body is an outstanding resource value water.

month/day/year/letter code following the name of the outstanding resource value water in brackets is the effective date the water resource was designated as an outstanding resource value water. The letter code (P or R) indicates 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.

WR following the name of the water body means the water body is designated as a wild rice water in part 7050.0470, subpart 1.

Class 2Bd waters are Class 2B waters also protected for domestic consumption purposes (Class 1). Applicable standards for Class 2Bd waters are listed in part 7050.0222, subparts 3 and 3a.

7050.0467 MAP: MINNESOTA ECOREGIONS.



7050.0470 CLASSIFICATIONS FOR SURFACE 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~~, B, and~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

(1) Ahlenius Creek, (T.53, R.14, S.9, 10): 1B, 2A, 3B;

(2) Amenda Creek, ~~(T.59, R.5W): 2C~~ (T.59, R.5, S.19, 20, 29, 30, 31; T.59, R.6, S.36): 1B, 2A, 3B;

[For text of subitems (3) and (4), see M.R.]

(5) Anderson Creek, Carlton County, (T.46, R.17, S.11, 14, 15, 22, 26, 27): 1B, 2A, 3B;

(6) Anderson Creek, St. Louis County, (T.49, R.15, S.16, 17, 18; T.49, R.16, S.12, 13): 1B, 2A, 3B;

[For text of subitems (7) to (13), see M.R.]

(14) Barker Creek, (T. 60, R.3W, S.5, 6, 7, 8; T.60, R.4W, ~~S.2,~~ S.3, 9, 10, 11, 12; T.61, R.4W, S.34, 35): 1B, 2A, 3B;

(15) Barrs Creek, (T.53, R.13, S.20, 27, 28, 29): 1B, 2A, 3B;

(16) Bear Trap Creek (Beartrap Creek), (T.51, R.16, S.30; T.51, R.17, S.16, 21, 22, 23, 25, 26, 27, 28): 1B, 2A, 3B;

(17) Beaver Dam Creek (Beaverdam Creek), (T.63, R.3E, S.2, 3, 4, 5; T.64, R.3E, S.32, 33, 34, 35): 1B, 2A, 3B;

(18) Beaver River (includes Kit Creek), (T.55, R.8, S.2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17; T.55, R.9, S.1, 2; T.56, R.8, S.31; T.56, R.9, S.4, 5, 6, 8, 9, 16, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 32, 33, 34, 35, 36; T.57, R.9, S.28, 32, 33): 1B, 2A, 3B;

(19) Beaver River, East Branch (includes Hen Creek), (T.55, R.8, S.2; T.56, R.8, S.4, 5, 6, 8, 9, 15, 16, 21, 22, 25, 26, 27, 35, 36; T.57, R.8, S.7, 18, 19, 30, 31, 32; T.57, R.9, S.2, 3, 11, 12, 13, 14, 15, 23, 24, 25, 26, 36): 1B, 2A, 3B;

[For text of subitems (20) to (26), see M.R.]

~~(27) Bruce Creek, (T.53, R.22, S.6, 7; T.53, R.23, S.25, 26; T.54, R.22, S.18, 19, 30, 31; T.54, R.23, S.25, 26): 1B, 2A, 3B;~~

(27) Breda Creek (see Berry Creek);

[For text of subitem (28), see M.R.]

(29) Brule River (excluding trout waters and waters within Boundary Waters Canoe Area Wilderness), (~~T.62,~~ T. 63, 64, R.1W, 1E, 2E~~, 3E~~): 1B, 2Bd, ~~3B~~ 3C;

(30) Brule River, Little, (T.62, R.3E, S.19, 20, 29, 32, 33): 1B, 2A, 3B;

(31) Budd Creek (Bud Creek), (T.55, R.9, S.7, 17, 18, 20, 21): 1B, 2A, 3B;

[For text of subitems (32) to (38), see M.R.]

(39) Caribou River, (T.58, R.6, S.1, 2, 11, 13, 14, 15, 22, 23, 24, 25, 26, 36; ~~T.59, R.5W, S.19, 20, 29, 30, 31;~~ T.59, R.6, S.23, 24, 25, 26, 35, 36): 1B, 2A, 3B;

[For text of subitems (40) to (42), see M.R.]

(43) *Cascade River, North Branch **11/5/84P** (T.62, R.2W, S.3, 10): 1B, 2A, 3B;

(44) Cascade River, North Branch (those waters outside the Boundary Waters Canoe Area Wilderness), (T.62, R.2W, S.10): 1B, 2A, 3B;

~~(44)~~ (45) Castle Danger Creek (Campers), (T.54, R.9, S.30, 31, 32): 1B, 2A, 3B;

~~(45)~~ (46) Cedar Creek, Lake County, (T.56, R.8, S.13, 14, 23, 24, 26): 1B, 2A, 3B;

~~(46)~~ (47) Cedar Creek, Cook County, (T.59, R.5W, S.2; T.60, R.5W, S.14, 22, 23, 25, 26, 35, 36): 1B, 2A, 3B;

~~(47)~~ (48) Cemetery Creek, (T.51, R.17, S.4, 5, 9): 1B, 2A, 3B;

~~(48)~~ (49) Chellberg Creek (Chalberg Creek), (T.51, R.16, S.7; T.51, R.17, S.1, 2, 3, 10, 12): 1B, 2A, 3B;

~~(49)~~ (50) Chester Creek, (T.50, R.14, S.7, 8, 9, 14, 15, 16, 23): 1B, 2A, 3B;

~~(50)~~ (51) Chester Creek, East Branch, (T.50, R.14, S.4, 5, 9, 15, 16): 1B, 2A, 3B;

~~(51)~~ (52) Chicken Creek, (T.52, R.16, S.5, 7, 8, 18, 19; T.52, R.17, S.13, 24, 25; T.53, R.16, S.32): 1B, 2A, 3B;

~~(52)~~ (53) Clear Creek, Carlton County, (T.46, R.17, S.9, 10, 11, 12, 16, 17, 20, 29): 1B, 2A, 3B;

~~(53)~~ (54) Clear Creek, Carlton County, (T.47, R.15, S.7; T.47, R.16, S.1, 2, 3, 4, 12; T.48, R.16, S.33): 1B, 2A, 3B;

~~(54)~~ (55) Cliff Creek, (T.61, R. 2E, S.3, 4, 5, 9, 10; T.62, R.2E, S.29, 30, 31, 32): 1B, 2A, 3B;

~~(55)~~ (56) Cloudy Spring Creek, (T.57, R.9, S.5, 6, 7, 18; T.57, R.10, S.12, 13, 24): 1B, 2A, 3B;

~~(56)~~ (57) Colville Creek, East, (T.61, R.3E, S.5; T.62, R.2E, S.25; T.62, R.3E, S.30, 31, 32): 1B, 2A, 3B;

~~(57)~~ (58) Coolidge Creek, (T.55, R.14, S.19, 29, 30; T.55, R.15, S.25, 26, 35, 36): 1B, 2A, 3B;

~~(58)~~ (59) Cranberry Creek, (T.58, R.13): 2C;

~~(59)~~ (60) Cross River, (T.58, R.4W, S.6; T.58, R.5W, S.1; T.59, R.4W, S.31; T.59, R.5W, S.4, 5, 8, 9, 15, 16, 21, 22, 23, 25, 26, 35, 36; T.60, R.5W, S.30, 31, 32; T.60, R.6, S.13, 24, 25, 36): 1B, 2A, 3B;

~~(60)~~ (61) Crow Creek, (T.53, R.10, S.1, 2; T.54, R.10, S.15, 22, 23, 26, 35): 1B, 2A, 3B;

~~(61)~~ (62) Crown Creek, (T.57, R.8, S.2, 3, 4, 5, 9, 10, 11; T.58, R.8, S.5, 6, 7, 18, 19, 20, 29, 30, 31, 32, 33; T.58, R.9, S.1, 12, 13, 14, 24, 36; T.59, R.8, S.32): 1B, 2A, 3B;

~~(62)~~ (63) Crystal Creek, (T.48, R.16, S.6; T.48, R.17, S.1): 1B, 2A, 3B;

~~(63)~~ (64) Cutface Creek (Good Harbor Creek), (T.61, R.1W, S.27, 28, 29, 34): 1B, 2A, 3B;
~~(64)~~ (65) Dago Creek, (T.54, R.9, S.18, 19; T.54, R.10, S.2, 11, 12, 13; T.55, R.10, S.27, 34, 35): 1B, 2A, 3B;
~~(65)~~ (66) Deer Creek, (T.47, R.16, S.19, 20, 28, 29~~, 30~~; T.47, R.17, S.11, 12, 13, 24): 1B, 2A, 3B;
~~(66)~~ (67) Deer Yard Creek (Spruce Creek), (T.60, R.2W, S.4, 5, 6, 7, 8, 9, 10, 15, 16, 17; T.61, R.2W, S.32): 1B, 2A, 3B;
~~(67)~~ (68) Devil Track River, (T.61, R.1E, ~~S.1,~~ S. 2, 3, 10, 11, 12, 13; T.62, R.1E, S.26, 31, 32, 33, 34, 35~~, 36~~): 1B, 2A, 3B;
~~(68)~~ (69) Devil Track River, Little, (T.61, R.1E, S.4, 5, 6, 7, 8, 9, 10; T.61, R.1W, S.1, 2, 11, 12): 1B, 2A, 3B;
~~(69)~~ (70) Dragon Creek, (T.57, R.6, S.8, 9, 16, 17, 21): 1B, 2A, 3B;
~~(70)~~ (71) Durfee Creek, (T.61, R.2E, S.5, 6, 8; T.62, R.1E, S.25, 36; T.62, R.2E, S.31): 1B, 2A, 3B;
~~(71)~~ (72) Dutchess Slough Creek (Dutch Slough), (T.50, R.17, S.4, 9, 10, 13, 14, 15, 24): 1B, 2A, 3B;
~~(72)~~ (73) Egge Creek, (T.57, R.7, S.2, 3, 4, 11): 1B, 2A, 3B;
~~(73)~~ (74) Elbow Creek, Cook County, (T.62, R.1E, S.3, 4, 9, 10, 15, 22, 27, 34; T.63, R.1E, S.33, 34): 1B, 2A, 3B;
~~(74)~~ (75) Elbow Creek, Eveleth, (T.57, R.17, S.6; T.57, R.18, S.1): 7;
~~(75)~~ (76) Elm Creek, (T.49, R.16, S.1, 2; T.50, R.16, S.35): 1B, 2A, 3B;
~~(76)~~ (77) Encampment River, (T.53, R.10, S.3, 10, 11; T.54, R.10, S.8, 16, 17, 21, 27, 28, 34): 1B, 2A, 3B;
~~(77)~~ (78) Farquhar Creek, (T.62, R.4E, S.2, 11; T.63, R.4E, S.34, 35): 1B, 2A, 3B;
~~(78)~~ (79) *Fiddle Creek, **11/5/84P** (T.64, R.1W, S.34): 1B, 2A, 3B;
~~(79)~~ (80) Fiddle Creek, (T.63, R.1W, S.2, 3, 10, 15; T.64, R.1W, S.35): 1B, 2A, 3B;
~~(80)~~ (81) Flute Reed River, (T.62, R.3E, S.1, 2, 3, 10, 11, 12, 13, 14, 15; T.62, R.4E, S.17, 18, ~~19,~~ 20; T.63, R.3E, S.26, 34, 35, 36): 1B, 2A, 3B;
(82) Fond du Lac Creek (Squaw), (T.49, R.17, S.9, 16, 17, 18, 19, 20, 21): 1B, 2A, 3B;
~~(81)~~ (83) Fox Farm Creek, (T.62, R.1E, S.19, 30): 1B, 2A, 3B;
~~(82)~~ (84) French River, (T.51, R.12, S.7, 17, 18; T.51, R.13, S.1, 2, 3, 12; T.52, R.13, S.8, 9, 16, 17, 20, 21, 23, 26, 27, 28, 29, 34, 35): 1B, 2A, 3B;
~~(83)~~ (85) Fry Creek, (T.62, R.2W, S.25; T.62, 1W, ~~S.29,~~ S.30, 31): 1B, 2A, 3B;
~~(84)~~ (86) Gauthier Creek, (T.62, R.3E, S.16, 20, 21, 22, 27): 1B, 2A, 3B;
~~(85)~~ (87) Gill Creek, (T.48, R.16, S.2): 1B, 2A, 3B;
~~(86)~~ (88) Gooseberry River, (T.54, R.9, S.18, 19, 20, 21, 22, 27; T.54, R.10, S.4, 5, 6, 8, 9, 10, 11, 12, 13; T.55, R.10, S.4, 9, 16, 17, 20, 29, 30, 31, 32; T.56, R.10, S.33): 1B, 2A, 3B;
~~(87)~~ (89) Gooseberry River, Little, (T.54, R,10, S.6; T.54, R.11, S.1; T.55, R.10, S.31; T.55, R.11, S.34, 35, 36): 1B, 2A, 3B;
~~(88)~~ (90) Grand Portage Creek, (T.63, R.5E, S.1;
T.63, R.6E, S.4, 5, 6; T.64,; R.6E, S.31, 32, 33): 1B, 2A, 3B;
~~(89)~~ (91) Greenwood River, (T.63, R.2E, S.1, 2,
3, 10, 11, 12, 13, 14, 15, 22, 23, 24; T.63, R.3E, S.6; T.64,
R.2E, S.34; T.64, R.3E, S.31): 1B, 2A, 3B;
~~(90)~~ (92) Hay Creek, (T.49, R.16, S.3, 4, 9, 10, 15; T.50, R.16, S.20, 21, 28, 29, 32, 33): 1B, 2A, 3B;
~~(91)~~ (93) Heartbreak Creek, (T.59, R.4W, S.18, 19; T.59, R.5W, S.2, 11, 12, 13; T.60, R.5W, S.27, 28, 33, 34, 35): 1B, 2A, 3B;
~~(92)~~ (94) Hellwig Creek, (T.52, R.17, S.3, 10, 14, 15, 23, 26; T.53, R.16, S.16, 18, 19, 20, 30; T.53, R.17, S.13, 14, 23, 24, 25, 26, 34, 35): 1B, 2A, 3B;
~~(93)~~ (95) Hockamin Creek, (T.57, R.7, S.17, 18, 19; T.57, R.8, S.13, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33): 1B, 2A, 3B;
~~(94)~~ (96) Hollow Rock Creek, (T.63, R.5E, S.9, 10, 11, 14, 15, 16, 23, 24, 25): 1B, 2A, 3B;
~~(95)~~ (97) Honeymoon Creek (Spring Creek), (T.61, R.4W, S.28, 31, 32, 33): 1B, 2A, 3B;
~~(96)~~ (98) Hornby Junction Creek (Whiteface River, South Branch), (T.55, R.13, S.5,6, 7; T.56, R.13, S.28, 32, 33): 1B, 2A, 3B;
~~(97)~~ (99) Horn Creek, (T.62, R.4W): 1B, 2Bd, ~~3B~~ 3C;
~~(98)~~ (100) Houghtaling Creek, (T.59, R.6, S.2, 3, 4, 5, 6; T.60, R.6, S.25, 32, 33, 35, 36): 1B, 2A, 3B;
~~(99)~~ (101) Humphrey Creek, (T.54, R.14, S.23, 26, 27, 33, 34): 1B, 2A, 3B;
~~(100)~~ (102) Hunter Creek (Hunters Creek), (T.46, R.18, S.2, 11, 12, 13; T.47, R.18, S.34, 35): 1B, 2A, 3B;
~~(101)~~ (103) Indian Camp Creek, (T.60, R.2W, S.3, 10, 11; T.61, R2W, S.34): 1B, 2A, 3B;
~~(102)~~ (104) Indian Creek, (T.55, R.12, S.3; T.56, R.12, S.14, 22, 23, 27, 34): 1B, 2A, 3B;
~~(103)~~ (105) Irish Creek, (T.63, R.3E, S.8, 9, 10, 13, 14, 15, 23, 24, 25, 26; T.63, R.4E, S.17, 18, 19): 1B, 2A, 3B;
~~(104)~~ (106) Joe Martin Creek (Martin Branch), (T.50, R.18, S.3, 4, 5, 7, 8; T.50, R.19, S.12): 1B, 2A, 3B;
~~(105)~~ (107) Johnson Creek, (T.50, R.17, S.3, 10, 11, 14; T.51, R.17, S.34): 1B, 2A, 3B;
~~(106)~~ (108) Johnson Creek, (T.55, R.12, S.35, 36): 1B, 2A, 3B;
~~(107)~~ (109) Jonvick Creek, (T.60, R.2W, S.7, 19; T.60, R.3W, S.12, 13, 14, 24): 1B, 2A, 3B;
~~(108)~~ (110) Junco Creek, (T.62, R.1W, S.1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 21, 28; T.62, R.1E, S.6, 7; T.63, R.1E, S.20, 29, 30, 31; T.63,

R.1W, S.24, 25, 35): 1B, 2A, 3B;

~~(109)~~ (111) Kadunce Creek (Kadunce River), (T.61, R.2E, S.2; T.62, R.2E, S.9, 10, 12, 13, 14, 15, 16, 22, 23, 24, 26, 35): 1B, 2A, 3B;

~~(110)~~ (112) Keene Creek, (T.49, R.14, S.18; T.49, R.15, S.1, 12, 13; T.50, R.15, S.24, 25, 36): 1B, 2A, 3B;

~~(111)~~ (113) Kehtel Creek, (T.51, R.15, S.8, 17, 18, 19, 20): 1B, 2A, 3B;

~~(112)~~ (114) Kimball Creek, (T.61, R.2E, S.3, 4, 10; T.62, R.2E, S.7, 16, 17, 18, 19, 20, 21, 28, 29, 33, 34): 1B, 2A, 3B;

~~(113)~~ (115) Kingsbury Creek, (T.49, R.15, S.4, 9, 10, 11, 13, 14; T.50, R.15, S.33, 34): 1B, 2A, 3B;

~~(114)~~ (116) Kinney Creek, (T.57, R.10, S.15, 21, 22, 28, 33): 1B, 2A, 3B;

~~(115)~~ (117) Knife River, (T.52, R.11, S.4, 5, 8, 9, 17, 18, 19, 31; T.53, R.11, S.4, 5, 7, 8, 17, 18, 20, 29, 32, 33; T.54, R.11, S.20, 29, ~~30,~~ 32; T.52, R.12, S.24, 25, 36): 1B, 2A, 3B;

~~(116)~~ (118) Knife River, Little, (T.52, R.12, S.16, 17, 21, 22, 23, 26, 27, 28, 35, 36): 1B, 2A, 3B;

~~(117)~~ (119) Knife River, Little, East Branch, (T.53, R.11, S.17, 20, 21, 22, 27, 33, 34): 1B, 2A, 3B;

~~(118)~~ (120) Knife River, Little, West Branch, (T.52, R.11, ~~S.5,~~ S.6; T.53, R.11, S.31; T.53, R.12, S.13, 14, 23, 24, 25, 26, 36): 1B, 2A, 3B;

~~(119)~~ (121) Knife River, West Branch, (T.52, R.11, S.5, 6, 8; T.52, R.12, S.1; T.53, R.12, S.2, 3, 10, 15, 16, 22, 23, 27, 28, 34, 35, 36; T.54, R.12, S.35, 36): 1B, 2A, 3B;

~~(120)~~ (122) Koski Creek, (T.61, R.4W, S.5, 8; T.62, R.4W, S.31, 32): 1B, 2A, 3B;

~~(121)~~ (123) Lavi Creek, (T.52, R.15, S.21, 28): 1B, 2A, 3B;

~~(122) Leppanen Creek~~ (124) Leskinen Creek~~)~~, (T.57, R.7, S.15, 21, 22, 28): 1B, 2A, 3B;

~~(123)~~ (125) Lester River, (T.50, R.13, S.4, 5, 8; T.51, R.13, S.5, 6, 7, 8, 16, 17, 18, 19, 20, 21, 28, 32, 33; T.51, R.14, S.1, 2, 10, 11, 12, 13, 15, 16, 24; T.52, R.13, S.31, 32; T.52, R.14, S.21, 22, 23, 27, 28, 34, 35): 1B, 2A, 3B;

~~(124)~~ (126) Lindstrom Creek, (T.56, R.7, S.4; T.57, R.7, S.19, 30, 31, 32, 33; T.57, R.8, S.25): 1B, 2A, 3B;

~~(125)~~ (127) Lullaby Creek, (T.63, R.1E, S.4, 5, 8, 9): 1B, 2A, 3B;

~~(126)~~ (128) Manganika Creek, Virginia, (T.58, R.17, S.19; T.58, R.18, S.24): 7;

~~(127)~~ (129) Manitou River (Moose Creek), (T.57, R.6, S.3, 4, 10, 11; T.58, R.6, S.4, 5, 6, 7, 8, 16, 17, 18, 20, 21, 28, 29, 32, 33, 34): 1B, 2A, 3B;

~~(128)~~ (130) Manitou River, Little, (T.57, R.6, S.2; T.58, R.6, S.34, 35): 1B, 2A, 3B;

~~(129)~~ (131) Manitou River, North Branch (Balsam Creek), (T.58, R.6, S.6; T.58, R.7, S.1, 2; T.59, R.6, S.31; T.59, R.7, S.15, 16, 18, 19, 20, 21, 22, 25, 26, 27, 28, 33, 34, 35, 36; T.59, R.8, S.1, 2, 12, 13, 24, 25, 26): 1B, 2A, 3B;

~~(130)~~ (132) Manitou River, South Branch (Junction Creek), (T.58, R.6, S.6; T.58, R.7, S.1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18; T.58, R.8, S.1; T.59, R.7, S.29, 30, 31, 32, 33): 1B, 2A, 3B;

~~(131)~~ (133) Marais River, Little, (T.57, R.6, S.5, 8, 16, 17, 21): 1B, 2A, 3B;

~~(132)~~ (134) Mark Creek, (T.61, R.2W, S.1, 2, 3, 4, 5, 6, 9): 1B, 2A, 3B;

~~(133)~~ (135) Marshall Creek, (T.52, R.15, S.10, 15): 1B, 2A, 3B;

~~(134)~~ (136) Martin Creek, (T.58, R.6, S.2, 3, 11): 1B, 2A, 3B;

~~(135)~~ (137) McCarthy Creek, (T.53, R.11, S.18; T.53, R.12, S.12, 13): 1B, 2A, 3B;

~~(136)~~ (138) Midway River (Rock Run), (T.49, R.15, S.5, 6; T.49, R.16, S.1, 12, 13, 14, 15, 21, 22; T.50, R.15, S.7, 8, 14, 15, 16, 17, 20, 21, 22, 23, 28, 29, 32, 33): 1B, 2A, 3B;

~~(137)~~ (139) Mile Post FortyThree Creek (Fortythree Creek, East and West Branch), (T.56, R.8, S.2, 3, ~~9,~~ 10, 11, 13, 14, 15): 1B, 2A, 3B;

~~(138)~~ (140) Miller Creek, (T.49, R.14, S.4; T.50, R.14, S.6, 18, 19, 29, 30, 32, 33; T.50, R.15, S.12, 13; T.51, R.14, S.31, 32): 1B, 2A, 3B;

~~(139)~~ (141) Mink Creek, (T.54, R.9, S.4, 5, 9; T.55, R.9, S.30, 31, 32; T.55, R.10, S.25, 26, 36): 1B, 2A, 3B;

~~(140)~~ (142) Mission Creek, (T.48, R.15, S.5, 6; T.49, R.15, S.31; T.49, R.16, S.25, 26, 36): 1B, 2A, 3B;

~~(141)~~ (143) Mississippi Creek, (T.61, R.2W, S.1, 2, 3; T.61, R.3W, S.1; T.62, R.2W, S.31, 32, 33, 34, 35, 36; T.62, R.3W, S.24, 25, 35, 36): 1B, 2A, 3B;

~~(142)~~ (144) Mississippi Creek, Little, (T.62, R.2W, S.20, 21, 26, 29, 32, 33, 34, 35): 1B, 2A, 3B;

~~(143)~~ (145) Mistletoe Creek, (T.60, R.3W, S.3, 4; T.61, R.2W, S.7, 18~~, 19~~; T.61, R.3W, S.11, 13, 14, 15, 23, 24, 25, 26, 34, 35): 1B, 2A, 3B;

~~(144)~~ (146) Monker Creek, (T.61, R.1E, S.6, 7; T.62, R.1E, S.31; T.62, R.1W, S.36): 1B, 2A, 3B;

~~(145)~~ (147) Mons Creek, (T.62, R.3E, S.4; T.63, R.3E, S.28, 29, 33): 1B, 2A, 3B;

~~(146)~~ (148) Moose Creek, (T.59, R.6, S.31, 32, 33, 34): 1B, 2A, 3B;

~~(147)~~ (149) Mud Creek, Carlton County, (T.47, R.15, S.18; T.47, R.16, S.5, 6, 8, 9, 10, 11, 13, 14, 15, 16): 1B, 2A, 3B;

~~(148)~~ (150) Mud Creek, St. Louis County, (T.54, R.12, S.20, 21, 22, 29, 30): 1B, 2A, 3B;

~~(149)~~ (151) Mud Creek, Cook County, (T.62, R.1E, S.8, 9, 16, 17, 21, 22): 1B, 2A, 3B;

~~(150)~~ (152) Mud Creek, Little, (T.57, R.11, S.11, 12, 14, 22, 23): 1B, 2A, 3B;

~~(151)~~ (153) Murmur Creek, (T.61, R.2W, S.15, 20, 21, 22, 29, 30): 1B, 2A, 3B;

~~(152)~~ (154) Murphy Creek (Maki Creek), (T.56, R.11, S.4, 5, 8, 17, 18, 19; T.57, R.10, S.4, 7, 8, 9, 18; T.57, R.11, S.13, 21, 22, 23, 24, 26, 27, 28, 33, 34): 1B, 2A, 3B;

~~(153)~~ (155) Myhr Creek, (T.62, R.3E, S.23, 24, 26): 1B, 2A, 3B;

~~(154)~~ (156) Nemadji Creek, (T.46, R.17, S.7, 8, 9, 18; T.46, R.18, S.13, 14, 15, 16, 22): 1B, 2A, 3B;

~~(155)~~ (157) Nemadji River, North Fork (Nemadji River), (T.46, R.17, S.1, 2, 3, 8, 9, 10, 17, 18, 19, 31, 32, 33; T.46, R.18, S.24, 25, 36; T.47, R.15, S.19, 30; T.47, R.16, S.23, 24, 25, 26, 27, 28, 29, 31, 32; T.47, R.17, S.35, 36): 1B, 2A, 3B;

~~(156)~~ (158) Nemadji River, South Fork, (T.46, R.16, S.4, 5, 6, 7; T.46, R.17, S.1, 11, 12; T.47, R.15, S.30; T.47, R.16, S.25, 33, 34, 35, 36): 1B, 2A, 3B;

~~(157)~~ (159) Nestor Creek (Nester Creek), (T.61, R.1W, S.4, 5, 6; T.61, R.2W, S.1; T.62, R.1W, S.31, 32, 33): 1B, 2A, 3B;

~~(158)~~ (160) Net River, (T.45, R.16, S.6; T.45, R.17, S.1; T.46, R.16, S.3, 4, 8, 9, 17, 20, 21, 29, 31, 32, 33; T.47, R.16, S.34;): 1B, 2A, 3B;

~~(159)~~ (161) Net River, Little, (T.46, R.16, S.3, 10, 15, 22, 26, 27, 34): 1B, 2A, 3B;

~~(160)~~ (162) Nicadoo Creek (Nicado Creek), (T.56, R.7, S.7; T.56, R.8, S.1, 12; T.57, R.8, S.27, 35, 36): 1B, 2A, 3B;

~~(161)~~ (163) Nine Mile Creek (Ninemile Creek), (T.58, R.6, S.3, 4, 9, 16, 17; T.59, R.6, S.27, 28, 33, 34): 1B, 2A, 3B;

~~(162)~~ (164) Oliver Creek (Silver), (T.57, R.7, S.5, 6; T.57, R.8, S.1; T.58, R.7, S.31, 32): 1B, 2A, 3B;

~~(163)~~ (165) Onion Creek (Onion River and West Branch Onion River), (T.59, R.4W, S.1, 2, 3, 4, 12; T.60, R.4W, S.24, 25, 26, 35, 36): 1B, 2A, 3B;

~~(164)~~ (166) Otter Creek, Big (Otter Creek), (T.48, R.16, S.7; T.48, R.17, S.3, ~~4,~~ 10, 11, 12; T.49, R.17, S.19, 20, 26, 27, 28, 29, 30, 32, 33, 34, 35; T.49, R.18, S.25, 26): 1B, 2A, 3B;

~~(165)~~ (167) Otter Creek, Little, (T.48, R.17, S.7, 10, 15, 16, 17, 18; T.48, R.18, S.11, 12, 13, 14): 1B, 2A, 3B;

~~(166)~~ (168) Palisade Creek, (T.56, R.7, S.16, 17, 18, 19, 20, 21, 22; T.56, R.8, S.24): 1B, 2A, 3B;

~~(167)~~ (169) Pancake Creek, (T.54, R.22, S.20, 28, 29, ~~32,~~ 33): 1B, 2A, 3B;

~~(168)~~ (170) Pancake Creek, (T.60, R.4W, S.17, 18; T.60, R.5W, S.11, 13, 14): 1B, 2A, 3B;

~~(169)~~ (171) Pecore Creek, (T.61, R.4W, S.19, 20, 21): 1B, 2A, 3B;

~~(170)~~ (172) Peters Creek, (T.54, R.22, S.22, 23, 27, 28): 1B, 2A, 3B;

~~(171)~~ (173) Pigeon River (South ~~of~~ Fowl Lake outlet to Pigeon Bay of Lake Superior): 1B, 2Bd, 3A;

~~(172)~~ (174) Pike Lake Creek, (T.61, R.2W, S.10, 11, 15): 1B, 2A, 3B;

~~(173)~~ (175) Pine Mountain Creek (Falls Creek), (T.63, R.1E, S.23, 26, 27, 28, 33): 1B, 2A, 3B;

~~(174)~~ (176) Pine River (White Pine River), (T.50, R.16, S.4, 8, 9, 15, 16, 17, 18, 19, 20, 21, 29, 30, 32; T.50, R.17, S.23, 24, 26): 1B, 2A, 3B;

~~(175)~~ (177) Plouff Creek, (T.61, R.4W, S.17, 18; T.61, R.5W, S.2, 3, 11, 13, 14, 15, 23; T.62, R.5W, S.26, 34, 35): 1B, 2A, 3B;

~~(176)~~ (178) *Plouff Creek **11/5/84P** (T.62, R.5W, S.23): 1B, 2A, 3B;

~~(177)~~ (179) Poplar River (Missouri Creek), (T.60, R.3W, S.3, 4, 5, 6, ~~7, 8,~~ 9, 10, 15, 16, 17, 19, 20, 21, 28, 33; T.61, R.3W, S.30, 31; T.61, R.4W, S.10, 13, 14, 15, 22, 23, 25, 26, 36): 1B, 2A, 3B;

~~(178)~~ (180) Portage Brook, (T.64, R.3E, S.24, 25, 26, 27, 28, 29, 32, 33, 34; T.64, R.4E, S.19, 20): 1B, 2A, 3B;

~~(179)~~ (181) Railroad Creek, (T.50, R.17, S.1, 11, 12, 14): 1B, 2A, 3B;

~~(180)~~ (182) Red River, (T.48, R.15, S.30; T.48, R.16, S.25, 26): 1B, 2A, 3B;

~~(181)~~ (183) Red Rock Creek, (T.63, R.5E, S.21, 22, 26, 27, 28, 35): 1B, 2A, 3B;

~~(182)~~ (184) Reservation River, (T.62, R.5E, S.6; T.63, R.4E, S.23, 25, 26, 36; T.63, R.5E, S.16, 17, 18, 19, 20, 21, 29, 30, 31): 1B, 2A, 3B;

~~(183)~~ (185) Rock Creek, (T.47, R.16, S.7, 17, 18, 20, 21, 22, 23, 24; T.47, R.17, S.12): 1B, 2A, 3B;

~~(184)~~ (186) Rock Cut Creek, (T.58, R.6, S.18, 19, 20; T.58, R.7, S.13): 1B, 2A, 3B;

~~(185)~~ (187) Rocky Run Creek, (T.49, R.15, S.6; T.50, R.15, S.30, 31; T.50, R.16, S.11, 12, 13, 24, 25): 1B, 2A, 3B;

~~(186)~~ (188) Rollins Creek, (T.59, R.3W, S.6; T.60, R.3W, S.29, 30, 31; T.60, R.4W, S.36): 1B, 2A, 3B;

~~(187)~~ (189) Rosebush Creek (Fall River), (T.61, R.1W, S.13, 23, 24, 25; T.61, R.1E, S.18): 1B, 2A, 3B;

~~(188)~~ (190) Ross Creek, (T.52, R.13, S.1, 2, 3, 4, 5; T.53, R.13, S.33): 1B, 2A, 3B;

~~(189)~~ (191) Ryan Creek, (T.55, R.14, S.14, 15, 22): 1B, 2A, 3B;

~~(190)~~ (192) St. Louis River, **WR** (T.58, R.12, S.21, 22, 27, 28, 31, 32, 33; T.58, R.13, S.36): 2B, 3B;

~~(191)~~ (193) Sargent Creek, (T.48, R.15, S.4, 5, 9, 10; T.49, R.15, S.28, 29, 32): 1B, 2A, 3B;

~~(192)~~ (194) Sawbill Creek, (T.62, R.4W, S.7, 18, 19, 20, 28, 29, 30; T.62, R.5W, S.25): 1B, 2A, 3B;

~~(193)~~ (195) Sawmill Creek, (T.57, R.6, S.18; T.57, R.7, S.12, 13, 22, 23, 24, 26, 27, 34): 1B, 2A, 3B;

~~(194)~~ (196) Scanlon Creek, (T.49, R.16, S.30; T.49, R.17, S.25): 1B, 2A, 3B;

~~(195)~~ (197) Schmidt Creek, (T.51, R.12, S.17): 1B, 2A, 3B;

~~(196)~~ (198) Schoolhouse Creek, (T.58, R.7, S.35, 36): 1B, 2A, 3B;

~~(197)~~ (199) Section 16 Creek, (T.58, R.5W, S.16): 1B, 2A, 3B;

~~(198)~~ (200) Section 36 Creek, (T.46, R.16, S.1, 2, 11, 12, 13; T.47, R.16, S.36): 1B, 2A, 3B;

~~(199)~~ (201) Silver Creek, Carlton County, (T.48, R.16, S.15, 16, 17, 21, 28~~, 29~~): 1B, 2A, 3B;

~~(200)~~ (202) Silver Creek, Lake County, (T.53, R.10, S.6, 7, 16, 17, 18, 21; T.53, R.11, S.1; T.54, R.10, S.18, 19, 30; T.54, R.11, S.11, 12, 13, 25, 36): 1B, 2A, 3B;

~~(201)~~ (203) Silver Creek, Big (Silver Creek), Carlton County, (T.46, R.17, S.14, 23, 24, 25, 36): 1B, 2A, 3B;

~~(202)~~ (204) Silver Creek, East Branch, (T.53, R.10, S.5, 8, 9, 16, 21): 1B, 2A, 3B;

~~(203)~~ (205) Sixmile Creek, (T.60, R.4W, S.13, 14, 15, 22, 23, 27, 28, 33): 1B, 2A, 3B;

~~(204)~~ (206) Skunk Creek, Lake County, (T.54, R.9, S.4, 9, 16, 17, 20; T.55, R.9, S.19, 29, 30, 32, 33; T.55, R.10, S.13, 14, 24): 1B, 2A, 3B;

~~(205)~~ (207) Skunk Creek, Carlton County, (T.46, R.17, S.4, 5, 6; T.47, R.17, S.31, 33, 34, 35, 36; T.47, R.18, S.36): 1B, 2A, 3B;

~~(206)~~ (208) Spider Creek, (T.52, R.18, S.19, 20, 21, 22, 27, 28, 29, 30; T.52, R.19, S.9, 10, 13, 14, 15, 24): 1B, 2A, 3B;

~~(207)~~ (209) Split Rock River, (T.54, R.8, S.6, 7; T.54, R.9, S.1, 2, 12; T.55, R.9, S.26, 28, 34, 35, 36): 1B, 2A, 3B;

~~(208)~~ (210) Split Rock River, East Branch, (T.55, R.9, S.4, 5, 6, 9, 10, 14, 15, 22, 23, 24, 25, 26; T.56, R.9, S.30, 31, 32; T.56, R.10, S.1, 11, 12, 13, 14, 24, 25): 1B, 2A, 3B;

~~(209)~~ (211) Split Rock River, West Branch, (T.55, R.9, S.6, 7, 8, 16, 17, 21, 22, 26, 27, 28; T.55, R.10, S.1; T.56, R.10, S.22, 26, 27, 33, 34, 35, 36): 1B, 2A, 3B;

~~(210)~~ (212) Spring Creek, Carlton County, (T.46, R.17, S.3, 4, 5, 6): 1B, 2A, 3B;

~~(211)~~ (213) Spring Creek, St. Louis County, (T.54, R.12, S.1, 2): 1B, 2A, 3B;

~~(212) Squaw Creek, (T.49, R.17, S.9, 16, 17, 18, 19, 20, 21): 1B, 2A, 3B;~~

~~(213)~~ (214) Stanley Creek, (T.52, R.11, S.18, 19; T.52, R.12, S.4, 5, 8, 9, 10, 11, 12, 13): 1B, 2A, 3B;

~~(214)~~ (215) State Line Creek, (T.46, R.15, S.6, 7, 18, 19, 30, 31; T.46, R.16, S.12, 13, 24, 25, 36; T.47, R.15, S.30, 31): 1B, 2A, 3B;

~~(215)~~ (216) Stewart Creek, (T.49, R.15, S.21, 22, 26, 27): 1B, 2A, 3B;

~~(216)~~ (217) Stewart River, (T.53, R.10, S.18, 19, 20, 29; T.53, R.11, S.2, 3, 10, 11, 13, 14, 15; T.54, R.11, S.3, 4, 10, 15, 22, 26, 27, 34, 35): 1B, 2A, 3B;

~~(217)~~ (218) Stewart River, (T.55, R.11, S.7; T.55, R.12, S.12, 13): 1B, 2A, 3B;

~~(218)~~ (219) Stewart River, Little, (T.53, R.10, S.19, 20, 29; T.53, R.11, S.9, 15, 16, 22, 23, 24): 1B, 2A, 3B;

~~(219)~~ (220) Stickle Creek, (T.63, R.1W, S.1, 2, 11, 12, 14): 1B, 2A, 3B;

~~(220)~~ (221) Stone Creek, (T.61, R.2E, S.2, 3; T.62, R.2E, S.21, 22, 27, 34, 35): 1B, 2A, 3B;

~~(221)~~ (222) Stoney Creek (Stony Creek or Rock Creek), Lake County, (T.55, R.9, S.30; T.55, R.10, S.20, 23, 24, 25, 27): 1B, 2A, 3B;

~~(222)~~ (223) Stony Brook, Carlton County, (T.46, R.17, S.10, 11, 15, 16, 21): 1B, 2A, 3B;

~~(223)~~ (224) Stony Creek, Little, Cook County, (T.63, R.2E, S.4, 5, 9; T.64, R.2E, S.31, 32, 33): 1B, 2A, 3B;

~~(224)~~ (225) Stream Number 30, (T.54, R.8, S.5, 6; T.55, R.8, S.19, 30, 31): 1B, 2A, 3B;

~~(225)~~ (226) Stumble Creek, (T.59, R.5W, S.16, 21, 22, 26, 27, 28): 1B, 2A, 3B;

~~(226)~~ (227) Stump River (Lower Stump River), (T.64 R.4E, S.18; T.64, R.3E, S.8, 9, 13, 14, 15, 16, 17, 21, 22, 23, 24): 1B, 2A, 3B;

~~(227)~~ (228) Sucker River (Big Sucker Creek), (T.51, R.12, S.3, 4, 10; T.52, R.12, S.18, 19, 29, 30, 31, 32, 33; T.52, R.13, S.1, 12, 13, 24, 25; T.53, R.12, S.19, 20, 30, 31; T.53, R.13, S.24, 25, 36): 1B, 2A, 3B;

~~(228)~~ (229) Sucker River, Little, (T.51, R.12, S.2, 3): 1B, 2A, 3B;

~~(229)~~ (230) Sugar Loaf Creek, (T.58, R.5W, S.17, 19, 20, 29): 1B, 2A, 3B;

~~(230)~~ (231) Sullivan Creek, (T.56, R.11, S.1, 2, 10, 11, 15; T.57, R.10, S.19, 30; T.57, R.11, S.24, 25, 36): 1B, 2A, 3B;

~~(231)~~ (232) Sundling Creek, (T.61, R.1W, S.10, 11, 14, 15, 16, 17, 18; T.61, R.2W, S.13): 1B, 2A, 3B;

~~(232)~~ (233) Swamp River, (T.63, R.3E, S.25, 26, 36; T.63, R.4E, S.20, 29, 30; T.64, R.4E, S.21, 27, 28): 1B, 2A, 3B;

~~(233)~~ (234) Swamper Creek, (T.64, R.1E, S.20, 29, 32): 1B, 2A, 3B;

~~(234)~~ (235) Swan Creek, East, (T.56, R.20, S.3, 4, 5, 10, 11): 1B, 2A, 3B;

~~(235)~~ (236) Swan Creek, Little, (T.56, R.19, S.17, 19, 20, 30; T.56, R.20, S.25, 26, 35): 1B, 2A, 3B;

~~(236)~~ (237) Swan River, East (Barber Creek), (T.55, R.19, S.18, 19, 30, 31; T.55, R.20, S.1, 2, 12, 13; T.56, R.20, S.2, 3, 11, 14, 23, 26, 27, 35; T.57, R.20, S.28, 33, 34): 1B, 2A, 3B;

~~(237)~~ (238) Swan River, West (excluding trout waters), (T.55, 56, R.20, 21): 2C;

~~(238)~~ (239) Swanson Creek, (T.61, R.4W, S.6, 7, 8; T.61, R.5W, S.1): 1B, 2A, 3B;

~~(239)~~ (240) Tait River, (T.60, R.3W, S.4; T.61, R.3W, S.28, 33): 1B, 2A, 3B;

~~(240)~~ (241) Talmadge Creek (Talmadge River), (T.51, R.12, S.19; T.51, R.13, S.9, 10, 13, 14, 15, 24): 1B, 2A, 3B;

~~(241)~~ (242) Temperance River, (T.59, R.4W, S.5, 6, 7, 8, 18, 19, 30, 31, 32; T.60, R.4W, S.5, 6, 7, 8, 17, 20, 28, 29, 32, 33; T.61, R.4W,

S.4, 8, 9, 16, 17, 19, 20, 30, 31): 1B, 2A, 3B;

~~(242)~~ (243) Temperance River (excluding trout waters), (~~T.59, 60, 61,~~ T.62, R.4W): 1B, 2Bd, ~~3B~~ 3C;

~~(243)~~ (244) Thirty-nine Creek, Big, (T.56, R.8, S.19, 30, 31; T.56, R.9, S.1, 2, 3, 11, 12, 13, 14, 15, 22, 23, 24, 25; T.57, R.9, S.22, 26, 27, 35, 36): 1B, 2A, 3B;

~~(244)~~ (245) Thirty-nine Creek, Little, (T.56, R.8, S.6, 7, 8, 17, 18, 19, 20, 29, 30; T.56, R.9, S.1, 12): 1B, 2A, 3B;

~~(245)~~ (246) Thompson Creek, (T.62, R.1W, S.17, 19, 20; T.62, R.2W, S.24): 1B, 2A, 3B;

~~(246)~~ (247) Tikkanen Creek, (T.57, R.7, S.5, 6, 8, 16, 17): 1B, 2A, 3B;

~~(247)~~ (248) Timber Creek, (T.62, R.1E, S.1; T.63, R.1E, ~~2W,~~ S.25, 36; T.63, R.2E, S.31): 1B, 2A, 3B;

~~(248)~~ (249) Tischer Creek (Congdon Creek/Hartley), (T.50, R.14, S.2, 3, 4, 10, 11, 13, 14; T.51, R.14, S.29, 33, 34): 1B, 2A, 3B;

~~(249)~~ (250) Torgenson Creek, (T.61, R.4W, S.30; T.61, R.5W, S.24, 25): 1B, 2A, 3B;

~~(250)~~ (251) Tower Creek, St. Louis County, (T.55, R.14, S.8, 9, 17, 18, 19; T.55, R.15, S.24, 25, 26): 1B, 2A, 3B;

~~(251)~~ (252) Tower Creek, Lake County, (T.57, R.7, S.9): 1B, 2A, 3B;

~~(252)~~ (253) Trappers Creek, (T.56, R.11, S.2, 3, 9, 10, 16, 17, 19, 20; T.57, R.11, S.35): 1B, 2A, 3B;

~~(253)~~ (254) Trout Brook, (T.54, R.22, S.1): 1B, 2A, 3B;

~~(254)~~ (255) Twin Points Creek, (T.54, R.9, S.10, 1, 13, 14): 1B, 2A, 3B;

~~(255)~~ (256) Two Island River, (T.58, R.5W, S.2, 3, 4, 11; T.59, R.5W, S.7, 8, 17, 18, 20, 21, 27, 28, 29, 31, 32, 33, 34; T.59, R.6, S.11, 12): 1B, 2A, 3B;

~~(256)~~ (257) Ugstad Creek, (T.51, R.15, S.21, 22, 26, 27, 28): 1B, 2A, 3B;

~~(257)~~ (258) Unnamed (Deer) Creek, (T.47, R.16, S.19, 29, 30; T.47, R.17, S.13, 14, 24): 1B, 2A, 3B;

~~(258)~~ (259) Unnamed Creek, Carlton County, (T.47, R.17, S.28, 29, 33, 34, 35): 1B, 2A, 3B;

~~(259)~~ (260) Unnamed Creek, Carlton County, (T.47, R.17, S.31, 32, 33, 34): 1B, 2A, 3B;

~~(260)~~ (261) Unnamed Creek, (T.55, R.8, S.20, 21, 29, 32, 33): 1B, 2A, 3B;

~~(261)~~ (262) Unnamed Creek, Meadowlands, (T.53, R.19, S.22, 23): 7;

~~(262)~~ (263) Unnamed Creek, (S 176), (T.53, R.11, S.30, 31, 32; T.53, R.12, S.25): 1B, 2A, 3B;

~~(263)~~ (264) Unnamed Creek, (S179), (T.53, R.11, S.5; T.54, R.11, S.20, 29, 30, 32): 1B, 2A, 3B;

~~(264)~~ (265) Unnamed Ditch, Gilbert, (T.58, R.17, S.23, 24, 25, 36): 7;

~~(265)~~ (266) Us-kab-wan-ka (Rush), (T.52, R.16, S.2, 11, 14, 23; T.53, R.15, S.5, 6; T.53, R.16, S.1, 11, 12, 14, 15, 22, 23, 27, 34, 35; T.54, R.15, S.23, 24, 26, 27, 32, 33, 34): 1B, 2A, 3B;

~~(266)~~ (267) Wanless Creek, (T.60, R.6, S.27, 33, 34, 35, 36): 1B, 2A, 3B;

(268) Whiteface River, South Branch, (see Hornby Junction Creek);

~~(267)~~ (269) Whyte Creek, (T.57, R.10, S.1, 2, 11, 14, 23, 26, 27, 34): 1B, 2A, 3B;

~~(268)~~ (270) Woods Creek, (T.61, R.1E, S.1, 12, 13; T.62, R.1E, S.35, 36): 1B, 2A, 3B;

~~(269)~~ (271) Wyman Creek, (T.58, R.14, S.3, 4; T.59, R.14, S.11, 13, 14, 23, 24, 26, 27, 34, 35): 1B, 2A, 3B; and

~~(270)~~ (272) *All other streams in the Boundary Waters Canoe Area Wilderness **11/5/84P**: 1B, 2Bd, 3B.

B. Lakes:

(1) *Alder Lake, 16-0114-00, **11/5/84P** (T.64, R.1E): 1B, 2A, 3B;

(2) *Alton Lake, 16-0622-00, **11/5/84P** (T.62, 63, R.4, 5): 1B, 2A, 3B;

(3) Artichoke Lake, 69-0623-00, **WR** (T.52, R.17, S.17, 18, 19, 20): 2B, 3B;

(4) Bath Lake, 16-0164-00, (T.62, R.1W, S.5, 6; T.63, R.1W, S.31, 32): 1B, 2A, 3B;

(5) Bean Lake (Lower Twin), 38-0409-00, (T.56, R.8W, S.25, 26): 1B, 2A, 3B;

(6) Bear Lake ~~(Upper Twin), (T.56, R.8W, S.25): 1B, 2A, 3B~~ (see Twin Lake, Upper);

(7) Bearskin Lake, East, 16-0146-00, (T.64, R.1E, 1W): 1B, 2A, 3B;

(8) *Bearskin Lake, West, 16-0228-00, **3/7/88R** (T.64, 65, R.1): 1B, 2A, 3B;

(9) *Bench Lake, 16-0063-00, **11/5/84P** (T.64, 2E, S.6): 1B, 2A, 3B;

(10) Benson Lake, 38-0018-00, (T.58, R.6W, S.29~~, 32~~): 1B, 2A, 3B;

(11) *Birch Lake, 16-0247-00, **3/7/88R** (T.65, R.1, 2): 1B, 2A, 3B;

(12) *Black Lake, 58-0001-00, **3/7/88P** (T.45, R.15): 1B, 2Bd, 3B;

(13) Bluebill Lake, 38-0261-00, **WR** (T.59, R.7, S.15): 2B, 3B;

(14) Bogus Lake, 16-0050-00, (T.62, R.2E, S.12): 1B, 2A, 3B;

(15) Bone Lake, 38-0065-00, (T.61, R.6W, S.13, 14): 1B, 2A, 3B;

(16) Bow Lake, 16-0211-00, (T.64, R.1W, S.15): 1C, 2Bd, 3C;

(17) Boys Lake, 16-0044-00, (T.62, R.2E, S.5, 8): 1B, 2A, 3B;

~~(17)~~ (18) Breda Lake, 69-0037-00, **WR** (T.56, R.12, S.16): 2B, 3B;

~~(18)~~ (19) Briar Lake, 69-0128-00, (T.53, R.13W, S.14, 15, 23): 1B, 2A, 3B;
~~(19)~~ (20) *Brule Lake, 16-0348-00, **11/5/84P** (T.63, R.2, 3): 1B, 2A, 3B;
~~(20)~~ (21) Cabin Lake, 38-0260-00, **WR** (T.59, R.7, S.13, 14, 23, 24): 2B, 3B;
~~(21)~~ (22) Canton Mine Pit Lake, 69-1294-00, (T.58, R.16, S.2, 3): 1C, 2Bd, ~~3B~~ 3C;
~~(22)~~ (23) Caribou Lake, 16-0360-00, **WR** (T.60, R.3W, S.1, 2, 11, 12; T.61, R.3W, S.35, 36): 2B, 3B;
~~(23)~~ (24) Carrot Lake, 16-0071-00, (T.64, R.2E, S.17): 1B, 2A, 3B;
~~(24)~~ (25) Cedar Lake, 69-0431-00, (T.58, R.15W, S.20): 1B, 2A, 3B;
~~(25)~~ (26) Chester Lake, 69-0033-00, (T.64, R.3E, S.32, 33): 1B, 2A, 3B;
~~(26)~~ (27) Christine Lake, 16-0373-00, **WR** (T.61, R.3W, S.28, 29, 32): 2B, 3B;
~~(27)~~ (28) Clearwater Lake (Clear Lake), 69-0397-00, (T.52, R.15W, S.23): 1B, 2A, 3B;
~~(28)~~ (29) *Clearwater Lake (Emby Lake), 16-0139-00, **11/5/84P** (T.65, R.1E): 1B, 2A, 3B;
~~(29)~~ (30) Colby Lake, 69-0249-00, (T.58, R.14): 1B, 2Bd, ~~3B~~ 3C;
~~(30)~~ (31) *Cone Lake, 16-0412-00, North, **11/5/84P** (T.63, 64, R.3): 1B, 2A, 3B;
~~(31)~~ (32) Corona Lake, 09-0048-00, (T.48, R.19W, S.11, 12): 1B, 2A, 3B;
~~(32)~~ (33) Corsica Mine Pit Lake, 69-1316-00, (T.58, R.16, S.18): 1C, 2Bd, ~~3B~~ 3C;
(34) Crosscut Lake, 38-0257-00, (T.59, R.7W, S.7, 18): 1B, 2A, 3B;
~~(33)~~ (35) *Crystal Lake, 16-0090-00, **11/5/84P** (T.64, R.1E, 2E): 1B, 2A, 3B;
~~(34)~~ (36) *Daniels Lake, 16-0150-00, **11/5/84P** (T.65, R.1E, 1W): 1B, 2A, 3B;
~~(35)~~ (37) *Davis Lake, 16-0435-00, **11/5/84P** (T.64, R.3): 1B, 2A, 3B;
~~(36)~~ (38) Devilfish Lake, 16-0029-00, (T.64, R.3E): 1B, 2A, 3B;
~~(37)~~ (39) Divide (Towhey) Lake, 38-0256-00, (T.59, R.7W, S.7, 8): 1B, 2A, 3B;
~~(38)~~ (40) Duke Lake, 16-0111-00, (T.63, R.1E, S.30): 1B, 2A, 3B;
~~(39)~~ (41) *Duncan Lake, 16-0232-00, **11/5/84P** (T.65, R.1): 1B, 2A, 3B;
~~(40)~~ (42) *Dunn Lake, 16-0245-00, **11/5/84P** (T.65, R.1, 2): 1B, 2A, 3B;
~~(41)~~ (43) East Lake, 38-0020-00, (T.59, R.6W, S.1, 2): 1B, 2A, 3B;
~~(42)~~ (44) *Echo Lake, 38-0028-00, **3/7/88R** (T.59, R.6, S.14, 15, 22, 23): 1B, 2A, 3B;
~~(43) Echo Lake, (T.59, R.6W, S.14, 15, 22, 23): 1B, 2A, 3B;~~
~~(44)~~ (45) Elbow Lake, Little, 69-1329-00, (T.57, R.18W, S.9, 10, 16): 1B, 2A, 3B;
~~(45)~~ *(46)* Embarrass Mine Pit (Sabin Lake or Lake Mine), 69-0429-00, (T.58, R.15W, S.5, 6): 1B, 2A, 3B;
~~(46)~~ (47) Esther Lake, 16-0023-00, (T.63, R.3E, S.6; T.64, R.3E, S.31): 1B, 2A, 3B;
~~(47)~~ (48) *Fan Lake (West Lily), 16-0084-00, **11/5/84P** (T.65, R.2E): 1B, 2Bd, 3A;
~~(48)~~ (49) Feather Lake, 16-0905-00, (T.61, R.5W, S.35): 1B, 2A, 3B;
~~(49)~~ (50) Flour Lake, 16-0147-00, (T.64, R.1E, 1W): 1B, 2A, 3B;
~~(50) Forsyth Mine Pit, (T.58, R.19W, S.11): 1B, 2A, 3B;~~
(51) Fourmile Lake, 16-0639-00, **WR** (T.60, R.5W, S.4, 8, 9, 10, 16, 17): 2B, 3B;
(52) Fowl Lake, North, 16-0036-00, (T.64, 65, R.3E): 1B, 2Bd, 3A;
(53) Fowl Lake, South, 16-0034-00, (T.64, 65, R.3E): 1B, 2Bd, 3A;
(54) Fraser Mine Pit Lake, (T.58, R.20, S.23): 1C, 2Bd, ~~3B~~ 3C, until the city of Chisholm no longer uses Fraser Mine Pit Lake as a water supply source for its public water system, and then the classification is identified in part 7050.0430;
(55) *Gadwall Lake (Gadwell Lake), 16-0060-00, **11/5/84P** (T.64, R.2E, S.3): 1B, 2A, 3B;
(56) *Gaskin Lake, 16-0319-00, **11/5/84P** (T.64, R.2): 1B, 2A, 3B;
(57) *Gogebic Lake, 16-0087-00, **11/5/84P** (T.65, R.2E, S.30, 31): 1B, 2A, 3B;
(58) Goldeneye (Duck) Lake, 38-0029-00, (T.59, R.6W, S.15): 1B, 2A, 3B;
(59) *Greenwood Lake, 16-0077-00, **3/7/88R** (T.64, R.2E): 1B, 2A, 3B;
(60) Hay Lake, 69-0435-00, **WR** (T.59, R.15, S.8): 2B, 3B;
(61) Hungry Jack Lake, 16-0227-00, (T.64, 65, R.1): 1B, 2A, 3B;
(62) Jim Lake (Jerry Lake), 16-0135-00, (T.64, R.1E): 1B, 2A, 3B;
(63) Judson Mine Pit, 69-1295-00, (T.58, R.19W, S.20, 29): 1B, 2A, 3B;
(64) Junco Lake, 16-0159-00, (T.62, R.1W, S.11, 12, 13): 1B, 2A, 3B;
(65) *Kemo Lake, 16-0188-00, **3/7/88R** (T.63, R.1): 1B, 2A, 3B;
(66) Kimball Lake, 16-0045-00, (T.62, R.2E, S.7, 8, 17): 1B, 2A, 3B;
(67) Leo Lake, 16-0198-00, (T.64, R.1W, S.4, 5): 1B, 2A, 3B;
(68) Lieung (Lieuna) Lake, 69-0123-00, **WR** (T.53, R.13, S.3, 4, 9, 10): 2B, 3B;
(69) *Lily Lakes (Vaseux Lake and Fan Lake), 16-0083-00 and 16-0084-00, **11/5/84P** (T.65, R.2E): 1B, 2Bd, 3A;

(70) Lima Lake, 16-0226-00, (T.64, R.1W, S.35): 1B, 2A, 3B;
(71) ~~*Lizzie~~ *Lizz Lake, 16-0199-00, **11/5/84P** (T.64, R.1W, S.7, 18): 1B, 2A, 3B;
(72) Loaine (Sand) Lake, 69-0016-00, (T.54, R.12W, S.16, 17): 1B, 2A, 3B;
(73) Loft Lake, 16-0031-00, (T.64, R.3E, S.21): 1B, 2A, 3B;
(74) Long Lake, 69-0044-00, **WR** (T.57, R.12, S.4, 5; T.58, R.12, S.32, 33): 2B, 3B;
(75) Margaret Lake, 16-0896-00, (T.64, R.3E, S.27, 28, 33, 34): 1B, 2A, 3B;
(76) Marsh Lake, 16-0488-00, **WR** (T.62, R.4W, S.22, 23, 27, 28): 2B, 3B;
(77) McFarland Lake, 16-0027-00, (T.64, R.3E): 1B, 2A, 3B;
(78) Mesabi (Missabe) Mountain Mine Pit Lake, 69-1292-00, (T.58, R.17, S.8): 1C, 2Bd, 3C;
~~(78)~~ (79) Mink Lake, 16-0046-00, (T.62, R.2E, S.8): 1B, 2A, 3B;
~~(79)~~ (80) Mirror Lake, 69-0234-00, (T.52, R.14W, S.19, 30): 1B, 2A, 3B;
~~(80)~~ (81) *Misquah Lake, 16-0225-00, **11/5/84P** (T.64, R.1): 1B, 2A, 3B;
~~(81) Missabe Mountain Mine Pit Lake, (T.58, R.17, S.8): 1C, 2Bd, 3B;~~
(82) Moore Lake, 16-0489-00, **WR** (T.62, R.4W, S.23, 24): 2B, 3B;
(83) Moosehorn Lake, 16-0015-00, (T.63, R.3E, S.36; T.63, R.4E, S.31): 1B, 2A, 3B;
(84) *Moose Lake, 16-0043-00, **11/5/84P** (T.65, R.2E, 3E): 1B, 2A, 3A;
(85) Morton Mine Pit Lake, 69-1310-00, (T.57, R.21, S.10, 11, 14): 1C, 2Bd, ~~3B~~ 3C;
(86) *Moss Lake, 16-0234-00, **3/7/88R** (T.65, R.1): 1B, 2A, 3B;
(87) *Mountain Lake, 16-0093-00, **11/5/84P** (T.65, R.1E, 2E): 1B, 2A, 3B;
(88) Muckwa Lake, 16-0105-00, (T.63, R.1E, S.21, 28): 1B, 2A, 3B;
(89) *Mulligan Lake, 16-0389-00, **11/5/84P** (T.63, R.3W, S.1, 12): 1B, 2A, 3B;
(90) Musquash Lake, 16-0104-00, (T.63, R.1E, S.20, 28, 29): 1B, 2A, 3B;
(91) Normanna Lake, 69-0122-00, (T.52, R.13W, S.7, 8): 1B, 2A, 3B;
(92) Northern Light Lake, 16-0089-00, **WR** (T.63, R.2E, S.29, 30, 31, 32, 33; T.63, R.1E, S.25): 2B, 3B;
(93) Olga Lake, 16-0024-00, (T.63, R.3E, S.6; T.64, R.3E, S.31): 1B, 2A, 3B;
~~(93)~~ (94) Olson Lake, 16-0158-00, (T.62, R.1W, S.9, 16): 1B, 2A, 3B;
~~(94)~~ (95) *Onega Lake (Omega Lake), 16-0353-00, **11/5/84P** (T.64, R.2, 3): 1B, 2A, 3B;
~~(95)~~ (96) *Otto Lake, Lower (South Otto), 16-0323-00, **11/5/84P** (T.64, R.2): 1B, 2A, 3B;
~~(96)~~ (97) Pancore (Lost) Lake, 16-0475-00, (T.61, R.4W, S.22, 27): 1B, 2A, 3B;
~~(97)~~ (98) Papoose Lake, 69-0024-00, **WR** (T.55, R.12, S.9): 2B, 3B;
~~(98)~~ (99) *Partridge Lake, 16-0233-00, **11/5/84P** (T.65, R.1): 1B, 2A, 3B;
~~(99)~~ (100) *Pemmican Lake, 16-0085-00, **11/5/84P** (T.65, R.2E, S.22): 1B, 2A, 3B;
~~(100)~~ (101) *Pike Lake, West, 16-0086-00, **11/5/84P** (T.65, R.2E): 1B, 2A, 3B;
~~(101)~~ (102) Pine Lake, 16-0194-00, (T.63, R.1W, S.35, 36): 1B, 2A, 3B;
~~(102)~~ (103) *Pine Lake, 16-0041-00, **11/5/84P** (T.64, 65, R.1E, 2E, 3E): 1B, 2A, 3B;
~~(103)~~ (104) Pine Mountain Lake, 16-0108-00, (T.63, R.1E, S.26, 27, 34, 35): 1B, 2A, 3B;
~~(104)~~ (105) Poplar Lake, 16-0239-00, (T.64N, R.1, 2W): 1C, 2Bd, ~~3B~~ 3C;
(106) *Ptarmigan Lake, 16-0183-00, **11/5/84P** (T.63, R.1, S.20, 29): 1B 2Bd, 3B;
~~(105)~~ (107) *Ram Lake, 16-0174-00, **11/5/84P** (T.63, R.1W, S.9, 10): 1B, 2A, 3B;
~~(106)~~ (108) Rice Lake, 16-0453-00, **WR** (T.61 R.3W, S.7; T.61, R.4W, S.2, 11, 12): 2B, 3B;
~~(107)~~ (109) *Rose Lake, 16-0230-00, **11/5/84P** (T.65, R.1): 1B, 2A, 3B;
~~(108)~~ (110) Round Island Lake, 38-0417-00 **WR** (T.59, R.8, S.12): 2B, 3B;
~~(109)~~ (111) Round Lake, 69-0048-00, **WR** (T.58, R.12, S.25, 26): 2B, 3B;
~~(110)~~ (112) St. James Mine Pit, 69-0428-00, (T.58, R.15W, S.3, 4): ~~1B, 2A, 3B~~ 1C, 2Bd, 3C;
~~(111)~~ (113) Saint Mary's Lake, 69-0651-00, (T.57, R.17, S.9, 16, 17): 1C, 2Bd, ~~3B~~ 3C;
~~(112)~~ (114) *Sawbill Lake, 16-0496-00, **11/5/84P** (T.62, 63, R.4): 1B, 2Bd, 3B;
~~(113)~~ (115) Section 8 Lake, 38-0258-00, (T.59, R.7W, S.8): 1B, 2A, 3B;
~~(114)~~ (116) Seven Beaver Lake, 69-0002-00, **WR** (T.58, R.11, 12): 2B, 3A;
~~(115)~~ (117) Shady, North, Lake, 16-0076-00, (T.64, R.2E, S.21, 22): 1B, 2A, 3B;
~~(116)~~ (118) Shoe Lake, 16-0080-00, (T.64, 2E, S.30): 1B, 2A, 3B;
~~(117)~~ (119) Sled Lake, 16-0897-00, (T.63, R.1W, S.3): 1B, 2A, 3B;
~~(118)~~ (120) *Sock Lake, 16-0335-00, **11/5/84P** (T.65, R.2W, S.26): 1B, 2A, 3B;
~~(119)~~ (121) Sonju Lake, 38-0248-00, (T.58, R.7W, S.27, 28): 1B, 2A, 3B;
~~(120)~~ (122) *South Lake, 16-0244-00, **11/5/84P** (T.65, R.1, 2): 1B, 2A, 3B;

~~(121)~~ (123) Spring Hole Lake, 69-1372-00, (T.55, R.14W, S.14): 1B, 2A, 3B;
~~(122) Squaw Lake, (T.63, R.3E, S.6; T.64, R.3E, S.31): 1B, 2A, 3B;~~
~~(123)~~ (124) *State Lake, 16-0293-00, **11/5/84P** (T.63, 64, R.2): 1B, 2A, 3B;
~~(124)~~ (125) Steer Lake, 38-0920-00, (T.60, R.6W, S.32): 1B, 2A, 3B;
~~(125)~~ (126) Stone Lake, 69-0686-00, **WR** (T.55, R.17, S.6; T.55, R.18, S.1; T.56, R.17, S.31; T.56, R.18, S.36): 2B, 3B;
~~(126)~~ (127) Stone Lake (Skibo Lake), 69-0046-00, **WR** (T.58, R.12, S.17, 19, 20): 2B, 3B;
~~(127)~~ (128) Stone Lake (Murphy Lake or Tommila Lake), 69-0035-00, **WR** (T.56, R.12, S.13, 24): 2B, 3B;
~~(128)~~ (129) *Superior, Lake, excluding the portions identified in subitem ~~(129)~~ (128) 16-0001-00, **11/5/84R** (T.49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, R.14W7E): 1B, 2A, 3A;
~~(129)~~ (130) *Superior, Lake, 16-0001-00, **3/9/98P** (those portions of Lake Superior north of latitude 47 degrees, 57 minutes, 13 seconds, east of Hat Point, south of the Minnesota-Ontario boundary, and west of the Minnesota-Michigan boundary): 1B, 2A, 3A;
~~(130)~~ (131) Swamp River (Reservoir), 16-0901-00, **WR** (T.63, R.4E, S.4; T.64, R.4E, S.33): 2B, 3B;
~~(131)~~ (132) *Swan Lake, 16-0268-00, **11/5/84P** (T.63, R.2): 1B, 2A, 3B;
~~(132)~~ (133) Talus Lake, 16-0187-00, (T.63, R.1W, S.26, 27): 1B, 2A, 3B;
~~(133)~~ (134) Thompson Lake, 16-0160-00, (T.62, R.1W, S.19, 20, 29, 30): 1B, 2A, 3B;
~~(134)~~ (135) Thrasher Lake, 16-0192-00, (T.63, R.1W, S.31): 1B, 2A, 3B;
~~(135)~~ (136) Thrush Lake, 16-0191-00, (T.63, R.1W, S.31): 1B, 2A, 3B;
~~(136)~~ (137) *Topper Lake, 16-0336-00, **11/5/84P** (T.65, R.2W, S.27): 1B, 2A, 3B;
~~(137) Trip Lake, (T.65, R.3W, S.32): 1B, 2A, 3B;~~
(138) *Trout Lake, 16-0049-00, **3/7/88R** (T.62, R.2E): 1B, 2A, 3B;
(139) *Trout Lake, Little, 16-0170-00, **11/5/84P** (T.63, R.1): 1B, 2A, 3B;
(140) Turnip Lake, 16-0132-00, (T.64, R.1E, S.24): 1B, 2A, 3B;
(141) Twin Lake, 69-1345-00, (T.50, R.14W, S.28, 33): 1B, 2A, 3B;
(142) *Twin Lake, Upper (Bear Lake), 38-0408-00, **3/7/88R** (T.56, R.8, S.25): 1B, 2A, 3B;
(143) Unnamed Lake, 16-0903-00, (T.63, R.3E, S.20, 21, 28, 29): 1B, 2A, 3B;
(144) Unnamed Lake, 16-0908-00, (T.63, R.1W, S.31): 1B, 2A, 3B;
(145) *Unnamed Lake, 16-0237-00, **11/5/84P** (T.63, R.1, S.19, 30; T.63, R.2, S.24, 25): 1B, 2Bd, 3B;
~~(145)~~ (146) *Vale Lake, 16-0061-00, **11/5/84P** (T.64, R.2E, S.3): 1B, 2A, 3B;
(147) Vaseux Lake (East Lily), see Lily Lakes;
~~(146)~~ (148) *Vista Lake, 16-0224-00, **11/5/84P** (T.64, R.1): 1B, 2A, 3B;
~~(147)~~ (149) *Wanihigan Lake (Trap Lake), 16-0349-00, **11/5/84P** (T.63, 64, R.2, 3): 1B, 2A, 3B;
~~(148)~~ (150) *Wee Lake, 16-0183-00, **11/5/84P** (T.62, R.4W, S.13): 1B, 2A, 3B;
~~(149)~~ (151) *Wench Lake, 16-0398-00, **11/5/84P** (T.63, R.3W, S.7, 18): 1B, 2A, 3B;
~~(150)~~ (152) White Pine Lake, 16-0369-00, **WR** (T.61, R.3W, S.19, 20, 29, 30): 2B, 3B;
~~(151)~~ (153) *Winchell Lake, 16-0354-00, **11/5/84P** (T.64, R.2, 3): 1B, 2A, 3B;
~~(152)~~ (154) *All other lakes in the Boundary Waters Canoe Area Wilderness **11/5/84P**: 1B, 2Bd, 3B; and
~~(153)~~ (155) *All wetlands in the Boundary Waters Canoe Area Wilderness **11/5/84P**: 2D.

[For text of items C and D, see M.R.]

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~~, B, and~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

(1) Angora Creek, (T.61, R.18, S.9, 10, 15, 16, 21, 22): 1B, 2A, 3B;

(2) Arrowhead Creek (Trapper Creek), (T.60, R.8, S.3, 10, 11, 13, 14, 15, 22, 23, 26, 27, 28, 34; T.61, R.8, S.14, 15, 21, 22, 27, 28, 34): 1B, 2A, 3B;

(3) Ash River (Camp Ninety Creek), (T.66, R.20, S.4, 5, 9; T.67, R.20, S.5, 6, 8, 16, 17, 18, 19, 20, 29, 30, 31, 32; T.67, R.21, S.36; T.68, R.20, S.13, 14, 20, 21, 22, 23, 24, 28, 29, 31, 33; T.68, R.19, S.17, 18; T.68, R.21, S.36): 1B, 2A, 3B;

(4) Beaver Creek, (T.62, 63, R.20): 2C;

(5) Beauty Creek, (T.67, R.21, S.23, 24, 25, 26): 1B, 2A, 3B;

(6) Blackduck River (Black Duck River), (T.66, R.19, S.5, 6, 7, 8, 17; T.66, R.20, S.1; T.67, R.19, S.29, 31, 32; T.67, R.20, S.2, 3, 4, 10, 14, 15, 23, 24, 25, 26, 36; T.68, R.20, S.26, 27, 28, 33, 34): 1B, 2A, 3B;

(7) Camp Creek, (T.60, R.8, S.3, 4, ~~5, 7, 8,~~ 9, 10~~, 16, 17, 20, 21, 29~~; T.61, R.8, S.27, 28, 33, 34): 1B, 2A, 3B;

(8) Camp Creek, West, (T.60, R.8, S.4, 5, 7, 8, 16, 17, 20, 21; T.61, R.8, S.33): 1B, 2A, 3B;

~~(8)~~ (9) Camp E Creek~~, East~~, (T.60, R.9, S.7, 18; T.60, R.10, S.11, 12~~, 14~~): 1B, 2A, 3B;

~~(9)~~ (10) Dark River, (T.60, R.19, S.19, 20, 30; T.60, R.20, 10, 11, 12, 13, 24): 1B, 2A, 3B;

~~(10)~~ (11) Dinner Creek, (T.153, R.26, S.4, 9, 10, 12, 13, 14, 15, 23, 24; T.154, R.26, S.7, 18, 19, 29, 30, 32, 33; T.154, R.27, S.1, 12; T.155, R.26, S.30, 31; T.155, R.27, S.25, 35, 36): 1B, 2A, 3B;

(12) Dumbbell River, (T.60, R.7, S.3, 4, 5, 7, 8, 9, 10, 16, 18, 19, 20, 28, 29, 31, 32): 1B, 2A, 3B;

~~(11)~~ (13) Fawn Creek, (T.66, R.20, S.1, 2, 3, 4, 12; T.67, R.20, S.15, 22, 23, 26, 34, 35): 1B, 2A, 3B;

(14) Folly Creek, (T.60, R.7, S.2, 3, 10, 11, 14, 15, 22, 23, 24, 27): 1B, 2A, 3B;

~~(12)~~ (15) Gardner Brook, (T.63, 64, R.23, 24): 2C;

~~(13)~~ (16) Grassy Creek, (T.61, R.13, S.6; T.61, R.14, S.1): 1B, 2A, 3B;

~~(14)~~ (17) Harrigan Creek, (T.62, R.23, S.10): 1B, 2A, 3B;

~~(15)~~ (18) Harris Lake Creek (Harris Creek), (T.60, R.10, S.6; T.61, R.10, S.19, 30, 31): 1B, 2A, 3B;

~~(16)~~ (19) Hay Creek, (T.153, R.26, S.4, 8, 9, 17, 20): 1B, 2A, 3B;

~~(17)~~ (20) Hill Creek, (T.60, R.8, S.19, 30; T.60, R.9, S.24, 25): 1B, 2A, 3B;

~~(18)~~ (21) Indian Sioux River, Little, (T.65, R.15): 1B, 2Bd, 3B;

~~(19)~~ (22) Inga Creek, (T.60, R.9, S.2, 3; T.61, R.9, S.14, 22, 23, 27, 34, 35): 1B, 2A, 3B;

~~(20)~~ (23) *Inga Creek **11/5/84P** (T.61, R.9, S.11, 12): 1B, 2A, 3B;

~~(21)~~ (24) Isabella River, Little, (T.59, R.8, S.3, 4, 5, 6, 9, 10, 15, 16, 22; T.60, R.8, S.31, 32; T.60, R.9, S.5, 6, 8, 9, 10, 15, 16, 22, 25, 26, 27, 36; T.61, R.9, S.9, 16, 17, 20, 21, ~~22,~~ 29, 32): 1B, 2A, 3B;

~~(22)~~ (25) *Isabella River, Little, **11/5/84P** (T.61, R.9, S.3, 4, 9, 10; T.62, R.9, S.34): 1B, 2A, 3B;

~~(23)~~ (26) Island River, (T.61, R.7, 8): 1B, 2Bd, ~~3B~~ 3C;

~~(24)~~ (27) Jack Pine Creek, (T.60, R.8, S.5, 6, 7, 8, 18; T.61, R.8, S.19, 20, 29, 30, 31, 32): 1B, 2A, 3B;

~~(25)~~ (28) Johnson Creek, (T.60, R.18, S.6, 7, 8, 17, 20): 1B, 2A, 3B;

~~(26)~~ (29) Kawishiwi River, outside Boundary Waters Canoe Area Wilderness, (Source to Fall Lake): 1B, 2Bd, ~~3B~~ 3C;

~~(27)~~ (30) Kinmount Creek, (T.67, R.20, S.19; T.67, R.21, S.13, 14, 15, 20, 21, 22, 23, 24): 1B, 2A, 3B;

~~(28)~~ (31) Longstorff Creek, (T.62, R.12, S.6, 7; T.63, R.12, S.31): 1B, 2A, 3B;

~~(29)~~ (32) Lost River, (T.65, R.19, S.6; T.65, R.20, S.1, 2, 3, 4, 5, 6, 7, 8, 12; T.65, R.21, S.1; T.66, R.20, S.20, 25, 27, 29, 31, 32, 33, 34, 35, 36): 1B, 2A, 3B;

~~(30)~~ (33) Mary Ann Creek, (T.58, R.10, S.16, 21): 1B, 2A, 3B;

~~(31)~~ (34) Mike Kelly Creek (Kelly Creek), (T.60, R.11, S.14, 15, 23): 1B, 2A, 3B;

~~(32)~~ (35) Mitawan Creek, (T.60, R.9, S.1, 12; T.61, R.8, S.18, 19, 31; T.61, R.9, S.12, 13, 24, 25, 36): 1B, 2A, 3B;

~~(33)~~ (36) *Mitawan Creek, **11/5/84P** (T.61, R.8, S.5, 6, 7; T.61, R.9, S.1, 2, 12; T.62, R.9, S.35): 1B, 2A, 3B;

~~(34)~~ (37) Moose River, St. Louis County, (T.68, R.18, 19): 1B, 2Bd, ~~3B~~ 3C;

~~(35)~~ (38) Moose River, outside Boundary Waters Canoe Area Wilderness, (T.65, R.14): 1B, 2Bd, ~~3B~~ 3C;

~~(36)~~ (39) Nine Mile Creek (Ninemile Creek), (T.66, R.19, S.4; T.67, R.19, S.7, 8, 18, 19, 20, 21, 27, 28, 29, 33; T.67, R.20, S.12, 13, 14, 23): 1B, 2A, 3B;

~~(37)~~ (40) Nip Creek, (T.59, R.11, S.3, 4; T.60, R.11, S.21, 22, 27, 28, 34): 1B, 2A, 3B;

~~(38)~~ (41) Nira Creek, (T.61, R.11, S.22, 23, 27): 1B, 2A, 3B;

~~(39)~~ (42) Pitt Creek, (T.159, R.32, S.4, 9, 16; T.160, R.32, S.21, 28, 33): 1B, 2A, 3B;

~~(40)~~ (43) Portage Creek, (T.65, R.21): 2C;

~~(41)~~ (44) Portage River, (T.65, ~~66, R.14~~ R.14, S.24; T.65, R.13, S.19, 20, 28, 29): 1B, 2Bd, ~~3B~~ 3C;

~~(42)~~ (45) Rainy River, (Outlet of Rainy Lake to Dam in International Falls): 1B, 2Bd, 3A;

~~(43)~~ (46) Rainy River, (Dam in International Falls to Railroad Bridge in Baudette): 1C, 2Bd, 3A;

~~(44)~~ (47) Rainy River, (Railroad Bridge in Baudette to Lake of the Woods): 2B, 3A;

~~(45)~~ (48) Sand Creek, (T.60, R.21, S.3, 4, 5, 10, 11, 14; T.61, R.20, S.19; T.61, R.21, S.3, 10, 11, 14, 15, 23, 24, 25, 26, 27, 33, 34, 35; T.62, R.21, S.34): 1B, 2A, 3B;

~~(46)~~ (49) Scott Creek, (T.59, R.7, S.4; T.60, R.7, S.9, 10, 15, 16, 21, 22, 27, 33, 34, 35): 1B, 2A, 3B;

~~(47)~~ (50) Section 30 Creek, (T.63, R.11, S.30; T.63, R.12, S.24, 25): 1B, 2A, 3B;

~~(48)~~ (51) Sea Gull River, (T.66N, R.4W, S.30, 31):1C, 2Bd, ~~3B~~ 3C;

~~(49)~~ (52) Shine Brook q(Swine Creek), (T.62, R.25, S.11, 14, 15, 16): 1B, 2A, 3B;

~~(50)~~ (53) Snake Creek, (T.60, R.10, S.1; T.61, R.9, S.19, 30, 31; T.61, R.10, S.24, 25, 36): 1B, 2A, 3B;

~~(51)~~ (54) Snake River, (T.60, R.10, S.3; T.61, R.9, S.18, 19; T.61, R.10, S.23, 24, 26, 27, 34): 1B, 2A, 3B;

~~(52)~~ (55) *Snake River, **11/5/84P** (T.61, R.9, S.7; T.61, R.10, S.12): 1B, 2A, 3B;

~~(53)~~ (56) Sphagnum Creek, (T.60, R.9, S.4; T.61, R.9, S.28, 29, 33): 1B, 2A, 3B;

~~(54)~~ (57) Stoney Brook (Stony Brook), (T.60, R.22, S.3, 4; T.61, R.22, S.13, 24, 25, 35, 36; T.61, R.21, S.7, 18): 1B, 2A, 3B;

(58) Tomato Creek, (T.161, R.34, S.3, 9, 10; T.162, R.34, S.35): 1B, 2A, 3B;

~~(55)~~ (59) Tomlinson Creek, (T.60, R.7, S.18, 19, 31; T.60, R.8, S.24, 25, 36): 1B, 2A, 3B;
~~(56) Tomato Creek, (T.161, R.34, S.3, 9, 10; T.162, R.34, S.35): 1B, 2A, 3B;~~
~~(57)~~ (60) Trout Brook, (T.66, R.26, S.19, 30; T.66, R.27, S.24, 25): 1B, 2A, 3B;
~~(58)~~ (61) Two Rivers, East, (T.61, R.14, S.7, 8; T.61, R.15, S.1, 2, 3, 4, 12; T.62, R.14, S.29, 30, 31, 32; T.62, R.15, S.32, 33, 34, 35, 36): 1B, 2A, 3B;
~~(59)~~ (62) Two Rivers, West, (T.61, R.15, S.6, 7, , 9, 14, 15, 16, 17): 1B, 2A, 3B;
~~(60)~~ (63) Unnamed Creek, (T.65, R.19, S.4, 5; T.66, R.19, S.33): 1B, 2A, 3B;
~~(61)~~ (64) Valley River, (T.62, R.23, S.1, 2, 3, 4, 10, 11, 12, 13, 14, 24; T.63, R.22, S.6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 28, 29, 30; T.63, R.23, S.24, 25, 26, 35): 1B, 2A, 3B;
~~(62)~~ (65) Venning Creek, (T.60, R.23, S.1, 2, 11, 12, 13, 14; T.61, R.23, S.35): 1B, 2A, 3B;
~~(63)~~ (66) Victor Creek, (T.60, R.9, S.12, 13): 1B, 2A, 3B;
~~(64)~~ (67) Weiss Creek, (T.59, R.9, S.2, 3, 11; T.60, R.9, S.27, 34): 1B, 2A, 3B;
~~(65)~~ (68) Wenho Creek, (T.58, R.10, S.17, 20, 21, 27, 28, 34): 1B, 2A, 3B;
~~(66)~~ (69) Zippel Creek, West Branch, (T.162, R.33, 34): 2C;
~~(67)~~ (70) *All other streams in the Boundary Waters Canoe Area Wilderness **11/5/84P**: 1B, 2Bd, 3B; and
~~(68)~~ (71) *All other streams in the Voyageurs National Park **11/5/84P**: 2B, 3B.

B. Lakes:
(1) *Adams Lake, 38-0153-00, **11/5/84P** (T.64, R.6): 1B, 2A, 3B;
(2) *Agamok Lake, 38-0011-00, **11/5/84P** (T.65, R.5, 6): 1B, 2A, 3B;
(3) *Ahmakose Lake, 38-0365-00 **11/5/84P** (T.64, R.7): 1B, 2A, 3B;
(4) *Ahsub Lake, 38-0516-00, **11/5/84P** (T.64, R.8W, S.27, 28): 1B, 2A, 3B;
(5) *Alpine Lake, 16-0759-00, **11/5/84P** (T.65, R.5): 1B, 2A, 3B;
(6) *Alruss Lake, 69-0005-00, **11/5/84P** (T.64, R.11W, S.7; T.64, R.12W, S.12): 1B, 2A, 3B;
(7) *Amoeber Lake, 38-0227-00, **11/5/84P** (T.65, R.6, 7): 1B, 2A, 3B;
(8) *Arkose Lake, 38-0382-00, **11/5/84P** (T.64, 65, R.7): 1B, 2A, 3B;
(9) *Ashdick Lake (Caribou Lake), 38-0210-00, **11/5/84P** (T.66, R.6): 1B, 2A, 3B;
(10) *Basswood Lake, 38-0645-00, **11/5/84P** (T.64, 65, R.9, 10): 1B, 2A, 3B;
(11) *Bat Lake, 16-0752-00, **11/5/84P** (T.64, 65, R.5): 1B, 2A, 3B;
(12) *Beartrack Lake, 69-0480-00, **11/5/84P** (T.67, R.15): 1B, 2A, 3B;
(13) *Beaver Lake (Elbow Lake), 38-0223-00, **11/5/84P** (T.63, 64, R.6, 7): 1B, 2A, 3B;
(14) Beaver Hut Lake, 38-0737-00, (T.61, R.10W, S.30, 31; T.61, R.11, S.25, 36): 1B, 2A, 3B;
(15) Beetle Lake, 38-0551-00, (T.60, R.9W, S.7): 1B, 2A, 3B;
(16) Big Lake, 69-0190-00, (T.64, 65, R.13): 1C, 2Bd, ~~3B~~ 3C;
(17) *Bingshick Lake, 16-0627-00, **11/5/84P** (T.65, R.4, 5): 1B, 2A, 3B;
(18) *Brandt Lake (Brant Lake), 16-0600-00, **11/5/84P** (T.65, R.4): 1B, 2A, 3B;
(19) *Burntside Lake, 69-0118-00, **3/7/88R** (T.63, 64, R.12, 13, 14): 1B, 2A, 3B;
(20) Camp Four (Wessman) Lake, 69-0788-00, (T.59, R.19W, S.4): 1B, 2A, 3B;
(21) *Camp Lake, 38-0789-00, **11/5/84P** (T.64, R.11): 1B, 2Bd, 3B;
(22) *Caribou Lake, 31-0620-00, **3/7/88R** (T.58, R.26): 1B, 2A, 3B;
(23) *Cash Lake, 16-0438-00, **11/5/84P** (T.64, R.3): 1B, 2A, 3B;
(24) Cedar Lake, 38-0810-00, (T.63, R.11, 12): 1C, 2Bd, ~~3B~~ 3C;
(25) Chant Lake, 69-0172-00, (T.63, R.13W, S.10): 1B, 2A, 3B;
(26) *Cherokee Lake, 16-0524-00, **11/5/84P** (T.63, 64, R.4): 1B, 2A, 3B;
(27) *Cherry Lake, 38-0166-00, **11/5/84P** (T.65, R.6): 1B, 2A, 3B;
(28) *Conchu Lake, 38-0720-00, **11/5/84P** (T.63, R.10W, S.21, 22): 1B, 2A, 3B;
(29) *Crab Lake (includes West Crab Lake, 69-0297-00), 69-0220-00, **11/5/84P** (T.63, R.13, 14): 1B, 2A, 3B;
(30) Crab Lake, 16-0357-00, (T.65, R.2, 3): 1B, 2A, 3B;
(31) Crane Lake, 69-0616-00, (T.67, 68, R.16, 17): 1B, 2A, 3A;
(32) *Crooked Lake, 16-0723-00, **11/5/84P** (T.64, R.5): 1B, 2A, 3B;
(33) *Crooked Lake, 38-0817-00, **11/5/84P** (T.66, R.11, 12): 1B, 2A, 3B;
(34) *Cruiser Lake (Trout Lake), 69-0832-00, **11/5/84P** (T.69, 70, R.19): 1B, 2A, 3B;
(35) Cub Lake, 69-1318-00, (T.61, R.14W, S.2): 1B, 2A, 3B;
(36) Dan Lake, 38-0853-00, (T.63, R.10W, S.17): 1B, 2A, 3B;

(37) Deepwater Lake, 69-0858-00, (T.59, R.20W, S.2): 1B, 2A, 3B;
(38) Dry Lake, 69-0064-00, (T.63, R.12W, S.9): 1B, 2A, 3B;
(39) Dry Lake, Little, 69-1040-00, (T.63, R.12W, S.9): 1B, 2A, 3B;
(40) *Eddy Lake, 38-0187-00, **11/5/84P** (T.65, R.6): 1B, 2A, 3B;
(41) Eikela Lake, 38-0677-00, (T.60, R.10W, S.22): 1B, 2A, 3B;
(42) Ennis Lake, 38-0634-00, (T.64, R.9W, S.33): 1B, 2A, 3B;
(43) Erskine Lake, 31--0311-00, (T.61, R.24W, S.2, 3): 1B, 2A, 3B;
(44) *Ester Lake (Gnig Lake), 38-0207-00, **11/5/84P** (T.65, 66, R.6): 1B, 2A, 3B;
(45) *Eugene Lake, 69-0473-00, **11/5/84P** (T.67, R.15): 1B, 2A, 3B;
(46) *Explorer Lake (South Three Lake), 38-0399-00, **11/5/84P** (T.64, R.7, 8): 1B, 2A, 3B;
(47) Extortion Lake, 16-0450-00, (T.65, R.3W, S.31, 32): 1B, 2A, 3B;
(48) Fall Lake, 38-0811-00, (T.63, 64, R.11, 12): 1B, 2Bd, ~~3B~~ q3C;
(49) Farm Lake, 38-0779-00, (T.62, 63, R.11): 1C, 2Bd, ~~3B~~ 3C;
(50) *Fat Lake, 69-0481-00, **11/5/84P** (T.67, R.15): 1B, 2A, 3B;
(51) *Fay Lake, 16-0783-00, **11/5/84P** (T.65, R.5): 1B, 2A, 3B;
(52) Fenske Lake, 69-0085-00, (T.64, R.12, S.29, 30, 32): 1C, 2Bd, 3C;
(53) *Fern Lake, 16-0716-00, **11/5/84P** (T.64, R.5): 1B, 2A, 3B;
~~(53)~~ (54) *Fern Lake, West, 16-0718-00, **11/5/84P** (T.64, R.5): 1B, 2A, 3B;
~~(54)~~ (55) *Finger Lake, 69-0348-00, **11/5/84P** (T.67, R.14): 1B, 2A, 3B;
~~(55)~~ (56) *Fishdance Lake, 38-0343-00, **11/5/84P** (T.63, R.7): 1B, 2A, 3B;
~~(56)~~ (57) *Found Lake, 38-0620-00, **11/5/84P** (T.64, R.9W, S.10, 15): 1B, 2A, 3B;
~~(57)~~ (58) *Fraser Lake, 38-0372-00, **11/5/84P** (T.64, R.7): 1B, 2A, 3B;
~~(58)~~ (59) *French Lake, 16-0755-00, **11/5/84P** (T.64, 65, R.5): 1B, 2A, 3B;
~~(59)~~ (60) *Frost Lake, 16-0571-00, **11/5/84P** (T.64, R.4): 1B, 2A, 3B;
~~(60)~~ (61) *Gabimichigami Lake, 16-0811-00, **11/5/84P** (T.64, 65, R.5, 6): 1B, 2A, 3B;
~~(61)~~ (62) *Ge-Be-On-Equat Lake, 69-0350-00, **11/5/84P** (T.67, R.14): 1B, 2A, 3B;
~~(62)~~ (63) *Gijikiki Lake (Cedar Lake), 38-0209-00, **11/5/84P** (T.65, 66, R.6): 1B, 2A, 3B;
~~(63)~~ (64) *Gillis Lake, 16-0753-00, **11/5/84P** (T.64, 65, R.5): 1B, 2A, 3B;
~~(64)~~ (65) Glacier Pond No. 1, 38-0712-00, (T.63, R. 10W, S.11): 1B, 2A, 3B;
~~(65)~~ (66) Glacier Pond No. 2, 38-0712-02, (T.63, R.10W, S.11): 1B, 2A, 3B;
~~(66)~~ (67) *Gordon Lake, 16-0569-00, **11/5/84P** (T.64, R.4): 1B, 2A, 3B;
(68) Gull Lake, 16-0632-00, (T.66, R.4, 5): 1C, 2Bd, 3C;
~~(67)~~ (69) *Gun Lake, 69-0487-00, **11/5/84P** (T.67, 68, R.15): 1B, 2A, 3B;
~~(68)~~ (70) *Gunflint Lake, 16-0356-00, **3/7/88R** (T.65, R.2, 3, 4): 1B, 2A, 3B;
~~(69)~~ (71) Gunflint Lake, Little, 16-0330-00, (T.65, R.2): 1B, 2Bd, ~~3B~~ 3C;
~~(70)~~ (72) Gypsy Lake, 38-0665-00, (T.60, R.10W, S.6, 7): 1B, 2A, 3B;
~~(71)~~ (73) Hanson Lake, 69-0189-00, (T.64, R.13W, S.36): 1B, 2A, 3B;
~~(72)~~ (74) *Hanson Lake, 38-0206-00, **11/5/84P** (T.65, 66, R.6): 1B, 2A, 3B;
~~(73)~~ (75) High Lake, 69-0071-00, (T.63, R.12W, S.3, 4, 5; T.64, R.12W, S.33, 34): 1B, 2A, 3B;
~~(74)~~ (76) Hogback (Twin or Canal) Lake, 38-0057-01 and 38-0057-02, (T.60, R.6W, S.31): 1B, 2A, 3B;
~~(75)~~ (77) *Holt Lake, 38-0178-00, **11/5/84P** (T.65, R.6): 1B, 2A, 3B;
~~(76)~~ (78) *Howard Lake, 16-0789-00, **11/5/84P** (T.65, R.5): 1B, 2A, 3B;
~~(77)~~ (79) *Hustler Lake, 69-0343-00, **11/5/84P** (T.66, 67, R.14): 1B, 2A, 3B;
~~(78)~~ (80) *Ima Lake (Slate Lake), 38-0400-00, **11/5/84P** (T.64, R.7, 8): 1B, 2A, 3B;
~~(79)~~ (81) Indian Lake, 38-0440-00, (T.60, R.8W, S.35): 1B, 2A, 3B;
~~(80)~~ (82) *Jacob (Louis) Lake, 69-0077-00, **11/5/84P** (T.64, R.12W, S.11, 12): 1B, 2A, 3B;
~~(81)~~ (83) James (Jammer) Lake, 69-0734-00, (T.60, R.18W, S.27): 1B, 2A, 3B;
~~(82) *Jap Lake, **11/5/84P** (T.65, R.4W, S.19; T.65, R.5W, S.24): 1B, 2A, 3B;~~
~~(83)~~ (84) Jasper Lake, 38-0641-00, (T.63, 64, R.9, 10): 1C, 2Bd, ~~3B~~ 3C;
~~(84)~~ (85) *Jasper Lake, 16-0768-00, **11/5/84P** (T.65, R.5): 1B, 2A, 3B;
~~(85)~~ (86) *Johnson Lake, 69-0691-00, **3/7/88R** (T.67, 68, R.17, 18): 1B, 2A, 3B;
~~(86)~~ (87) Jouppi Lake, 38-0909-00, (T.59, R.8W, S.14, 22, 23): 1B, 2A, 3B;
~~(87)~~ (88) Judd Lake, 38-0615-00, (T.63, R.9W, S.4, 5; T.64, R.9W, S.32, 33): 1B, 2A, 3B;
~~(88)~~ (89) *Kabetogama Lake, 69-0845-00, **11/5/84P** (T.69, 70, R.19, 20, 21, 22): 1B, 2Bd, 3A;

~~(89)~~ (90) *Karl Lake, 16-0461-00, **11/5/84P** (T.64, R.3, 4): 1B, 2A, 3B;
~~(90)~~ (91) *Kek Lake, Little, 38-0228-00, **11/5/84P** (T.65, R.6, 7): 1B, 2A, 3B;
~~(91)~~ (92) *Kekekabic Lake, 38-0226-00, **11/5/84P** (T.64, 65, R.6, 7): 1B, 2A, 3B;
~~(92)~~ (93) *Knife Lake, 38-0404-00, **11/5/84P** (T.65, R.6, 7, 8): 1B, 2A, 3B;
~~(93)~~ (94) *Lake of the Clouds Lake (Dutton Lake), 38-0169-00, **11/5/84P** (T.65, R.6): 1B, 2A, 3B;
~~(94)~~ (95) Lake of the Woods, 39-0002-00, (T.161, 162, 163, 164, 165, 166, 167, 168, R.30, 31, 32, 33, 34, 35, 36): 1B, 2Bd, 3A;
~~(95)~~ (96) Lake Vermilion, 69-0378-00, (T.61, 62, 63, R.14, 15, 16, 17, 18): 1C, 2Bd, ~~3B~~ 3C;
~~(96)~~ (97) *Larson Lake, 31-0317-00, **3/7/88R** (T.61, R.24W, S.16, 21): 1B, 2A, 3B;
~~(97)~~ (98) Little Long Lake, 69-0066-00, (T.63, R.12): 1C, 2Bd, ~~3B~~ 3C;
~~(98)~~ (99) *Long Island Lake, 16-0460-00, **11/5/84P** (T.64, R.3, 4): 1B, 2A, 3B;
~~(99)~~ (100) *Loon Lake, 16-0448-00, **3/7/88R** (T.65, R.3): 1B, 2A, 3B;
~~(100)~~ (101) *Loon Lake, 69-0470-00, **11/5/84P** (T.66, 67, R.15): 1B, 2A, 3B;
~~(101)~~ (102) *Lunar Lake (Moon Lake), 38-0168-00, **11/5/84P** (T.65, R.6): 1B, 2A, 3B;
~~(102)~~ (103) *Lynx Lake, 69-0383-00, **11/5/84P** (T.66, R.14, 15): 1B, 2A, 3B;
~~(103)~~ (104) *Magnetic Lake, 16-0463-00, **3/7/88R** (T.65, R.3, 4): 1B, 2A, 3B;
~~(104)~~ (105) *Makwa Lake (Bear Lake), 38-0147-00, **11/5/84P** (T.64, R.6): 1B, 2A, 3B;
~~(105)~~ (106) *Marble Lake, 38-0109-00, **11/5/84P** (T.64, R.6): 1B, 2A, 3B;
~~(106)~~ (107) *Mavis Lake, 16-0528-00, **11/5/84P** (T.64, R.4W, S.4): 1B, 2A, 3B;
~~(107)~~ (108) *Mayhew Lake, 16-0337-00, **3/7/88R** (T.65, R.2): 1B, 2A, 3B;
~~(108)~~ (109) *Meditation Lake, 16-0583-00, **11/5/84P** (T.65, R.4W, S.7, 8): 1B, 2A, 3B;
~~(109)~~ (110) *Mesaba Lake, 16-0673-00, **11/5/84P** (T.63, R.5): 1B, 2A, 3B;
~~(110)~~ (111) Miner's Mine Pit, 69-1293-00, (T.63, R.12W, S.26, 27, 28): 1B, 2A, 3B;
~~(111)~~ (112) *Missing Link Lake, 16-0529-00, **11/5/84P** (T.64, R.4W, S.4): 1B, 2A, 3B:
~~(112)~~ (113) *Missionary Lake (East Three Lake), 38-0398-00, **11/5/84P** (T.64, R.7, 8): 1B, 2A, 3B;
~~(113)~~ (114) *Moose Lake, 38-0644-00, **11/5/84P** (T.64, R.9, 10): 1B, 2Bd, 3B;
~~(114)~~ (115) *Mora Lake, 16-0732-00, **11/5/84P** (T.64, R.5): 1B, 2A, 3B;
~~(115)~~ (116) *Mukooda Lake, 69-0684-00, **11/5/84P** (T.68, R.17): 1B, 2A, 3B;
~~(116)~~ (117) *Namakan Lake, 69-0693-00, **11/5/84P** (T.69, 70, R.17, 18, 19): 1B, 2Bd, 3A;
~~(117)~~ (118) *Neglige Lake, 38-0492-00, **11/5/84P** (T.64, R.8W, S.1, 2, 11, 12): 1B, 2A, 3B;
~~(118)~~ (119) Nickel (Nichols) Lake, 31-0470-00, (T.59, R.25W, S.12): 1B, 2A, 3B;
~~(119)~~ (120) Norberg Lake, 69-1312-00, (T.61, R.14W, S.1): 1B, 2A, 3B;
~~(120)~~ (121) *North Lake, 16-0331-00, **3/7/88R** (T.65, R.2): 1B, 2A, 3B;
~~(121)~~ (122) North Lake, Little, 16-0329-00, (T.65, R.2): 1B, 2Bd, ~~3B~~ 3C;
~~(122)~~ (123) Norway Lake, 38-0688-00, (T.61, R.10W, S.3): 1B, 2A, 3B;
~~(123)~~ (124) *Ogishkemuncie Lake, 38-0180-00, **11/5/84P** (T.65, R.6): 1B, 2A, 3B;
~~(124)~~ (125) *Ojibway Lake (Upper Twin), 38-0640-00, **3/7/88R** (T.63, R.9, 10): 1B, 2A, 3B;
~~(125)~~ (126) *Owl Lake, 16-0726-00, **11/5/84P** (T.64, R.5): 1B, 2A, 3B;
~~(126)~~ (127) *Oyster Lake, 69-0330-00, **11/5/84P** (T.66, R.14): 1B, 2A, 3B;
(128) *Paulson Lake, 16-0626-00, **11/5/84P** (T.65, R.4W, S.19; T.65, R.5W, S.24): 1B, 2A, 3B;
~~(127)~~ (129) Peanut Lake, 38-0662-00, (T.60, R.10W, S.5): 1B, 2A, 3B;
~~(128)~~ (130) Pelican Lake, 69-0841-00, (T.64, 65, R.19, 20, 21): 1C, 2Bd, ~~3B~~ 3C;
(131) *Pellet Lake, 16-0592-00, **11/5/84P** (T.65, R.4, S.19, 20): 1B, 2Bd, 3B;
~~(129)~~ (132) *Peter Lake, 16-0757-00, **11/5/84P** (T.64, 65, R.5): 1B, 2A, 3B;
~~(130)~~ (133) Pickerel Lake, 69-0934-00, (T.60, R.21W, S.17): 1B, 2A, 3B;
~~(131)~~ (134) Portage Lake, 16-0327-00, (T.64, R. 2W, S.3, 4, 5; T.65, R.2W, S.33): 1B, 2A, 3B;
~~(132)~~ (135) *Portage Lake, 38-0524-00, **11/5/84P** (T.65, R.8): 1B, 2A, 3B;
~~(133)~~ (136) Portage Lake, Little, 16-0297-00, (T.64, R.2W, S.3): 1B, 2A, 3B;
~~(134)~~ (137) *Powell Lake, 16-0756-00, **11/5/84P** (T.64, 65, R.5): 1B, 2A, 3B;
~~(135)~~ (138) *Rabbit Lake, 38-0214-00, **11/5/84P** (T.66, R.6): 1B, 2A, 3B;
~~(136)~~ (139) *Rainy Lake, 69-0694-00, **11/5/84P** (T.70, 71, R.18, 19, 20, 21, 22, 23): 1B, 2Bd, 3A;
~~(137)~~ (140) *Raven Lake (Lynx Lake), 38-0113-00, **11/5/84P** (T.64, R.6): 1B, 2A, 3B;
~~(138)~~ (141) *Red Rock Lake, 16-0793-00, **11/5/84P** (T.65, 66, R.5): 1B, 2A, 3B;
~~(139)~~ (142) Regenbogan Lake, 69-0081-00, (T.64, R.12W, S.18): 1B, 2A, 3B;
~~(140)~~ (143) *Rog Lake, 16-0765-00, **11/5/84P** (T.65, R.5W, S.16, 17): 1B, 2A, 3B;

~~(141)~~ (144) *Ruby Lake, Big, 16-0333-00, **11/5/84P** (T.66, R.14): 1B, 2A, 3B;
~~(142)~~ (145) *Saganaga Lake, 16-0633-00, **11/5/84P** (T.66, 67, R.4, 5): 1B, 2A, 3B;
~~(143)~~ (146) *Saganaga Lake, Little, 16-0890-00, **11/5/84P** (T.64, R.5, 6): 1B, 2A, 3B;
~~(144)~~ (147) *Sand Point Lake, 69-0617-00, **11/5/84P** (T.67, 68, 69, R.16, 17): 1B, 2A, 3A;
~~(145)~~ (148) Scarp (Cliff) Lake, 38-0058-00, (T.60, R.6W, S.31, 32): 1B, 2A, 3B;
~~(146)~~ (149) *Sea Gull Lake, 16-0629-00, **11/5/84P** (T.65, 66, R.4, 5): 1B, 2A, 3B;
~~(147)~~ (150) *Sema Lake (Coon Lake), 38-0386-00, **11/5/84P** (T.65, R.7): 1B, 2A, 3B;
~~(148)~~ (151) Shoofly Lake, 38-0422-00, (T.59, R.8W, S.1; T.60, R.8W, S.36): 1B, 2A, 3B;
~~(149)~~ (152) *Skull Lake, 38-0624-00, **11/5/84P** (T.64, R.9W, S.14): 1B, 2A, 3B;
~~(150)~~ (153) *Snowbank Lake, 38-0529-00, **11/5/84P** (T.63, 64, R.8, 9): 1B, 2A, 3B;
~~(151)~~ (154) *Spoon Lake (Fames Lake), 38-0388-00, **11/5/84P** (T.65, R.7): 1B, 2A, 3B;
~~(152)~~ (155) *Spring Lake, 69-0761-00, **3/7/88R** (T.68, R.18): 1B, 2A, 3B;
~~(153)~~ (156) Steamhaul Lake, 38-0570-00, (T.60, R.9W, ~~S.32~~ S.23): 1B, 2A, 3B;
~~(154)~~ (157) *Strup Lake, 38-0360-00, **11/5/84P** (T.64, R.7): 1B, 2A, 3B;
~~(155)~~ (158) *Sumpet Lake, 38-0283-00, **11/5/84P** (T.61, R.7): 1B, 2Bd, 3B;
~~(156)~~ (159) Surber Lake, 16-0343-00, (T.65, R.2W, S.34): 1B, 2A, 3B;
~~(157)~~ (160) *Takucmich Lake, 69-0369-00, **11/5/84P** (T.67, 68, R.14): 1B, 2A, 3B;
~~(158)~~ (161) *Tarry Lake, 16-0731-00, **11/5/84P** (T.64, R.5): 1B, 2A, 3B;
~~(159)~~ (162) *Thomas Lake, 38-0351-00, **11/5/84P** (T.63, 64, R.7): 1B, 2A, 3B;
~~(160)~~ (163) *Thumb Lake, 69-0352-00, **11/5/84P** (T.67, R.14): 1B, 2A, 3B;
~~(161)~~ (164) Tofte Lake, 38-0724-00, (T.63, R.10W, S.2, 3, 10, 11; T.64, R.10W, S.35): 1B, 2A, 3B;
~~(162)~~ (165) *Topaz Lake (Star Lake), 38-0172-00, **11/5/84P** (T.65, R.6): 1B, 2A, 3B;
~~(163)~~ (166) *Town Lake, 16-0458-00, **11/5/84P** (T.63, 64, R.3, 4): 1B, 2A, 3B;
~~(164)~~ (167) Trappers Lake, 38-0431-00, (T.60, R.8W, S.27, 34): 1B, 2A, 3B;
~~(165)~~ (168) Trip Lake, 16-0451-00, (T.65, R.3W, S.32): 1B, 2A, 3B;
~~(166)~~ (169) *Trout Lake, Big, 69-0498-00, **11/5/84P** (T.63, 64, R.15, 16): 1B, 2A, 3B;
~~(167)~~ (170) *Trout Lake, Little (Pocket Lake), 69-0682-00, **11/5/84P** (T.68, R.17): 1B, 2A, 3B;
~~(168)~~ (171) *Trygg (Twigg) Lake, 69-0389-00, **11/5/84P** (T.68, R.14W, S.31; T.68, R.15W, S.36): 1B, 2A, 3B;
~~(169)~~ (172) *Tucker Lake (Trucker Lake), 16-0417-00, **11/5/84P** (T.64, R.3): 1B, 2Bd, 3B;
~~(170)~~ (173) *Tuscarora Lake, 16-0623-00, **11/5/84P** (T.64, R.4, 5): 1B, 2A, 3B;
(174) Unnamed (Pear) Lake, 38-0769-00, (T.60, R.11W, S.4): 1B, 2A, 3B;
(175) *Unnamed Lake, 16-0598-00, **11/5/84P** (T.65, R.4, S.29, 30): 1B, 2Bd, 3B;
(176) Unnamed Swamp, Winton, (T.63, R.11, S.19; T.63, R.12, S.24): 7;
~~(171)~~ (177) *Vera Lake, 38-0491-00, **11/5/84P** (T.64, R.8): 1B, 2A, 3B;
(178) Vermilion, Lake, 69-0378-00, (see Lake Vermilion);
~~(172)~~ (179) *Virgin Lake, 16-0719-00, **11/5/84P** (T.64, R.5): 1B, 2A, 3B;
(180) West Crab Lake, 69-0220-00, (see Crab Lake);
(181) White Iron Lake, 69-0004-00, (T.62, 63, R.11, 12): 1C, 2Bd, 3C;
~~(173)~~ (182) *Wine Lake, 16-0686-00, **11/5/84P** (T.63, R.5): 1B, 2A, 3B;
~~(174)~~ (183) *Wisini Lake, 38036100, **11/5/84P** (T.64, R.7): 1B, 2A, 3B;
~~(175)~~ (184) Woods, Lake of the, 39000200, (see Lake of the Woods);
~~(176) Unnamed (Pear) Lake, (T.60, R.11W, S.4): 1B, 2A, 3B;~~
~~(177) Unnamed Swamp, Winton, (T.63, R.11, S.19; T.63, R.12, S.24): 7;~~
~~(178) White Iron Lake, (T.62, 63, R.11, 12): 1C, 2Bd, 3B;~~
~~(179)~~ (185) *All other lakes in the Boundary Waters Canoe Area Wilderness **11/5/84P**: 1B, 2Bd, 3B;
~~(180)~~ (186) *All wetlands in the Boundary Waters Canoe Area Wilderness **11/5/84P**: 2D;
~~(181)~~ (187) *All other lakes in the Voyageurs National Park **11/5/84P**: 2B, 3B; and
~~(182)~~ (188) *All other wetlands in the Voyageurs National Park **11/5/84P**: 2D.

[For text of items C and D, see M.R.]

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, C, and~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

(1) Auganash Creek, (T.144, R.38, S.5; T.145, R.38, S.27, 28, 31, 32, 33): 1B, 2A, 3B;

(2) Bad Boy Creek, (T.144, R.39, S.13, 14, 22, 23, 27, 28, 34): 1B, 2A, 3B;
(3) Badger Creek (Lower Badger Creek or County Ditch No. 11), (T.149, 150, 151, R.42, 43, 44): 2C;
(4) Barnums Creek (Burnham Creek or County Ditch No. 72), (T.148, 149, 150, R.44, 45, 46, 47, 48): 2C;
(5) Battle River, South Branch, (T.151, R.30, S.2, 3, 4, 11): 1B, 2A, 3B;
(6) Bemis Hill Creek (County Ditch No. 9), (T.161, R.37, S.17, ~~19,~~ 20, 29~~, 30~~): 1B, 2A, 3B;
(7) Bois de Sioux River, (Mud Lake outlet to Otter Tail River in Breckenridge): 2C;
(8) Brandberg Creek (Brandborg Creek), (T.133, R.38, S.20, 21, 28, 29, 30): 1B, 2A, 3B;

[For text of subitems (9) to (17), see M.R.]

(18) Elbow Lake Creek (Solid Bottom Creek), (T.142, R.38, S.6; T.143, R.38, S.31, 32): 1B, 2A, 3B;

[For text of subitems (19) to (22), see M.R.]

(23) Hay Creek (County Ditch No. 7 or County Ditch No. 9), (T.161, 162, ~~163,~~ R.37, 38, 39): 2C;

[For text of subitems (24) to (35), see M.R.]

(36) Marsh Creek (Judicial Ditch No. 91), (T.144, 145, 146, R.41, 42, 43): 2C;

[For text of subitems (37) to (39), see M.R.]

(40) Mustinka River, (Old Channel), (T.127, 128, R.45, 46, 47): 2C;
(41) Mustinka River, West Branch, ~~(T.125, 126, 127, 128, R.45, 46, 47): 2C~~ (see Twelve Mile Creek, West Branch);
(42) Mustinka River Ditch, (T.128, R.45, S.19; T.128, R.46, S.23, 24; T.129, R.46, S.13, 14): 2C;
~~(42)~~ (43) Nassett Creek, (T.148, R.38, S.20, 28, 29): 1B, 2A, 3B;
~~(43)~~ (44) O'Brien Creek, (T.149, R.32, S.2; T.150, R.32, S.23, 24, 26, 35): 1B, 2A, 3B;
~~(44)~~ (45) Otter Tail River, (Height of Land Lake to mouth): 1C, 2Bd, ~~3B~~ 3C;
(46) Otter Tail River Diversion, (T.133, R.42, S.19, 30; T.133, R.43, S.25): 1C, 2Bd, 3C;
~~(45)~~ (47) Rabbit River, (T.130, 131, R.45, 46, 47): 2C;
~~(46)~~ (48) Rabbit River, South Fork, (T.130, R.45, 46): 2C;
~~(47)~~ (49) Red Lake River, (Outlet of Lower Red Lake to mouth): 1C, 2Bd, ~~3B~~ 3C;
~~(48)~~ (50) Red River of the North, (T.132, R.47, S.8 in Breckenridge to Canadian border): 1C, 2Bd, ~~3B~~ 3C;
~~(49)~~ (51) Roy Creek (Roy Lake Creek), (~~T.144,~~ T. 145, 146, R.39): 2C;
~~(50)~~ (52) Rush Lake Creek, (T.135, R.38, S.23, 26, 27, 28): 1B, 2A, 3B;
~~(51)~~ (53) Schermerhorn Creek (Shimmelhorn Creek), (T.144, R.39, S.6; T.145, R.39, S.31; T.145, R.40, S.25, 26, 36): 1B, 2A, 3B;
~~(52)~~ (54) Spring Creek (State Ditch No. 68), (T.145, 146, R.45, 46, 47): 2C;
~~(53)~~ (55) Spring Creek, (T.142, R.41, 42): 2C;
~~(54)~~ (56) Spring Creek, (T.149, R.30, S.4, 5, 9, 10): 1B, 2A, 3B;
~~(55)~~ (57) Spring Lake Creek, (T.148, R.35, S.34, 35): 1B, 2A, 3B;
~~(56)~~ (58) Stony Creek, (T.137, 138, R.45, 46): 2C;
~~(57)~~ (59) Sucker Creek, (T.138, R.40, S.18; T.138, R.41, S.13): 1B, 2A, 3B;
~~(58)~~ (60) Sucker Creek, (T.160, 161, R.39): 2C;
~~(59)~~ (61) Tamarac River (Source to the dam in S.5, T.157, R.48 at Stephen), (T.157, 158, R.45, 46, 47, 48): 1C, 2Bd, ~~3B~~ 3C;
~~(60)~~ (62) Toad River, (T.138, R.38, S.6, 7, 18, 19, 30; T.139, R.38, S.30, 31; T.139, R.39, S.25, 36; T.138, R.39, S.25, 36): 1B, 2A, 3B;
~~(61)~~ (63) Twelve Mile Creek (excluding Class 7 segment), (T.126, 127, R.45): 2C;
~~(62)~~ (64) 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;
~~(63)~~ (65) Twelve Mile Creek, East Fork, (T.125, 126, R.44, 45): 2C;
(66) Twelve Mile Creek, West Branch (West Branch Twelvemile Creek), (T.125, 126, 127, 128, R.45, 46): 2C;
~~(64)~~ (67) Twelve Mile Creek, West Fork, (T.125, 126, ~~R.44,~~ R.45): 2C;
~~(65)~~ (68) Twin Lake Creek, (T.144, 145, R.40): 2C;
~~(66)~~ (69) Two Rivers, Middle Branch, (Source to Hallock): 1C, 2Bd, ~~3B~~ 3C;
~~(67)~~ (70) Two Rivers, South Branch, (T.160, 161, R.4149): 1C, 2Bd, ~~3B~~ 3C;
~~(68)~~ (71) Unnamed Creek, Rothsay, (T.135, R.45, S.21, 22, 23, 25, 26): 7 (see subitem (11));
~~(69)~~ (72) Unnamed Creek, Shevlin, (T.147, R.36, S.17, 18; T.147, R.37, S.11, 12, 13, 14): 7;
~~(70)~~ (73) Unnamed Ditch, Audubon, (T.139, R.42, S.4, 9): 7;
~~(71)~~ (74) Unnamed Ditch, Lake Park, (T.139, R.43, S.4; T.140, R.43, S.33): 7;
~~(72)~~ (75) Unnamed Ditch, Glyndon, (T.139, R.47, S.1, 2, 12; T.140, R.47, S.35): 7;
~~(73)~~ (76) Unnamed Ditch, Callaway, (T.140, R.41, S.6; T.140, R.42, S.1, 2, 10, 11): 7;
~~(74)~~ (77) Unnamed Ditch, Gary, (T.145, R.44, S.22, 27, 34): 7;

~~(75)~~ (78) Unnamed Ditch, Erskine, (T.149, R.42, S.34, 35): 7;

~~(76)~~ (79) Unnamed Ditch, Thief River Falls, (T.154, R.43, S.31, 32, 33): 7;

~~(77)~~ (80) 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;

~~(78) Whiskey~~ (81) Whisky Creek, (T.136, 137, R.44, 45, 46): 2C;

~~(79) Whiskey~~ (82) Whisky Creek, (T.133, 134, R.46, 47, 48): 2C;

~~(80)~~ (83) White Earth River, (T.142, 143, 144, R.40, 41, 42): 2C;

~~(81)~~ (84) Willow Creek, New York Mills, (T.135, R.38, S.13, 14, 15, 16, 17, 18): 7; and

~~(82)~~ (85) Wolverton Creek, (T.135, 136, 137, R.48): 2C.

B. Lakes:

(1) Bass Lake, 56-0722-00, (T.135, R.42W, S.10, 11): 1B, 2A, 3B;

(2) Hanson Lake, 03-0177-00, (T.139, R.39W, S.6): 1B, 2A, 3B;

(3) Hoot Lake, 56-0782-00, (T.133, R.42, 43): 1C, 2Bd, 3C;

~~(3)~~ (4) Lake Bronson, 35-0003-00, (T.160, 161, R.46): 1C, 2Bd, ~~3B~~ 3C;

~~(4)~~ (5) Twin Lake, East, 03-0362-00, (T.138, R.41): 1B, 2A, 3B;

~~(5)~~ (6) Unnamed Slough, Vergas, (T.137, R.40, S.18; T.137, R.41, S.13, 24): 7; ~~and~~

~~(6)~~ (7) Wapatus (Island) Lake, 15-0127-00, (T.144, R.38W, S.21, 28): 1B, 2A, 3B~~.~~; and

(8) Wright Lake, 56-0783-00, (T.133, R.42, 43): 1C, 2Bd, 3C.

[For text of items C and D, see M.R.]

Subp. 4. **Upper Mississippi River Basin (headwaters to the confluence with the St. Croix River).** The water use classifications for the listed waters in the Upper Mississippi River Basin from the headwaters to the confluence with the St. Croix River are as identified in items A~~, B, and~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

[For text of subitems (1) to (3), see M.R.]

(4) Basswood Creek, (T.141, 142, R.36, 37): 2C;

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

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

(7) Bear Brook, (T.144, 145, R.27): 2C;

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

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

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

(11) Belle Creek (Judicial Ditch No. 18), (T.117, 118, R.32): 2C;

(12) Black Bear Brook, (T.44, R.28, S.7, 8): 1B, 2A, 3B;

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

(14) Black Brook, Mille Lacs County, (T.41, ~~42,~~ R.26): 2C;

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

(16) Blackhoof Creek, (T.46, R.29, S.16): 1B, 2A, 3B;

(17) Blackwater Creek, (T.55, R.26, S.4): 2C;

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

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

(20) Bogus Brook (excluding Class 7 segment), (T.37, 38, R.25, 26): 2C;

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

(22) Borden Creek, (T.44, R.28, S.8, 9, 17, 20): 1B, 2A, 3B;

(23) Branch No. 3, Lateral 2, East Bethel/Ham Lake, (T.33, R.23, S.29, 32, along the west side of Minnesota Highway 65): 7;

(24) Briggs Creek, (T.35, R.29, S.2, 11, 12, 14, 15, 22): 1B, 2A, 3B;

(25) Bruce Creek, (T.53, R.22, S.6, 7; T.53, R.23, S.26; T.54, R.22, S.18, 19, 30, 31; T.54, R.23, S.25): 1B, 2A, 3B;

~~(25)~~ (26) Buckman Creek (excluding Class 7 segment), (T.39, 40, R.30, 31): 2C;

~~(26)~~ (27) 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;

~~(27)~~ (28) Bungo Creek, (T.137, R.30, S.6; T.137, R.31, S.1, 11, 12, 14, 21, 22, 23; T.138, R.30, S.31): 1B, 2A, 3B;

~~(28)~~ (29) Bungoshine Creek (Bungashing Creek), (T.145, R.32, S.28, 29, 30; T.145, R.33, S.25, 26, 34, 35): 1B, 2A, 3B;

~~(29)~~ (30) Bunker Hill Brook (Bunker Hill Creek), (T.38, R.30, S.6; T.38, R.31, S.1, 2, 10, 11): 1B, 2A, 3B;

~~(30)~~ (31) Camp Creek, (T.43, R.28, S.4, 5): 1B, 2A, 3B;

~~(31)~~ (32) Camp Ripley Brook, (T.132, R.29, S.18, 19; T.132, R.30, S.12, 13~~, 24~~): 1B, 2A, 3B;
~~(32)~~ (33) Cat River (Cat Creek), (T.137, R.35, S.4, 9, 10, 11, 12, 13): 1B, 2A, 3B;
~~(33)~~ (34) Cat River (excluding trout waters), (T.136, 137, R.33, 34~~, 35~~): 2C;
~~(34)~~ (35) Cedar ~~Lake~~ Creek, (T.138, R.31, ~~S.14,~~ S. 23, 26, 27, 28): 1B, 2A, 3B;
~~(35)~~ (36) Chase Brook, (T.38, 39, R.27): 2C;
~~(36)~~ (37) Clearwater Creek, (T.56, 57, ~~R.24,~~ R. 25): 2C;
~~(37)~~ (38) Cold Creek, (T.145, R.33, S.19): 1B, 2A, 3B;
~~(38)~~ (39) Cold Spring Creek, (T.123, R.30, S.14, 15): 1B, 2A, 3B;
~~(39)~~ (40) Coon Creek, (T.43, R.29, 30): 2C;
~~(40)~~ (41) Corey Brook (Cory Brook), (T.135, R.30, S.9, 15, 16, 21, 22, 27): 1B, 2A, 3B;
~~(41)~~ (42) 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;
~~(42)~~ (43) County Ditch No. 17, St. Cloud, Bel Clare Estates, (T.124, R.29, S.13, 24, 25): 7;
~~(43)~~ (44) County Ditch No. 23, Garfield, (T.129, R.38, S.26, 27): 7;
~~(44)~~ (45) County Ditch No. 23A, Willmar, (T.119, R.34, S.29, 30, 32; T.119, R.35, S.23, 25, 26): 7;
~~(45)~~ (46) County Ditch No. 28, East Bethel/Ham Lake, (T.32, R.23, S.4, 5, 6; T.33, R.23, S.29, 32 along the east side of Minnesota Highway 65): 7;
~~(46)~~ (47) County Ditch No. 42, McGregor, (T.47, R.23, S.6; T.47, R.24, S.1; T.48, R.23, S.29, 31, 32): 7;
~~(47)~~ (48) County Ditch No. 63, Near Hutchinson, West Lynn Coop Cry., (T.116, R.30, S.19, 20, 21, 28, 33): 7;
~~(48)~~ (49) County Ditch No. 132, Lakeside, Lakeside Coop Cry., (T.116, R.31, S.16, 21): 7;
~~(49)~~ (50) Crane Creek (Judicial Ditch No. 1), (excluding Class 7 segment), (T.116, 117, R.26, 27): 2C;
~~(50)~~ (51) Crane Creek, Winsted, (T.117, R.27, S.14, 20, 21, 22, 23, 24, 25): 7;
~~(51)~~ (52) *Crow River, North Fork, **11/5/84R** (From the Lake Koronis outlet to the Meeker Wright County line): 2B, ~~3B~~ 3C;
~~(52)~~ (53) Cullen Brook, (T.136, R.28, S.18, 19, 30; T.136, R.29, S.13): 1B, 2A, 3B;
~~(53)~~ (54) Dabill Brook, (T.137, R.31, S.1, 2, ~~9,~~ 10, 11~~, 16~~; T.138, R.31, S.35, 36): 1B, 2A, 3B;
~~(54) Dagget~~ (55) Daggett Brook, (T.43, R.29, 30): 2C;
~~(55)~~ (56) Duel Creek, (T.129, R.32, S.20): 1B, 2A, 3B;
~~(56)~~ (57) Eagle Creek, (T.120, R.29): 2C;
~~(57)~~ (58) Elk River, Little, (T.130, 131, R.30, 31): 2C;
~~(58)~~ (59) Elk River, South Branch, Little, (T.130, R.30, 31, 32): 2C;
~~(59)~~ (60) Estes Brook, (T.36, 37, 38, R.27, 28): 2C;
~~(60)~~ (61) Everton Creek, (T.149, R.30): 2C;
~~(61)~~ (62) Fairhaven Creek, (T.121, R.28, S.5; T.122, R.28, S.29, 31, 32): 1B, 2A, 3B;
~~(62)~~ (63) Farley Creek, (T.147, R.28): 2C;
~~(63)~~ (64) Farnham Creek, (T.135, R.32, S.5, 6, 7; T.136, R.32, S.2, 3, 9, 10, 16, 19, 20, 21, 29, 30, 31, 32): 1B, 2A, 3B;
~~(64)~~ (65) Fawn Creek, (T.134, R.33, S.22, 27, 33, 34): 1B, 2A, 3B;
~~(65)~~ (66) Finn Creek, (T.135, R.37, S.27, 34): 1B, 2A, 3B;
~~(66)~~ (67) Fish Creek, (T.28, R.22): 2C;
~~(67)~~ (68) Fletcher Creek, (T.42, R.31): 2C;
~~(68)~~ (69) Foley Brook, (T.141, R.25): 2C;
~~(69)~~ (70) Frederick Creek, (T.119, R.25, 26): 2C;
~~(70)~~ (71) Frontenac Creek, (T.144, 145, R.34): 2C;
(72) Gould Creek (Sucker Creek), (T.144, R.36, S.32): 1B, 2A, 3B;
(73) Gould Creek (Sucker Creek), (T.143, R.36): 2C;
~~(71)~~ (74) Hanson Brook, (T.40, R.27): 2C;
~~(72)~~ (75) Hanson Brook (~~ThreeMile~~ Threemile), (T.122, R.28, S.21, 22, 25, 26, 27, 36): 1B, 2A, 3B;
~~(73)~~ (76) Hasty Brook, (T.49, R.19, S.18; T.49, R.20, S.4, 5, 9, 10, 13, 14, 15, 23; T.50, R.20, S.28, 29, 32, 33): 1B, 2A, 3B;
~~(74)~~ (77) Hay Creek, Crow Wing County, (T.43, 44, R.30, 31): 2C;
~~(75)~~ (78) Hay Creek, Wadena County, (T.134, R.33, S.7, 8, 9, 10, 11, 17, 18): 1B, 2A, 3B;
~~(76)~~ (79) Hay Creek (Mosquito Creek), (T.135, R.31, S.8, 9, 16, 17): 1B, 2A, 3B;
~~(77)~~ (80) Hazel Creek, (T.127, R.29, 30): 2C;
~~(78)~~ (81) Hellcamp Creek (Hellkamp Creek), (T.140, R.33, S.19; T.140, R.34, S.24): 1B, 2A, 3B;
~~(79)~~ (82) Hennepin Creek, (T.144, R.35, S.3, 10, 15, 16, 21; T.145, R.35, S.34): 1B, 2A, 3B;
~~(80)~~ (83) Hennepin Creek (excluding trout waters), (T.144, 145, 146, R.34, 35): 2C;
~~(81)~~ (84) Hoblin Creek, (T.137, R.30, S.17, 18, 19): 1B, 2A, 3B;

~~(82)~~ (85) Indian Creek, (T.141, 142, R.36, 37): 2C;
~~(83)~~ (86) Irish Creek, (T.129, R.31): 2C;
~~(84)~~ (87) Iron Creek, (T.134, 135, R.31, 32): 2C;
~~(85)~~ (88) Jewett Creek (Jewitts Creek or County Ditch No. 17), (T.119, 120, R.30, 31): 2C;
~~(86)~~ (89) Johnson Creek, (T.137, ~~R.28~~ R.25): 2C;
~~(87)~~ (90) Judicial Ditch No. 1, Lakeside, Lakeside Coop Cry., (T.116, R.31, S.28, 33): 7;
~~(88)~~ (91) 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;
~~(89)~~ (92) Kabekona River, (T.143, R.32, S.6, 7, 18, 19; T.143, R.33, S.2, 3, 4, 9, 11, 12, 24; T.144, R.33, S.29, 30, 32, 33; T.144, R.34, S.24, 25, 36): 1B, 2A, 3B;
~~(90)~~ (93) Kawishiwash Creek, (T.142, R.32, S.12): 1B, 2A, 3B;
~~(91)~~ (94) Kettle Creek (Kettle River), (T.138, R.35, 36, 37): 2C;
~~(92)~~ (95) Kinzer Creek, (T.123, R.30, S.27, 34): 1B, 2A, 3B;
~~(93)~~ (96) Kitchi Creek, (T.146, 147, R.29, 30): 2C;
~~(94)~~ (97) Kitten Creek, (T.137, R.34, 35): 2C;
~~(95)~~ (98) Larson Creek, (T.128, R.32, S.6): 1B, 2A, 3B;
~~(96)~~ (99) LaSalle Creek (excluding trout waters), (T.143, ~~144,~~ R.35): 2C;
~~(97)~~ (100) LaSalle Creek, (T.143, R.35, S.6; T.144, R.35, S.19, 30, 31): 1B, 2A, 3B;
~~(98)~~ (101) LaSalle River, (T.144, 145, R.35): 2C;
~~(99)~~ (102) Laura Brook, (T.141, R.26): 2C;
~~(100)~~ (103) Libby Brook, (T.50, R.23, S.5, 6; T.50, R.24, S.1, 2): 1B, 2A, 3B;
~~(101)~~ (104) Long Brook, Lower South, (T.44, R.30, S.12, 13): 1B, 2A, 3B;
~~(102)~~ (105) Long Brook, Upper South, (T.44, R.29, S.6, 7): 1B, 2A, 3B;
~~(103)~~ (106) Long Lake Creek, (T.46, R.25, S.10, 15): 1B, 2A, 3B;
~~(104)~~ (107) Luxemburg Creek, (T.123, R.28, S.16, 17, 18, 19, 20, 21, 22, 30): 1B, 2A, 3B;
~~(105)~~ (108) Matuska's Creek, (T.54, R.26, S.35, 36): 1B, 2A, 3B;
~~(106)~~ (109) Meadow Creek, (T.128, R.30): 2C;
~~(107)~~ (110) Meyers Creek (Johnson Creek), (T.122, R.28, S.4; T.123, R.28, S.22, 27, 33, 34): 1B, 2A, 3B;
~~(108)~~ (111) Michaud Brook, (T.140, R.25, S.7, 17, 18): 1B, 2A, 3B;
~~(109)~~ (112) Mike Drew Brook, (T.38, 39, R.26, 27): 2C;
~~(110)~~ (113) Mink Creek, Big, (T.41, 42, R.29, 30, ~~31~~): 2C;
~~(111)~~ (114) Mink Creek, Little, (T.40, 41, ~~42,~~ R.29, 30, 31): 2C;
~~(112)~~ (115) *Mississippi River, **11/5/84R** (From Lake Itasca to Fort Ripley, at the common boundary of Crow Wing and Morrison Counties): 2B, ~~3B~~ 3C;
~~(113)~~ (116) *Mississippi River, **11/5/84R** (From Fort Ripley, at the common boundary of Crow Wing and Morrison Counties, to the southerly boundary of Morrison County): 1C, 2Bd, ~~3B~~ 3C;
~~(114)~~ (117) Mississippi River, (From the southerly boundary of Morrison County to Stearns County State-Aid Highway 7 bridge in Saint Cloud in S.13, T.124, R.28): 1C, 2Bd, ~~3B~~ 3C;
~~(115)~~ (118) *Mississippi River, **11/5/84R** (Stearns County State-Aid Highway 7 bridge in Saint Cloud in S.13, T.124, R.28 to the northwestern city limits of Anoka, river mile 873.5): 1C, 2Bd, ~~3B~~ 3C;
~~(116)~~ (119) Mississippi River, (From the northwestern city limits of Anoka, river mile 873.5, to the Upper Lock and Dam at Saint Anthony Falls in Minneapolis): 1C, 2Bd, ~~3B~~ 3C;
~~(117)~~ (120) Mississippi River, (Outlet of Metro Wastewater Treatment Works in Saint Paul, river mile 835.3, to river mile 830, Rock Island RR Bridge): 2C, ~~3B~~ 3C;
~~(118)~~ (121) Morrison Brook, (T.52, R.26, S.4, 9, 10, 14, 15; T.53, R.26, S.7, 8, 18, 19, 29, 30, 32, 33): 1B, 2A, 3B;
~~(119)~~ (122) Muckey Creek (Wallingford Creek), (T.139, R.33, S.1, 2, 10, 11, 12): 1B, 2A, 3B;
~~(120)~~ (123) Necktie River (T.145, R.32, S.6, 7, 8, 9, 16; T.145, R.33, S.1): 1B, 2A, 3B;
~~(121)~~ (124) Nelson Hay Creek, (T.130, R.31, S.1, 2): 1B, 2A, 3B;
~~(122)~~ (125) Northby Creek, (T.140, R.27): 2C;
~~(123)~~ (126) Norway Brook, (T.139, R.30): 2C;
~~(124)~~ (127) O'Brien Creek, (T.56, 57, R.22): 2C;
~~(125)~~ (128) O'Neill Brook, (T.38, R.26): 2C;
~~(126)~~ (129) Oak Ridge Creek (Oak Creek), (T.133, 134, R.36): 2C;
~~(127)~~ (130) Olson Brook, (T.136, R.30, S.12, 13, 14): 1B, 2A, 3B;

~~(128)~~ (131) Peterson Creek, (T.134, R.30, S.29~~, 33~~ 32): 1B, 2A, 3B;
~~(129)~~ (132) Pickerel Creek, (T.56, R.22, S.7, 18; T.56, R.23, S.13): 1B, 2A, 3B;
~~(130)~~ (133) Pigeon River, (T.147, R.27): 2C;
~~(131)~~ (134) Pike Creek (excluding Class 7 segment), (T.129, R.30): 2C;
~~(132)~~ (135) Pike Creek, Flensburg, (T.129, R.30, S.17, 18, 19, 20): 7;
~~(133)~~ (136) Pillager Creek, (T.133, 134, R.30): 2C;
(137) Pine River, South Fork, (T.138, R.31, S.14, 23): 1B, 2A, 3B;
~~(134)~~ (138) Pioneer Creek, (T.118, R.24): 2C;
~~(135)~~ (139) Pokegama Creek, (T.54, R.26, S.26, 27, 28): 1B, 2A, 3B;
~~(136)~~ (140) Pokegama Creek, Little, (T.54, R.26, S.26, 27, 34, 35): 1B, 2A, 3B;
~~(137)~~ (141) Pokety (Pickedee Creek), (T.144, R.32, S.29, 30; T.144, R.33, S.24, 25): 1B, 2A, 3B;
~~(138)~~ (142) Poplar Brook (Martin Creek), (T.135, R.32, S.5, 6; T.136, R.32, S.22, 27, 28, 32, 33): 1B, 2A, 3B;
~~(139)~~ (143) Prairie Brook, (T.36, R.27): 2C;
~~(140)~~ (144) Rat Creek, (T.144, 145, R.34): 2C;
~~(141)~~ (145) Rice Creek, (T.30, 31, 32, R.22, 23, 24): 1C, 2Bd, ~~3B~~ 3C;
~~(142)~~ (146) Rice Creek, Sherburne County, (T.35, R.29): 2C;
~~(143)~~ (147) Robinson Hill Creek, (T.123, R.28, S.4, 9, 10, 15; T.124, R.28, S.31, 32, 33): 1B, 2A, 3B;
~~(144)~~ (148) Rock Creek, Little ~~(Benton)~~, (T.38, R.31, S.3, 4, 10, 15, 21, 22, 28; T.39, R.30, S.17, 18, 20, 21, 22; T.39, R.31, S.13, 14, 22, 23, ~~26,~~ 27, 33, 34): 1B, 2A, 3B;
~~(145)~~ (149) Rogers Brook, (T.134, R.30, S.29, 32): 1B, 2A, 3B;
~~(146)~~ (150) Rosholt Creek, (T.55, R.23, S.22, 23, 24): 1B, 2A, 3B;
~~(147)~~ (151) Round Creek, (T.43, R.31, S.14, 15): 1B, 2A, 3B;
~~(148)~~ (152) Round Prairie Creek (Trout Creek), (T.127, R.33, S.4; T.128, R.33, S.20, 29, 32, 33): 1B, 2A, 3B;
~~(149)~~ (153) *Rum River, **11/5/84P** (From the Ogechie Lake spillway to the northernmost confluence with Lake Onamia): 2B, 3B;
~~(150)~~ (154) *Rum River, **11/5/84R** (From the State Highway 27 bridge in Onamia to Madison and Rice Streets in Anoka): 2B, ~~3B~~ 3C;
~~(151)~~ (155) Sand Creek, Crow Wing County, (T.45, R.30, S.2, 3, 11, 13, 14; T.46, R.30, S.34): 1B, 2A, 3B;
~~(152)~~ (156) Sand Creek, (T.55, R.23, S.15, 22, 27, 28, 29, 32, 33): 1B, 2A, 3B;
~~(153)~~ (157) Sauk Creek, Little, (T.127, R.34, S.1; T.128, R.34, S.36): 1B, 2A, 3B;
~~(154)~~ (158) Schoolcraft Creek, (T.142, R.34, S.5, 7, 8, 17): 1B, 2A, 3B;
~~(155)~~ (159) Seven Mile Creek, (T.133, 134, R.30, 31): 2C;
~~(156)~~ (160) Sisseebakwet Creek, (T.54, R.26, S.19, 29, 30): 1B, 2A, 3B;
~~(157)~~ (161) Six Mile Brook, (~~T.143,~~ T.144, R.26, 27): 2C;
~~(158)~~ (162) Skimmerhorn Creek (Skimerhorn Creek), (T.149, R.30): 2C;
~~(159)~~ (163) Skunk Creek, (T.144, 145, R.34): 2C;
~~(160)~~ (164) 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;
~~(161)~~ (165) Smart's Creek, (T.126, R.28, S.17, 18, 20): 1B, 2A, 3B;
~~(162)~~ (166) Smith Creek, (T.53, R.26, S.1, 9, 10, 11, 12, 13, 14, 15; T.54, R.26, S.35, 36): 1B, 2A, 3B;
~~(163)~~ (167) Smith Creek, Unnamed Tributary, (T.53, R.26, S.11, 12): 1B, 2A, 3B;
~~(164)~~ (168) Smith Creek, Unnamed Tributary, (T.54, R.26, S.35, 36): 1B, 2A, 3B;
~~(165)~~ (169) Snake River, (T.33, R.28, S.1; T.34, R.28, S.2, 11, 14, 23, 26, 35, 36; T.35, R.28, S.20, 28, 29, 33, 34, 35): 1B, 2A, 3B;
~~(166)~~ (170) Snowball Creek, (T.56, R.23): 2C;
~~(167)~~ (171) Split Hand Creek, (T.53, R.24, 25): 2C;
~~(168)~~ (172) Spring Brook, Stearns County, (T.121, R.28, S.7; T.121, R.29, S.12): 1B, 2A, 3B;
~~(169)~~ (173) Spring Brook, Crow Wing County, (T.138, R.28, S.27, 34): 1B, 2A, 3B;
~~(170)~~ (174) Spring Brook (Spring Branch), Cass County, (T.139, R.26, S.3, 10, 11, 14): 1B, 2A, 3B;
~~(171)~~ (175) Spring Brook, Lower, (T.57, R.25, S.6; T.58, R.25, S.31): 1B, 2A, 3B;
~~(172)~~ (176) Spring Creek, (T.55, R.23, S.25, 26, 27): 1B, 2A, 3B;
~~(173) Spruce Creek (Douglas), (T.131, R.36, S.28, 29, 31, 32, 33, 34): 1B, 2A, 3B;~~
~~(174)~~ (177) Spruce Creek ~~(Otter Tail)~~, (T.130, R.36, S.3, 4, 9, 10; T.131, R.36, S.28, 29, 31, 32, 33, 34): 1B, 2A, 3B;
~~(175)~~ (178) Stag Brook, (T.121, 122, ~~R.30,~~ R.31): 2C;
~~(176)~~ (179) Stall Creek, (T.143, R.33, S.12, 13, 14): 1B, 2A, 3B;
~~(177)~~ (180) Stanchfield Branch, Lower, Braham, (T.37, R.23, S.3, 10, 15, 22): 7;
~~(178)~~ (181) Stocking Creek, (T.138, R.34, 35): 2C;

~~(179)~~ (182) Stoney Brook (Stony Brook), Cass County, (T.135, R.29, S.5, 8, 9; T.136, R.29, S.30, 31, 32; T.136, R.30, S.20, 21, 22, 25, 26, 27, 29, 30; T.136, R.31, S.24, 25, 26): 1B, 2A, 3B;

~~(180)~~ (183) Stony Brook (Stoney Brook), Foley, (T.36, R.29, S.2, 9, 10, 11, 16; T.37, R.29, S.35, 36): 7;

~~(181)~~ (184) Stony Creek (Wabedo Creek), (T.140, R.28): 2C;

~~(182)~~ (185) Stony Point Brook, (T.147, R.28, S.22, 27, 34): 2C;

~~(183)~~ (186) Straight Creek, Upper, (Straight River), (T.140, R.36, S.6; T.141, R.36, S.30, 31; T.141, R.37, S.24, 25): 1B, 2A, 3B;

~~(184)~~ (187) Straight Lake Creek, (T.140, R.36, S.6; T.140, R.37, S.1, 2): 1B, 2A, 3B;

~~(185)~~ (188) Straight River, (T.139, R.34, S.7; T.139, R.35, S.4, 5, 6, 9, 10, 11, 12; T.139, R.36, S.1; T.140, R.36, S.28, 29, 33, 34, 35, 36): 1B, 2A, 3B;

~~(186)~~ (189) Sucker ~~Brook~~ Creek (Gould Creek), (T.144, R.36, S.27, 28, 29, 30, 32, 33): 1B, 2A, 3B;

~~(187)~~ (190) Sucker Creek, Meeker County, (T.118, R.30, S.4, 5, 6, 7): 1B, 2A, 3B;

~~(188) Sucker Creek (Gould Creek) (excluding trout waters), (T.143, R.36): 2C;~~

~~(189)~~ (191) Swamp Creek, Big, (T.137, 138, 139, R.32, 33): 2C;

~~(190)~~ (192) Swamp Creek, Little, (T.136, 137, R.33): 2C;

~~(191)~~ (193) Swan Creek, (T.134, 135, R.32): 2C;

~~(192)~~ (194) Swan Creek, Little, (T.135, R.32): 2C;

~~(193)~~ (195) Swift River, (T.142, R.27): 2C;

~~(194)~~ (196) Taylor Creek, (T.128, R.31): 2C;

~~(195)~~ (197) Ted Brook Creek, (T.130, R.31): 2C;

~~(196)~~ (198) Thiel Creek (Teal), (T.121, R.28, S.5, 6, 8): 1B, 2A, 3B;

~~(197)~~ (199) Tibbits Brook, (T.33, 34, R.26, 27): 2C;

~~(198)~~ (200) Tibbetts Creek (Tibbetts Brook), (T.39, 40, R.27, 28): 2C;

~~(199)~~ (201) Trout Brook, St. Paul, (T.29, R.22, S.18, 19): 7;

~~(200)~~ (202) Tower Creek, (T.135, R.32~~, 33~~): 2C;

~~(201)~~ (203) Two Rivers, South Branch, Albany, (T.125, R.31, S.21, 22, 23): 7;

~~(202)~~ (204) Two Rivers Springs, (T.51, R.23, S.19; T.51, R.24, S.24, 25, 26): 1B, 2A, 3B;

~~(203)~~ (205) Union Creek, (T.134, R.35, S.4, 5, 7, 8, 18, 19, 30, 31; T.135, R.35, S.27, 28, 33, 34): 1B, 2A, 3B;

~~(204)~~ (206) Unnamed Creek, Cass County, (T.137, R.31, S.4, 5): 1B, 2A, 3B;

~~(205)~~ (207) Unnamed Creek, Cass County, (T.139, R.26, S.3, 10): 1B, 2A, 3B;

~~(206)~~ (208) Unnamed Creek, Calumet, (T.56, R.23, S.21): 7;

~~(207)~~ (209) Unnamed Creek, Montrose, Hiller Mobile Home Court, (T.119, R.26, S.22, 26, 27, 35): 7;

~~(208)~~ (210) Unnamed Creek, Rogers, (T.120, R.23, S.15, 16, 22, 23): 7;

~~(209)~~ (211) Unnamed Creek, Grove City, (T.120, R.32, S.34, 35, 36): 7;

~~(210)~~ (212) Unnamed Creek, Albertville, (T.121, R.23, S.30; T.121, R.24, S.25, 36): 7;

~~(211)~~ (213) Unnamed Creek, Eden Valley, Ruhland Feeds, (T.121, R.31, S.2; T.122, R.31, S.35): 7;

~~(212)~~ (214) Unnamed Creek, Lake Henry, (T.123, R.33, S.11, 14): 7;

~~(213)~~ (215) Unnamed Creek, Miltona, (T.129, R.36, S.6; T.130, R.36, S.30, 31): 7;

~~(214)~~ (216) Unnamed Ditch, Braham, (T.37, R.23, S.2, 3): 7;

~~(215)~~ (217) 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;

~~(216)~~ (218) Unnamed Ditch, McGregor, (T.48, R.23, S.31, 32): 7;

~~(217)~~ (219) Unnamed Ditch, Nashwauk, (T.56, R.22, S.4, 5; T.57, R.22, S.32): 7;

~~(218)~~ (220) Unnamed Ditch, Taconite, (T.56, R.24, S.22 SW1/4): 7;

~~(219)~~ (221) Unnamed Ditch, Glencoe, Green Giant, (T.115, R.28, S.21, 22, 27, 28): 7;

~~(220)~~ (222) Unnamed Ditch, Glencoe, Green Giant, (T.115, R.28, S.14, 23): 7;

~~(221)~~ (223) Unnamed Ditch, Winsted, Green Giant, (T.117, R.27, S.10, 11): 7;

~~(222)~~ (224) Unnamed Ditch, Montrose, Hiller Mobile Home Court, (T.119, R.26, S.34, 35): 7;

~~(223)~~ (225) Unnamed Ditch, Kandiyohi, (T.119, R.34, S.10, 15, 21, 22, 28, 29~~, 32~~): 7;

~~(224)~~ (226) Unnamed Ditch, Rogers, (T.120, R.23, S.15): 7;

~~(225)~~ (227) Unnamed Ditch, Belgrade, (T.123, R.34, S.19, 30): 7;

~~(226)~~ (228) Unnamed Ditch, Flensburg, (T.129, .30, S.30; T.129, R.31, S.25): 7;

~~(227)~~ (229) Unnamed Ditch, Miltona, (T.130, R.36, S.30; T.130, R.37, S.25, 36): 7;

~~(228)~~ (230) Unnamed Stream, Winsted, (T.117, R.27, S.11, 12): 7;

~~(229)~~ (231) Unnamed Stream, Flensburg, (T.129, R.30, S.19, 30): 7;

~~(230)~~ (232) Vandell Brook (Vondell Brook), (T.37, 38, R.26): 2C;
~~(231)~~ (233) Van Sickle Brook, (T.138, R.26, S.14, 15, 23, 24): 1B, 2A, 3B;
~~(232)~~ (234) Wallingford Brook (Wallingford Creek), (T.139, R.33, S.1, 2, 11; T.140, R.33, S.25, 36): 1B, 2A, 3B;
~~(233)~~ (235) Warba Creek, (T.54, R.23, S.13, 14, 15, 21, 22, 23, 24): 1B, 2A, 3B;
~~(234)~~ (236) Welcome Creek, (T.56, 57, R.22): 2C;
~~(235)~~ (237) Whitley's Creek (Whiteley Creek), (T.45, R.30, S.16, 17, 20, 21): 1B, 2A, 3B;
~~(236)~~ (238) Whitney Brook, (T.39, R.26, 27): 2C;
~~(237)~~ (239) Willow Creek, Otter Tail County, (T.133, R.38, S.2, 11; T.134, R.38, S.26, 35): 1B, 2A, 3B;
~~(238)~~ (240) Willow Creek, Stearns and Meeker Counties, (T.121, R.29, S.10, 11, 14, 23): 1B, 2A, 3B;
~~(239)~~ (241) Willow River, North Fork, (T.142, R.25): 2C;
~~(240)~~ (242) Willow River, South Fork, (T.142, R.25): 2C;
~~(241)~~ (243) Wilson Creek, (T.137, R.30): 2C; and
~~(242)~~ (244) Wolf Creek, (T.42, R.30): 2C.

B. Lakes:
(1) Allen Lake, 18-0208-00, (T.138, R.26W, S.5): 1B, 2A, 3B;
(2) Bald Eagle Lake, 62-0002-00, (T.30, 31, R.21, 22): 1C, 2Bd, ~~3B~~ 3C;
(3) Bee Cee Lake, 31-0443-00, (T.58, R.25W, S.28, 33): 1B, 2A, 3B;
(4) Benedict Lake, 29-0048-00, (T.142, R.32): 1B, 2A, 3B;
(5) Benjamin Lake, 04-0033-00, (T.148, R.30W, S.7, 18; T.148, R.31W, S.13): 1B, 2A, 3B;
(6) Blacksmith Lake, 29-0275-00, (T.142, R.35W, S.13): 1B, 2A, 3B;
(7) *Blue Lake, 01-0181-00, **3/7/88R** (T.46, 47, R.27): 1B, 2A, 3B;
(8) *Blue Lake, 29-0184-00, **3/7/88R** (T.141, R.34): 1B, 2A, 3B;
(9) *Bluewater Lake, 31-0395-00, **3/7/88R** (T.57, R.25): 1B, 2A, 3B;
(10) Cenaiko Lake (Unnamed), 02-0654-00, (T.31, R.24W, S.26): 1B, 2A, 3B;
(11) Centerville Lake, 02-0006-00, (T.31, R.22): 1C, 2Bd, ~~3B~~ 3C;
(12) Charley Lake, 62-0062-00, (T.30, R.23): 1C, 2Bd, ~~3B~~ 3C;
(13) Crappie Lake, 29-0127-00, (T.143, R.33W, S.31): 1B, 2A, 3B;
(14) Deep Lake, 62-0018-00, (T.30, R.22): 1C, 2Bd, ~~3B~~ 3C;
(15) Diamond Lake, 11-0396-00, (T.141, R.30W, S.26, 27, 34): 1B, 2A, 3B;
(16) Hazel Lake, 11-0295-00, (T.141, R.29W, S.25): 1B, 2A, 3B;
(17) Hay Lake, Lower, 18-0378-00, (T.137, R.28, 29): 1B, 2A, 3B;
(18) *Kabekona Lake, 29-0075-00, **3/7/88R** (T.142, 143, R.32, 33): 1B, 2A, 3B;
(19) Kennedy Lake, 31-0137-00, (T.58, R.23): 1B, 2A, 3B;
(20) Kremer Lake, 31-0645-00, (T.58, R.26W, S.33, 34): 1B, 2A, 3B;
(21) LaSalle Lake, Lower, 29-0309-00, (T.145, R.35): 1B, 2A, 3B;
(22) Loon (Townline) Lake, 01-0024-00, (T.50, R.22W, S.7; T.50, R.23W, S.12, 13): 1B, 2A, 3B;
(23) Lucky Lake, 31-0603-00, (T.57, R.26W, S.14): 1B, 2A, 3B;
(24) Mallen Mine Pit, 18-0740-00, (T.46, R.29W, S.17): 1B, 2A, 3B;
(25) Manuel (South Yawkey) Mine Pit, 18-0435-00, (T.46, R.29W, S.1): 1B, 2A, 3B;
(26) Margaret Lake, 11-0045-00, (T.139, R.26W, S.16): 1B, 2A, 3B;
(27) Marion Lake, 11-0046-00, (T.139, R.26W, S.16, 17): 1B, 2A, 3B;
(28) Martin (Huntington, Feigh) Mine Pit, 18-0441-00, (T.46, R.29W, S.9, 10, 16): 1B, 2A, 3B;
(29) Moonshine Lake, Little (Moonshine), 31-0444-00, (T.58, R.25W, S.28, 33): 1B, 2A, 3B;
(30) Newman (Putnam) Lake, 29-0237-00, (T.145, R.34W, S.10, 11): 1B, 2A, 3B;
(31) Otter Lake, 02-0003-00, (T.30, 31, R.22): 1C, 2Bd, ~~3B~~ 3C;
(32) Pennington (Mahnomen, Alstead, Arco) Mine Pit, 18-0439-00, (T.46, R.29W, S.3, 9, 10, 11): 1B, 2A, 3B;
(33) Perch Lake, 11-0826-00, (T.139, R.31W, S.33): 1B, 2A, 3B;
(34) Pleasant Lake, 62-0046-00, (T.30, R.22, 23): 1C, 2Bd, ~~3B~~ 3C;
(35) Pleasant Lake, 18-0278-00, (T.137, R.27W, S.19): 1B, 2A, 3B;
(36) *Pokegama Lake, 31-0532-01 and 31-0532-02, **3/7/88R** (T.54, 55, R.25, 26): 1B, 2A, 3B;
(37) Portsmouth Mine Pit, 18-0437-00, (T.46, R.29W, S.1, 2, 11): 1B, 2A, 3B;
(38) *Roosevelt Lake, 11-0043-00, **3/7/88R** (T.138, 139, R.26): 1B, 2A, 3B;
(39) Sagamore Mine Pit, 18-0523-00, (T.46, R.29W, S.19; T.46, R.30W, S.24): 1B, 2A, 3B;

(40) Section 6 Mine Pit, 18-0667-00, (T.46, R.29W, S.6): 1B, 2A, 3B;
(41) Snoshoe Mine Pit, 18-0524-00, (T.46, R.29W, S.17, 18): 1B, 2A, 3B;
(42) Snowshoe (Little Andrus) Lake, 11-0054-00, (T.139, R.26W, S.29, 30): 1B, 2A, 3B;
(43) Strawberry Lake, 18-0363-00, (T.137, R.28W, S.27, 34): 1B, 2A, 3B;
(44) Sucker Lake, 62-0028-00, (T.30, R.22): 1C, 2Bd, ~~3B~~ 3C;
(45) Taylor Lake, 01-0109-00, (T.52, R.25W, S.16): 1B, 2A, 3B;
(46) Teepee Lake, 11-0312-00, (T.141, R.29W, S.30; T.141, R.30W, S.25): 1B, 2A, 3B;
(47) Tioga Mine Pit, 31-0946-00, (T.55, R.26W, S.26): 1B, 2A, 3B;
(48) Trout Lake, 31-0216-00, (T.55, 56, R.24): 1B, 2A, 3B;
(49) *Trout Lake, Big, 31-0410-00, **3/7/88R** (T.57, 58, R.25): 1B, 2A, 3B;
(50) *Trout Lake, Big, 18-0315-00, **3/7/88R** (T.137, 138, R.27, 28): 1B, 2A, 3B;
(51) *Trout Lake, Little, 31-0394-00, **3/7/88R** (T.57, R.25): 1B, 2A, 3B;

[For text of subitems (52) to (55), see M.R.]

(56) Vadnais Lake, 62-0038-00, (T.30, R.22): 1C, 2Bd, ~~3B~~ 3C;
(57) Wabana Lake, 31-0392-00, (T.57, R.25): 1B, 2A, 3B;
(58) Watab Lake, Big, 73-0102-00, (T.124, R.30): 1B, 2A, 3B;
(59) Wilkinson Lake, 62-0043-00, (T.30, R.22): 1C, 2Bd, ~~3B~~ 3C;
(60) Willard Lake, 11-0564-00, (T.139, R.30W, S.15): 1B, 2A, 3B; and
(61) Yawkey (North Yawkey) Mine Pit, 18-0434-00, (T.46, R.29W, S.1): 1B, 2A, 3B.

[For text of items C and D, see M.R.]

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, C, and~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

[For text of subitems (1) to (4), see M.R.]

(5) Blue Earth River, East Fork, (Brush Creek to mouth): 2C, ~~3B~~ 3C;
(6) Blue Earth River, West Fork, (Iowa border to mouth): 2C, ~~3B~~ 3C;

[For text of subitems (7) to (11), see M.R.]

(12) Brush Creek, (Iowa border to mouth): 2C, ~~3B~~ 3C;

[For text of subitems (13) to (15), see M.R.]

(16) Canby Creek (excluding trout waters), (South Dakota border to mouth): 2C, ~~3B~~ 3C;

[For text of subitems (17) to (20), see M.R.]

(21) Chippewa River (see also County Ditch No. 60);
~~(21)~~ (22) Cobb Creek, Freeborn, (T.104, R.23, S.7, 8, 17; T.104, R.24, S.11, 12): 7;
~~(22)~~ (23) Cobb Creek Ditch, Freeborn, (T.103, R.23, S.2; T.104, R.23, S.14, 15, 16, 23, 26, 35): 7;
~~(23)~~ (24) Cobb River (Cobb River, Big), (T.103, 104, 105, 106, 107, R.23, 24, 25, 26, 27): 2C;
~~(24)~~ (25) Cobb River, Little (County Ditch No. 8), (T.105, 106, R.23, 24, 25, 26): 2C;
~~(25)~~ (26) Cottonwood Creek (excluding trout waters), (~~T.119,~~ T.120, 121, 122, R.41, 42): 2C;
~~(26)~~ (27) Cottonwood Creek, (T.119, R.41, S.4; T.120, R.41, S.21, 28, 33): 1B, 2A, 3B;
~~(27)~~ (28) County Ditch No. 1, Echo, (T.113, R.38, S.8, 9): 7;
~~(28)~~ (29) County Ditch No. 4, Arco, (T.110, R.44, S.5; T.111, R.44, S.32, 33): 7;
~~(29)~~ (30) County Ditch No. 4, Norwood, (T.115, R.25, S.30; T.115, R.26, S.13, 14, 24, 25): 7;
~~(30)~~ (31) 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;
~~(31)~~ (32) 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;
~~(32)~~ (33) County Ditch No. 7, Lowry, (T.126, R.39, S.25, 26): 7;
(34) County Ditch No. 8 (see Cobb River, Little);
~~(33)~~ (35) County Ditch No. 9 (see Hazel Creek);
~~(34)~~ (36) County Ditch No. 12 (County Ditch No. 45), Waseca, (T.107, R.23, S.22, 23): 7;
~~(35)~~ (37) 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;
~~(36)~~ (38) 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;
(39) County Ditch No. 15 (see Unnamed Ditch, Madison);
~~(37)~~ (40) County Ditch No. 22, Montgomery, Green Giant Company, (T.111, R.23, S.4, 9, 10; T.112, R.23, S.33): 7;
~~(38)~~ (41) 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;
~~(39)~~ (42) County Ditch No. 28, Marietta, (T.118, R.46, S.22, 23, 26): 7;

~~(40)~~ (43) County Ditch No. 38, Storden, (T.107, R.37, S.28, 29): 7;

~~(41)~~ (44) County Ditch No. 40A, Lafayette, (T.111, R.29, S.8, 14, 15, 16, 17, 23, 24): 7;

~~(42)~~ (45) County Ditch No. 42, Winthrop, (T.112, R.29, S.6, 7): 7;

~~(43)~~ (46) 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;

~~(44)~~ (47) County Ditch No. 45, Renville, Southern Minnesota Beet Sugar Coop, (T.114, R.36, S.5, 6~~, 7, 18; T.114, R.37, S.13~~; T.115, R.36, S.7, 8, 9, 10, 17, 18, 19, 29, 30, 32): 7;

(48) County Ditch No. 45, Branch Lateral 3, Renville, Golden Oval Eggs, (T.115, R.36, S.4, 5, 8): 7;

~~(45)~~ (49) County Ditch No. 46, Willmar, (T.119, R.35, S.19, 20, 29): 7;

~~(46)~~ (50) 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;

~~(47)~~ (51) County Ditch No. 54, Montgomery, (T.112, R.23, S.26, 33, 34, 35): 7;

~~(48)~~ (52) County Ditch No. 55~~,~~ (see Rush River, North Branch);

~~(49)~~ (53) County Ditch No. 60 (Chippewa River), Millerville, Millerville Coop Cry., (T.130, R.39, S.14, 22, 23, 27, 28, 32, 33): 7;

~~(50)~~ (54) County Ditch No. 61, ~~Kerhoven~~ Kerkhoven, (T.120, R.37, S.21, 22): 7;

~~(51)~~ (55) County Ditch No. 63, Hanska, (T.108, R.30, S.11, 12, 14, 17, 18, 19, 20, 21, 22, 23, 27, 28): 7;

~~(52)~~ (56) County Ditch No. 66, Bird Island, (T.115, R.34, S.15, 16, 17, 18, 22, 23): 7;

~~(53)~~ (57) County Ditch No. 87, Wells, (T.103, R.24, S.6; T.104, R.24, S.31; T.104, R.25, S.36): 7;

~~(54)~~ (58) 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, 26, 35, 36): 7;

~~(55)~~ (59) 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;

~~(56)~~ (60) Crow Creek, (T.112, R.35): 2C;

~~(57)~~ (61) Dry Creek, (T.108, 109, R.36): 2C;

~~(58)~~ (62) Dry Weather Creek, (T.117, 118, R.39, 40, 41): 2C;

~~(59)~~ (63) Dry Wood Creek, (T.122, 123, R.42, 43): 2C;

~~(60)~~ (64) Eagle Creek, East Branch, (T.115, R.21, S.18): 1B, 2A, 3B;

~~(61)~~ (65) Eagle Creek, Main Branch, (T.115, R.21, S.7, 18; T.115, R.22, S.13): 1B, 2A, 3B;

~~(62)~~ (66) Echo Creek, (T.114, R.37): 2C;

~~(63)~~ (67) Eight Mile Creek (Judicial Ditch No. 7 or Eightmile Creek), (T.111, 112, 113, R.31): 2C;

~~(64)~~ (68) Elm Creek, North Fork, (T.104, R.34): 2C;

~~(65)~~ (69) Elm Creek, South Fork, (T.103, R.34): 2C;

~~(66)~~ (70) Emily Creek, (T.118, 119, R.43): 2C;

~~(67)~~ (71) Fish Creek, (T.123, 124, R.47, 48, 49): 2C;

~~(68)~~ (72) Five Mile Creek, (T.120, R.44): 2C;

~~(69)~~ (73) Florida Creek, (South Dakota border to mouth): 2C, ~~3B~~ 3C;

~~(70)~~ (74) Foster Creek (County Ditch No. 1) (excluding Class 7 segment), (T.102, 103, R.24): 2C;

~~(71)~~ (75) Foster Creek (County Ditch No. 1), Alden, (T.102, R.23, S.4, 5; T.103, R.23, S.31, 32; T.103, R.24, S.25, 36): 7;

~~(72)~~ (76) Hassel Creek, (T.122, 123, R.38, 39): 2C;

~~(73)~~ (77) 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;

~~(74)~~ (78) Hazel Creek (County Ditch No. 9), (T.115, R.39, 40, 41, 42): 2C;

~~(75)~~ (79) High Island Ditch No. 5, Arlington, (T.113, R.27, S.16, 17, 21, 22, 27): 7;

~~(76)~~ (80) Hindeman Creek (Spring Creek), (T.111, R.32, S.19, 20; T.111, R.33, S.24): 1B, 2A, 3B;

~~(77)~~ (81) Iosco Creek, (T.108, R.23): 2C;

~~(78)~~ (82) John's Creek, (T.110, R.32, S.1; T.111, R.31, S.31; T.111, R.32, S.36): 1B, 2A, 3B;

~~(79)~~ (83) Judicial Ditch No. 1, Delavan, (T.104, R.27, S.23, 25, 26, 36): 7;

~~(80)~~ (84) 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;

(85) Judicial Ditch No. 4, Dawson, Lac qui Parle Oil Coop, (T.117, R.43, S.7, 17, 18, 21 NW1/4; T.117, R.44, S.12): 7;

~~(81)~~ (86) 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;

~~(82)~~ (87) Judicial Ditch No. 6, Hanska, (T.107, R.30, S.4; T.108, R.30, S.28, 33): 7;

(88) Judicial Ditch No. 7 (see Eight Mile Creek);

~~(83)~~ (89) Judicial Ditch No. 10, (see Wood Lake Creek);

~~(84)~~ (90) Judicial Ditch No. 10 (Morgan Creek), Hanska, (T.108, R.30, S.1; T.109, R.30, S.35 SE1/4, 36 SW1/4): 7;

~~(85)~~ (91) Judicial Ditch No. 12, Tyler, (T.109, R.43, S.9, 15, 16, 17, 18): 7;

~~(86)~~ (92) Judicial Ditch No. 29, Arco, (T.111, R.44, S.21, 28, 33): 7;

(93) Judicial Ditch No. 29, Evan, (T.110, R.33, S.6; T.111, R.33, S.21, 22, 28, 31, 32, 33): 7;
(94) Judicial Ditch No. 29, Branch Lateral, Evan, (T.110, R.33, S.6, 7, 18): 7;
~~(87)~~ (95) Judicial Ditch No. 30, Sleepy Eye, Del Monte Corporation, (T.109, R.32, S.4, 5, 6; T.110, R.32, S.31): 7;
~~(88)~~ (96) Judicial Ditch No. 49 (Providence Creek), Amboy, (T.105, R.27, S.18, 19; T.105, R.28, S.13): 7;
~~(89)~~ (97) Kennaley's Creek, (T.27, R.23, S.18): 1B, 2A, 3B;
~~(90)~~ (98) Lac qui Parle River, (Lake Hendricks outlet to Minnesota River): 2C, ~~3B~~ 3C;
~~(91)~~ (99) Lac qui Parle River, West Fork, (South Dakota border to mouth): 2C, ~~3B~~ 3C;
~~(92)~~ (100) Lateral Ditch C of County Ditch No. 55, Gaylord, (T.112, R.28, S.2, 3; T.113, R.28, S.32, 33, 34): 7;
~~(93)~~ (101) Lazarus Creek, (South Dakota border to Canby Creek): 2C, ~~3B~~ 3C;
(102) Lazarus Creek (Canby Creek), (T.115, R.45, S.14 to mouth): 2B, 3C;
~~(94)~~ (103) Le Sueur River, Little, (T.106, R.22): 2C;
~~(95)~~ (104) 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;
~~(96)~~ (105) Long Lake Creek, (T.132, R.41, S.9): 1B, 2A, 3B;
~~(97)~~ (106) Middle Creek (County Ditch No. 92), (T.113, 114, R.36): 2C;
~~(98)~~ (107) Mink Creek (Judicial Ditch No. 60), (T.104, R.30, 31): 2C;
~~(99)~~ (108) Minneopa Creek, Lake Crystal, (T.108, R.28, S.26, 27, 32, 33, 34): 7;
~~(100)~~ (109) Minnesota River, (Big Stone Lake outlet to the Lac qui Parle dam): 1C, 2Bd, ~~3B~~ 3C;
~~(101)~~ (110) *Minnesota River, **11/5/84R** (Lac qui Parle dam to the dam in Granite Falls S.34, T.116, R.39): 1C, 2Bd, ~~3B~~ 3C;
~~(102)~~ (111) *Minnesota River, **11/5/84R** (from the dam in Granite Falls S.34, T.116, R.39 to Redwood County StateAid Highway 11 bridge): 2B, ~~3B~~ 3C;
~~(103)~~ (112) Minnesota River, (River Mile 22 to mouth): 2C, ~~3B~~ 3C;
~~(104)~~ (113) Minnesota River, Little, (South Dakota border crossing to Big Stone Lake): 2C, ~~3B~~ 3C;
~~(105)~~ (114) Morgan Creek (Judicial Ditch No. 10) (excluding Class 7 segment), (T.109, R.29, 30): 2C;
~~(106)~~ (115) Mud Creek, (T.114, R.43, 44, 45): 2C;
~~(107)~~ (116) Mud Creek, (T.123, R.36, S.28, 29): 1B, 2A, 3B;
~~(108)~~ (117) Mud Creek (Judicial Ditch No. 19), 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;
~~(109)~~ (118) 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;
~~(110)~~ (119) Palmer Creek (County Ditch No. 68), (T.116, 117, 118, R.39): 2C;
~~(111)~~ (120) Paul's Creek, (T.110, R.26, S.14, 15): 1B, 2A, 3B;
~~(112)~~ (121) Pelican Creek, (T.130, R.41, 42): 2C;
~~(113)~~ (122) Pell Creek, Walnut Grove, (T.109, R.38, S.25, 26, 27, 28): 7;
~~(114)~~ (123) Perch Creek, (T.104, 105, 106, R.29, 30): 2C;
~~(115)~~ (124) Ramsey Creek, (T.112, R.36, S.1; T.113, R.36, S.35, 36): 1B, 2A, 3B;
~~(116)~~ (125) Redwood River, (T.110, R.42, S.5, 8, 17; T.111, R.42, S.32): 1B, 2A, 3B;
~~(117)~~ (126) Rice Creek, See County Ditch No. 12;
~~(118)~~ (127) Rush River, Middle Branch (County Ditch No. 23, County Ditch No. 42B, or County Ditch No. 54), 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;
~~(119)~~ (128) Rush River, North Branch, (County Ditch No. 55), Gaylord (T.112, R.27, S.7, 8, 17; T.112, R.28, S.1, 2, 12): 7;
~~(120)~~ (129) Saint James Creek (excluding Class 7 segment), (T.105, 106, R.31, 32, 33): 2C;
~~(121)~~ (130) 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;
~~(122)~~ (131) Seven Mile Creek, (T.109, R.27, S.2, 3, 4, 10, 11, 12): 1B, 2A, 3B;
~~(123)~~ (132) Shakopee Creek, (T.119, 120, R.36, 37, 38, 39, 40): 2C;
~~(124)~~ (133) Silver Creek (County Ditch No. 3), (T.108, R.23, 24): 2C;
~~(125)~~ (134) Smith Creek, (T.113, R.35, 36): 2C;
~~(126)~~ (135) South Creek, (T.102, 103, R.28, 29, 30): 2C, ~~3B~~ 3C;
~~(127)~~ (136) Spring Branch Creek, (T.106, R.29, 30): 2C;
~~(128)~~ (137) Spring Creek (Judicial Ditch No. 29) (excluding trout waters) (see also Hindeman Creek and Judicial Ditch No. 29), (T.110, 111, ~~R.32,~~ R.33, 34): 2C;
~~(129)~~ (138) Spring Creek (County Ditch No. 10A), (T.117, 118, R.39, 40): 2C;
~~(130)~~ (139) Stony Run, (T.121, 122, R.45, 46): 2C;
~~(131)~~ (140) Stony Run Creek (Judicial Ditch No. 21), (T.116, R.40): 2C;
~~(132)~~ (141) Three Mile Creek (Threemile Creek), (T.112, R.33): 2C;

~~(133)~~ (142) Timms Creek (County Ditch No. 35A), (T.114, 115, R.36): 2C;
~~(134)~~ (143) Unnamed #1, (T.27, R.23, S.18; T.27, R.24, S.13): 1B, 2A, 3B;
~~(135)~~ (144) Unnamed #4, (T.27, R.24, S.24): 1B, 2A, 3B;
~~(136)~~ (145) Unnamed #7, (T.27, R.24, S.26): 1B, 2A, 3B;
~~(137)~~ (146) Unnamed Creek, (T.108, R.28, S.1, 2): 1B, 2A, 3B;
~~(138)~~ (147) Unnamed Creek, (T.108, R.28, S.5~~; T.109, R.28, S.32~~): 1B, 2A, 3B;
~~(139)~~ (148) Unnamed Creek, (T.110, R.26, S.10, 11): 1B, 2A, 3B;
~~(140)~~ (149) Unnamed Creek, (T.108, R.28, S.6; T.109, R.29, S.25, 36): 1B, 2A, 3B;
~~(141)~~ (150) Unnamed Creek, Green Isle, (T.114, R.26, S.2, 3, 4, 8, 9, 17): 7;
~~(142)~~ (151) Unnamed Creek, Lake Town Township, (T.115, R.24, S.3, 10, 11; T.116, R.24, S.27, 34): 7;
~~(143)~~ (152) 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;
~~(144)~~ (153) Unnamed Creek, Murdock, (T.120, R.38, S.1, 2; T.121, R.38, S.35): 7;
~~(145)~~ (154) Unnamed Ditch, Burnsville Freeway Sanitary Landfill, (T.27, R.24, S.28, 33): 7;
~~(146)~~ (155) Unnamed Ditch, Bricelyn, Owatonna Canning Company, (T.101, R.25, S.10): 7;
~~(147) Unnamed Ditch, Alden, (T.102, R.23, S.4, 5; T.103, R.23, S.31, 32): 7;~~
~~(148)~~ (156) Unnamed Ditch, Truman, (T.104, R.30, S.2, 11; T.105, R.30, S.25, 26, 35): 7;
~~(149)~~ (157) Unnamed Ditch (County Ditch No. 47), New Richland, (T.105, R.22, S.17, 18, 19; T.105, R.23, S.24): 7;
~~(150)~~ (158) Unnamed Ditch, Lewisville, (T.105, R.30, S.3; T.106, R.30, S.14, 23, 26, 34, 35): 7;
~~(151)~~ (159) Unnamed Ditch, Waldorf, (T.106, R.24, S.34): 7;
~~(152)~~ (160) Unnamed Ditch (County Ditch No. 45), Waseca, (T.107, R.23, S.14, 23): 7;
~~(153)~~ (161) Unnamed Ditch, Jeffers, (T.107, R.36, S.21): 7;
~~(154)~~ (162) Unnamed Ditch, Storden, (T.107, R.37, S.19, 30): 7;
~~(155)~~ (163) Unnamed Ditch, Eagle Lake, (T.108, R.25, S.18, 19; T.108, R.26, S.13): 7;
~~(156)~~ (164) Unnamed Ditch, Walnut Grove, (T.109, R.38, S.28): 7;
~~(157)~~ (165) Unnamed Ditch, Tracy, (T.109, R.39, S.7, 18; T.109, R.40, S.13): 7;
~~(158)~~ (166) 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;
~~(159)~~ (167) Unnamed Ditch, Lafayette, (T.111, R.29, S.6, 7, 8; T.111, R.30, S.12): 7;
~~(160)~~ (168) Unnamed Ditch, Wabasso, (T.111, R.37, S.13, 24): 7;
~~(161)~~ (169) Unnamed Ditch, Montgomery, (T.112, R.23, S.33): 7;
(170) Unnamed Ditch, Winthrop, (T.112, R.29, S.4, 5, 6): 7;
~~(162)~~ (171) Unnamed Ditch, Arlington, (T.113, R.27, S.21): 7;
~~(163)~~ (172) 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;
~~(164)~~ (173) Unnamed Ditch, Green Isle, (T.114, R.26, S. 19; T.114, R.27, S.11, 12, 13, 14, 24): 7;
~~(165)~~ (174) Unnamed Ditch, New Auburn, (T.114, R.28, S.20): 7;
~~(166)~~ (175) Unnamed Ditch, Porter, (T.114, R.44, S.21, 28): 7;
~~(167)~~ (176) Unnamed Ditch, Bongards, Bongards Creameries, (T.115, R.25, S.9, 16): 7;
~~(168)~~ (177) Unnamed Ditch, Clarkfield, (T.115, R.41, S.16): 7;
~~(169)~~ (178) Unnamed Ditch, Clarkfield, (T.115, R.41, S.16, 21): 7;
~~(170)~~ (179) Unnamed Ditch (County Ditch No. 15), Madison, (T.118, R.44, S.27, 28, 34, 35): 7;
~~(171)~~ (180) Unnamed Ditch, Pennock, (T.119, R.36, S.2, 3, 4, 9, 10): 7;
~~(172)~~ (181) Unnamed Ditch, DeGraff, (T.121, R.38, S.19, 29, 30): 7;
~~(173)~~ (182) 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;
~~(174)~~ (183) Unnamed Ditch, Alberta, (T.124, R.43, S.3, 4): 7;
~~(175)~~ (184) Unnamed Ditch, Farwell, Farwell Coop Cry. Assn., (T.126, R.39, S.6): 7;
~~(176)~~ (185) Unnamed Ditch, Lowry, (T.126, R.39, S.26, 35): 7;
~~(177)~~ (186) Unnamed Ditch, Brandon, (T.129, R.39, S.21, 22): 7;
~~(178)~~ (187) Unnamed Ditch, Evansville, (T.129, R.40, S.10, 11): 7;
~~(179)~~ (188) Unnamed Dry Run, Near Minneopa, Blue Earth Nicollet Electric, (T.108, R.27, S.16): 7;
~~(180)~~ (189) Unnamed Dry Run, Mankato, Southview Heights Coop Association, (T.108, R.26, S.19, 30; T.108, R.27, S.24): 7;
~~(181)~~ (190) Unnamed Stream, Mankato, Midwest Electric Products, (T.109, R.26, S.20, 21, 28): 7;
~~(182)~~ (191) Unnamed Stream, Savage, (T.115, R.21, S.8, 9): 7;

~~(183) Unnamed Stream, Dawson, (T.117, R.43, S.22): 7;~~
~~(184)~~ (192) Wabasha Creek, (T.112, R.34): 2C;
~~(185)~~ (193) Whetstone River, (South Dakota border to mouth): 2C, ~~3B~~ 3C;
~~(186)~~ (194) Old Whetstone River Channel, Ortonville, Big Stone Canning Company, (T.121, R.46, S.16, 21): 7;
~~(187)~~ (195) Willow Creek, (T.104, 105, R.31, 32): 2C;
~~(188)~~ (196) Wood Lake Creek, (Judicial Ditch No. 10), (T.113, 114, 115, R.38, 39): 2C;
~~(189)~~ (197) Yellow Bank River, North Fork, (South Dakota border to mouth): 2C, ~~3B~~ 3C;
~~(190)~~ (198) Yellow Bank River, South Fork, (South Dakota border to mouth): 2C, ~~3B~~ 3C; and
~~(191)~~ (199) Yellow Medicine River, North Fork, (South Dakota border to mouth): 2C, ~~3B~~ 3C.

B. Lakes:
(1) Amber Lake, 46-0034-00, (T.102, R.30): 1C, 2Bd, ~~3B~~ 3C;
(2) Bardwell Lake, 46-0023-00, (T.102, R.30): 1C, 2Bd, ~~3B~~ 3C;
(3) Budd Lake, 46-0030-00, (T.102, R.30): 1C, 2Bd, ~~3B~~ 3C;
(4) Courthouse Lake, 10-0005-00, (T.115, R.23W, S.9): 1B, 2A, 3B;
(5) George Lake, 46-0024-00, (T.102, R.30): 1C, 2Bd, ~~3B~~ 3C;
(6) Hall Lake, 46-0031-00, (T.102, R.30): 1C, 2Bd, ~~3B~~ 3C;
(7) Mud Lake, 46-0035-00, (T.102, R.30): 1C, 2Bd, ~~3B~~ 3C;
(8) One Hundred Acre Slough, Saint James, (T.106, R.31, S.7): 7;
(9) Silver Lake, North, 46-0016-00, (T.101, R.30): 1C, 2Bd, ~~3B~~ 3C;
(10) Sisseton Lake, 46-0025-00, (T.102, R.30): 1C, 2Bd, ~~3B~~ 3C;

[For text of subitems (11) to (14), see M.R.]

(15) Unnamed Swamp (Skauby Lake), 17-0035-00, Storden, (T.107, R.37, S.30): 7;
(16) Unnamed Swamp, Sunburg, Sunburg Coop Cry., (T.122, R.36, S.30): 7;
(17) Unnamed Swamp, Lowry, (T.126, R.39, S.35, 36): 7; and
(18) Wilmert Lake, 46-0014-00, (T.101, R.30): 1C, 2Bd, ~~3B~~ 3C.

[For text of items C and D, see M.R.]

Subp. 6. **Saint Croix River Basin.** The water use for the listed waters in the Saint Croix River Basin are as identified in items A~~, B, and~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

[For text of subitems (1) to (6), see M.R.]

(7) Brown's Creek, (T.30, R.20, S.~~12, 13,~~ 18, 19, 20, 21; T.30, R.21, S.12, 13): 1B, 2A, 3B;
(8) Cons Creek, (T.41, R.17, S.15, 16, 22): 1B, 2A, 3B;
(9) Crooked Creek (East Fork Crooked Creek), (T.41, R.17, S.6, 7, 18, 19, 20, 29, 30; T.41, R.18, S.11, 12, 13; T.42, R.17, S.31): 1B, 2A, 3B;

[For text of subitems (10) to (14), see M.R.]

(15) Hay Creek, (T.42, 43, 44, R.15, 16): 1B, 2Bd, ~~3B~~ 3C;
(16) Hay Creek, Little, (T.40, R.18, S.8, 9): 1B, 2A, 3B;
(17) *Kettle River, **11/5/84R** (From the north Pine County line to the site of the former dam at Sandstone, at quarter section line between the NW 1/4 and SW 1/4, S.22, T.42, R.20): 2B, ~~3B~~ 3C;

[For text of subitems (18) and (19), see M.R.]

(20) Larson Creek, (T.44, R.17, ~~S.4,~~ S.5; T.45, R.17, S.29, 32): 1B, 2A, 3B;
(21) Lawrence Creek, (T.33, R.19, S.2, 3, 10): 1B, 2A, 3B;
(22) Lost Creek, (T.40, R.19, S.9, 10, 15): 1B, 2A, 3B;
(23) McCullen Creek (Albrechts Creek or Meekers Creek), (T.42, R.16, S.28, 33): 1B, 2A, 3B;
(24) Mission Creek, (T.40, R.21, S.1, 2; T.41, R.20, S.31; T.41, R.21, S.36): 1B, 2A, 3B;
(25) Mission Creek (excluding trout waters), (T.39, 40, 41, R.20, 21): 1B, 2Bd, ~~3B~~ 3C;
(26) Moosehorn River (Moose River), (T.48, R.18, S.3, 9, 10, 14, 15, 16, 23, 26, 34, 35): 1B, 2A, 3B;

[For text of subitems (27) and (28), see M.R.]

(29) Rock Creek, (T.37, 38, R.20, 21): 1B, 2Bd, ~~3B~~ 3C;
(30) Rush Creek, (T.37, R.20, 21): 1B, 2Bd, ~~3B~~ 3C;
(31) *Saint Croix River, **11/5/84R** (Wisconsin border crossing to Taylors Falls): 1B, 2Bd, ~~3B~~ 3C;
(32) *Saint Croix River, **11/5/84R** (Taylors Falls to mouth): 1C, 2Bd, ~~3B~~ 3C;

(33) Sand River (Sand Creek), (T.43, R.18, S.4, 5, 7, 8, 18, 19~~, 24~~; T.43, R.19, S.24; T.44, R.18, S.33, 34): 1B, 2A, 3B;
(34) Spring Brook (Spring Creek), (T.41, R.20, S.16, 17, 18, 21): 1B, 2A, 3B;
(35) Sunrise River, West Branch (County Ditch No. 13), (T.34, R.21, 22): 1B, 2Bd, ~~3B~~ 3C;
(36) Tamarack River, Lower, (Hay Creek to mouth): 1B, 2Bd, ~~3B~~ 3C;
(37) Tamarack River, Upper (Spruce River), (T.41, 42, R.15, 16): 1B, 2Bd, ~~3B~~ 3C;
(38) Unnamed Creek, (T.33, R.19, S.16, 21, 22): 1B, 2A, 3B;
(39) Unnamed Creek, (T.33, R.19, S.31, 32): 1B, 2A, 3B;
(40) Unnamed Creek, (T.43, R.18, S.2, 3; T.44, R.18, S.35): 1B, 2A, 3B;
~~(38)~~ (41) Unnamed Ditch, Chisago City, (T.34, R.20, S.19, 29, 30, ~~31,~~ 32): 7;
~~(39)~~ (42) Unnamed Ditch, Almelund, Almelund Coop Cry., (T.35, R.20, S.25): 7;
~~(40)~~ (43) Unnamed Ditch, Moose Lake, (T.46, R.19, S.30): 7;
~~(41)~~ (44) Unnamed Dry Run, Wahkon, (T.41, R.25, S.3; T.42, R.25, S.29, 32, 33, 34): 7;
~~(42)~~ (45) Unnamed Stream (Falls Creek), (T.32, R.19, S.6, 7; T.32, R.20, S.1, 12): 1B, 2A, 3B;
~~(43)~~ (46) Unnamed Stream (Gilbertson), (T.32, R.19, S.19): 1B, 2A, 3B;
~~(44)~~ (47) Unnamed Stream, Shafer, (T.34, R.19, S.32, 33, 34): 7;
~~(45)~~ (48) Unnamed Stream (Willow Brook), (T.31, R.19, S.19): 1B, 2A, 3B;
~~(46)~~ (49) Valley Creek (Valley Branch), (T.28, R.20, S.9, 10, 14, 15, 16, 17): 1B, 2A, 3B;
~~(47)~~ (50) Wilbur Brook, (T.41, R.17, S.29, 30; T.41, R.18, S.23, 25, 26): 1B, 2A, 3B; and
~~(48)~~ (51) Wolf Creek, (T.42, R.18, S.4, 9, 16; T.43, R.18, S.32, 33): 1B, 2A, 3B.

B. Lakes:
(1) *Grindstone Lake, 58-0123-00, **3/7/88R** (T.42, R.21): 1B, 2A, 3B; and
(2) Unnamed Swamp, Shafer, (T.34, R.19, S.31, 32): 7.

[For text of items C and D, see M.R.]

Subp. 7. **Lower Mississippi River Basin (from the confluence with the St. Croix River to the Iowa border).** The water use classifications for the listed waters in the Lower Mississippi River Basin from the confluence with the St. Croix River to the Iowa border are as identified in items A~~, B, and C~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:
(1) Ahrensfeld Creek, (T.105, R.8, S.8, 9, 16, 17, 19, 20): 1B, 2A, 3B;
(2) Albany Creek, West (excluding trout waters), (T.110, 111, R.12, 13): 2C;
(3) Albany Creek, West, (T.110, R.12, S.28, 29, 30; T.110, R.13, S.23, 24, 25, 26): 1B, 2A, 3B;
~~(3)~~ (4) Badger Creek, (T.103, R.6, S.9, 16, 21, 22, 27, 28, 34): 1B, 2A, 3B;
~~(4)~~ (5) Ballpark Creek, (T.102, R.4, S.19, 30; T.102, R.5, S.24): 1B, 2A, 3B;
~~(5)~~ (6) Bear Creek, (T.107, R.9, S.13, 14, 15, 16, 22): 1B, 2A, 3B;
~~(6)~~ (7) Bear Creek, North, Spring Grove (T.101, R.7, S.26, 27, 35): 7;
~~(7)~~ (8) Bear Creek (excluding trout waters), (T.107, R.9, S.17, 20): 2C;
(9) Bear Creek (North Bear Creek) (excluding Class 7 segment), (source to Iowa border): 2C;
~~(8)~~ (10) Beaver Creek, (T.102, R.6, S.5~~, 18, 19, 29, 30~~; T.103, R.6, S.18, 19, 29, 30, 31, 32): 1B, 2A, 3B;
~~(9)~~ (11) Beaver Creek, East, (T.102, R.6, S.5, 6, 8, 17): 1B, 2A, 3B;
~~(10)~~ (12) Beaver Creek, West, (T.102, R.6, S.5, 6, 7, 18, 19, 30; T.102, R.7, S.12, 13, 24, 25, 26): 1B, 2A, 3B;
~~(11)~~ (13) Beaver Creek, (T.108, R.10, S.15, 16, 19, 20, 21; T.108, R.11, S.24): 1B, 2A, 3B;
(14) Beaver Creek, (T.101, 102, R.13, 14): 2C, 3C;
~~(12)~~ (15) Bee Creek, (T.101, R.6, S.29, 32, 33): 1B, 2A, 3B;
~~(13)~~ (16) Big Springs Creek, (T.104, R.9, S.21, 22, 26, 27): 1B, 2A, 3B;
~~(14)~~ (17) Borson Spring, (T.105, R.8, R.29, 32, 33): 1B, 2A, 3B;
~~(15)~~ (18) Brush Valley Creek (excluding trout waters), (T.104, R.5): 2C;
~~(16)~~ (19) Brush Valley Creek, (T.104, R.5, S.23, 24, 26): 1B, 2A, 3B;
~~(17)~~ (20) Bullard Creek, (T.112, R.14, S.1, 2, 3, 10; T.113, R.14, S.36): 1B, 2A, 3B;
~~(18)~~ (21) Burns Valley Creek, East Branch, (T.106, R.7, S.3, 10, 15): 1B, 2A, 3B;
~~(19)~~ (22) Burns Valley Creek, West Branch, (T.106, R.7, S.3, 4, 9, 16; T.107, R.7, S.34): 1B, 2A, 3B;
~~(20)~~ (23) Burns Valley Creek, Main Branch, (T.106, R.7, S.2; T.107, R.7, S.35): 1B, 2A, 3B;
~~(21)~~ (24) Butterfield Creek, (T.103, R.4, S.6, 7, 8, 18): 1B, 2A, 3B;

~~(22)~~ (25) Camp Creek, (T.101, R.10, S.5, 8, 9; T.102, R.10, S.5, 8, 16, 17, 20, 29, 32): 1B, 2A, 3B;
~~(23)~~ (26) Camp Hayward Creek, (T.104, R.8, S.31, 32): 1B, 2A, 3B;
~~(24) Campbell Creek, (T.104, R.6, S. 5, 7, 8, 18): 1B, 2A, 3B;~~
~~(25)~~ (27) Campbell Creek, (T.104, R.6, S.5, 7, 8, 18; T.105, R.6, S.21, 28, 29, 32): 1B, 2A, 3B;
(28) Canfield Creek (see South Branch Creek);
~~(26)~~ (29) *Cannon River, **11/5/84R** (from the northern city limits of Faribault at the common border of the SE1/4 and the NE1/4 of S.19, T.110, R.20 to its confluence with the Mississippi River): 2B, ~~3B~~ 3C;
~~(27)~~ (30) Cannon River, Little, (T.110, R.18, S.1, 10, 11, 12, 15; T.111, R.18, S.13, 24, 25, 36): 1B, 2A, 3B;
~~(28)~~ (31) Carters Creek (Curtis Creek), Wykoff, (T.103, R.12, S.4, 9, 15, 16, 22): 7;
~~(29)~~ (32) Cedar Valley Creek (Cedar Creek), (T.105, R.6, S.6; T.106, R.6, S.1, 11, 12, 14, 15, 21, 22, 28, 29, 31, 32): 1B, 2A, 3B;
(33) Chickentown Creek (M910102), (T.102, R.8, S.32, 33): 1B, 2A, 3B;
~~(30)~~ (34) Chub Creek, North Branch, (T.112, 113, R.19): 2C;
~~(31)~~ (35) Clear Creek, (T.111, R.14, S.3, 10, 15): 1B, 2A, 3B;
(36) Clear Creek, (T.102, R.4): 2C;
~~(32)~~ (37) Cold Creek (Cold Spring Brook) (excluding trout waters), (T.110, 111, R.14): 2C;
~~(33)~~ (38) Cold Spring Brook (Cold Creek), (T.110, R.13, S.30, 31; T.110, R.14, S.25, 36): 1B, 2A, 3B;
~~(34)~~ (39) Coolridge Creek, (T.105, R.9, S.23, 26): 1B, 2A, 3B;
~~(35)~~ (40) Corey Creek, (T.105, R.6, S.18, 19; T.105, R.7, S.24, 25, 26, 27, 34): 1B, 2A, 3B;
~~(36)~~ (41) County Ditch No. 15, Kilkenny, (T.110, R.23, S.22, 23): 7;
~~(37)~~ (42) Crane Creek, (T.107, 108, R.20, 21, 22): 2C;
~~(38)~~ (43) Crooked Creek, Main Branch, (T.102, R.4, S.18, 19, 20, 28, 29, 30; T.102, R.5, S.25, 26, 36): 1B, 2A, 3B;
~~(39)~~ (44) Crooked Creek, North Fork, (T.102, R.5, S.17, 20, 21, 22, 23, 26): 1B, 2A, 3B;
~~(40)~~ (45) Crooked Creek, South Fork, (T.102, R.5, S.26, ~~27,~~ 28): 1B, 2A, 3B;
~~(41)~~ (46) Crystal Creek, (T.102, R.11, S.35, 36): 1B, 2A, 3B;
~~(42)~~ (47) Crystal Creek, (T.103, R.5, S.6, 7, 18, 19; T.103, R.6, S.1, 12): 1B, 2A, 3B;
~~(43)~~ (48) Dakota Creek (excluding trout waters), (T.105, R.5): 2C;
~~(44)~~ (49) Dakota Creek, (T.105, R.4, S.7; T.105, R.5, S.1, 2, 3, 11, 12): 1B, 2A, 3B;
~~(45)~~ (50) Daley Creek, (T.103, R.7, S.4, 5, 8; T.104, R.7, S.33): 1B, 2A, 3B;
~~(46)~~ (51) Diamond Creek, (T.103, R.8, S.18, 19; T.103, R.9, S.10, 11, 13, 14, 24): 1B, 2A, 3B;
~~(47)~~ (52) Dry Creek, (T.108, R.12, 13): 2C;
~~(48)~~ (53) Duschee Creek, (T.102, R.10, S.1; T.103, R.10, S.23, 24, 25, 26, 36): 1B, 2A, 3B;
~~(49)~~ (54) Dutch Creek, (T.112, R.20, 21): 2C;
~~(50)~~ (55) Eitzen Creek, (T.101, R.5, S.22, 23): 1B, 2A, 3B;
~~(51)~~ (56) Etna Creek, (T.102, R.13, S.25, 36): 1B, 2A, 3B;
~~(52)~~ (57) Ferguson Creek, (T.105, R.8, S.18; T.105, R.9, S.12, 13): 1B, 2A, 3B;
~~(53)~~ (58) Ferndale Creek, (T.104, R.7, S.29, 30, 31): 1B, 2A, 3B;
~~(54) Forestville Creek, North Branch, (T.102, R.12, S.13, 14, 15): 1B, 2A, 3B;~~
~~(55) Forestville Creek, South Branch, (T.102, R.12, S.24, 25): 1B, 2A, 3B;~~
(59) Forestville Creek (see North Branch Creek);
~~(56)~~ (60) Frego Creek, (T.101, R.9, S.14, 15, 22, 23): 1B, 2A, 3B;
~~(57)~~ (61) Garvin Brook, (T.106, R.8, S.4, 5, 8, 17; T.107, R.8, S.10, 11, 14, 15, 23, 26, 27, 33, 34, 35): 1B, 2A, 3B;
~~(58)~~ (62) Gilbert Creek, (T.111, R.12, S.6; T.111, R.13, S.1, 2, 3, 4, 10, 11, 12; T.112, R.12, S.31): 1B, 2A, 3B;
~~(59)~~ (63) Gilmore Creek, (T.106, R.7, S.6; T.107, R.7, S.20, 29, 30, 31, 32): 1B, 2A, 3B;
~~(60)~~ (64) Girl Scout Camp Creek, (T.103, R.7, S.29, 30): 1B, 2A, 3B;
~~(61)~~ (65) Gorman Creek, (T.109, R.11, S.1; T.110, R.10, S.29, 30, 31; T.110, R.11, S.36): 1B, 2A, 3B;
~~(62)~~ (66) Gribben Creek, (T.103, R.9, S.9, 16, 21, 27, 28): 1B, 2A, 3B;
(67) Hallum Creek, (T.103, R.7, S.31; T.103, R.8, S.36): 1B, 2A, 3B;
~~(63)~~ (68) Hamilton Creek, (T.103, R.13, NW 1/4 S.6; T.103, R.14, NE 1/4 S.1): 1B, 2A, 3B;
~~(64) Hemmingway Creek, (T.105, R.9, S.26, 28, 33, 34, 35): 1B, 2A, 3B;~~
~~(65)~~ (69) Hammond Creek, (T.109, R.13, S.28, 29): 1B, 2A, 3B;
~~(66)~~ (70) Harkcom Creek, (T.108, R.15, 16): 2C;
~~(67)~~ (71) Hay Creek, (T.111, R.15, S.4; T.112, R.14, S.19; T.112, R.15, S.1, 12, 13, 23, 24, 26, 27, 33, 34; T.113, R.15, S.24, 25, 36): 1B, 2A, 3B;
(72) Hemmingway Creek (Hemingway Creek), (T.105, R.9, S.26, 28, 33, 34, 35): 1B, 2A, 3B;

~~(68)~~ (73) Homer Creek, (T.106, 107, R.6): 2C;
~~(69)~~ (74) Indian Creek, East, (T.109, R.9, S.19; T.109, R.10, S.21, 22, 23, 24, 26, 27, 28, 29, 31, 32; T.109, R.11, S.36): 1B, 2A, 3B;
~~(70)~~ (75) Indian Creek, West, (T.109, R.11, S.6, 7, 8, 16, 17, 21): 1B, 2A, 3B;
~~(71)~~ (76) Indian Spring Creek ~~(excluding trout waters)~~, (T.103, R.5): 2C;
~~(72) Indian Springs Creek (Dexter), (T.103, R.5, S.12, 13, 14, 15, 21, 22, 28): 1B, 2A, 3B;~~
~~(73)~~ (77) Iowa River, Little, (T.101, 102, R.14): 2C;
~~(74)~~ (78) Jordan Creek, Little (Carson Creek), (T.104, R.12, S.21, 22, 26, 27, 28): 1B, 2A, 3B;
~~(75)~~ (79) 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;
~~(76)~~ (80) Kedron Creek, (T.104, R.13, S.36): 1B, 2A, 3B;
~~(77)~~ (81) King Creek, (T.111, R.11, 12): 2C;
~~(78)~~ (82) Kinney Creek, (T.105, R.13, S.1, 12, 13; T.106, R.13, S.36): 1B, 2A, 3B;
~~(79)~~ (83) Lanesboro Park Pond, (T.103, R.10, S.13): 1B, 2A, 3B;
~~(80)~~ (84) LeRoy Trout Pond, (T.101, R.14, S.36): 1B, 2A, 3B;
~~(81)~~ (85) Logan Creek (Logan Branch), (T.107, R.11, S.3): 1B, 2A, 3B;
~~(82)~~ (86) Long Creek (excluding trout waters), (T.108, 109, R.12): 2C;
~~(83)~~ (87) Long Creek, (T.109, R.12, S.3, 10, 15, 22, 27, 28): 1B, 2A, 3B;
~~(84)~~ (88) Lost Creek (Bear Creek), (T.104, R.11, S.18; T.104, R.12, S.8, 9, 10, 15, 16): 1B, 2A, 3B;
~~(85)~~ (89) Lynch Creek, (T.104, R.11, S.2, 11, 14): 1B, 2A, 3B;
~~(86)~~ (90) MacKenzie Creek, (T.108, 109, R.21): 2C;
~~(87)~~ (91) Mahoney Creek, (T.103, R.10): 2C;
~~(88)~~ (92) Mahoods Creek, (T.103, R.12, S.20): 1B, 2A, 3B;
~~(89)~~ (93) Maple Creek, (T.102, R.8, S.3, 4; T.103, R.8, S.27, 28, 33, 34): 1B, 2A, 3B;
~~(90)~~ (94) Mazeppa Creek (Trout Brook), (T.109, R.14, S.4, 5, 9; T.110, R.14, S.19, 29, 30, 32; T.110, R.15, S.24, 25): 1B, 2A, 3B;
~~(91)~~ (95) Middle Creek, (T.109, R.11, S.18; T.109, R.12, S.2, 3, 11, 13, 14): 1B, 2A, 3B;
~~(92)~~ (96) Mill Creek, (T.104, R.11, S.5, 6; T.105, R.11, S.31; T.105, R.12, S.14, 23, 25, 26, 36): 1B, 2A, 3B;
~~(93)~~ (97) Miller Creek, (T.111, R.12, S.7, 8, 9, 18; T.111, R.13, S.13, 24): 1B, 2A, 3B;
~~(94)~~ (98) Money Creek, (T.105, R.7, S.3, 4, 6, 7, 8, 9, 16, 17): 1B, 2A, 3B;
~~(95)~~ (99) Mound Prairie Creek, (T.104, R.5): 2C;
~~(96)~~ (100) Mud Creek (Judicial Ditch No. 6), (T.108, 109, R.20, 21): 2C;
~~(97)~~ (101) Nepstad Creek (Shattuck Creek), (T.102, R.8, S.4, 5, 7, 8, 9; T.102, R.9, S.1, 2, 12): 1B, 2A, 3B;
~~(98)~~ (102) Newburg Creek (M-9-10-10-1), (T.101, R.8, S.5, 8): 1B, 2A, 3B;
(103) New Hartford Creek (see Pine Creek);
~~(99)~~ (104) New ~~York~~ Yorker Hollow Creek, (T.101, R.5, S.25, 26): 1B, 2A, 3B;
(105) North Branch Creek (Forestville Creek), (T.102, R.12, S.13, 14, 15): 1B, 2A, 3B;
~~(100)~~ (106) Partridge Creek, (T.101, R.10, S.4; T.102, R.10, S.33): 1B, 2A, 3B;
~~(101)~~ (107) Peterson Creek, (T.106, R.8, S.7, 8): 1B, 2A, 3B;
~~(102)~~ (108) Pickwick Creek (Big Trout Creek), (T.106, R.5, S.7, 18; T.106, R.6, S.13, 23, 24, 26, 34, 35): 1B, 2A, 3B;
~~(103)~~ (109) Pickwick Creek, Little (Little Trout Creek), (T.106, R.5, S.18, 19, 29, 30, 32; T.106, R.6, S.13): 1B, 2A, 3B;
~~(104)~~ (110) Pine Creek (excluding Class 7 segment), (T.101, R.10): 2C, ~~3B~~ 3C;
~~(105)~~ (111) Pine Creek (New Hartford Creek), (T.105, R.5, S.18, 19, 20, 29, 30, 31, 32; T.105, R.6, S.13, 36): 1B, 2A, 3B;
~~(106)~~ (112) Pine Creek, Harmony, (T.101, R.9, S.31; T.101, R.10, S.24, 25, 36): 7;
~~(107)~~ (113) Pine Creek, South Fork, (T.105, R.5, S.19; T.105, R.6, S.24): 1B, 2A, 3B;
~~(108)~~ (114) Pine Creek, Fillmore and Winona Counties, (T.104, R.9, S.2, 3, 4; T.105, R.9, S.25, 26, 33, 34, 35; T.105, R.8, S.30, 31, 32, 33): 1B, 2A, 3B;
~~(109)~~ (115) Pine Creek, Dakota County, (excluding trout waters), (~~T.112,~~ T.113, ~~R.17,~~ R.18): 2C;
~~(110)~~ (116) Pine Creek, Dakota and Goodhue Counties, (T.112, R.17, S.5, 6, 8, 9; T.113, R.17, S.31; T.113, R.18, S.25, 26, 35, 36): 1B, 2A, 3B;
~~(111)~~ (117) Pleasant Valley Creek (excluding trout waters), (T.106, 107, R.6, 7): 2C;
~~(112)~~ (118) Pleasant Valley Creek, (T.106, R.6, S.7, 18, 19; T.106, R.7, S.1, 12, 13, 24, 25): 1B, 2A, 3B;
~~(113)~~ (119) Plum Creek, (T.108, R.15): 2C;
~~(114)~~ (120) Prairie Creek, (T.110, 111, 112, R.18, 19, 20): 2C;
~~(115)~~ (121) Rice Creek (Sugar Creek), (T.103, R.11, S.3, 4, 5, 7, 8, 9; T.104, R.11, S.14, 23, 28, 33): 1B, 2A, 3B;
~~(116)~~ (122) Riceford Creek, (T.101, R.7, S.6, 7, 18, 19; T.101, R.8, S.1, 12, 13, 24; T.102, R.7, S.29, 30, 31, 32): 1B, 2A, 3B;
~~(117)~~ (123) Riceford Creek, Mabel, (T.101, R.8, S.24, 25, 26): 7;

~~(118)~~ (124) Rollingstone Creek, (T.107, R.8, S.2, 3, 4, 5, 6, 7, 9, 10, 11; T.107, R.9, S.12, 13): 1B, 2A, 3B;

~~(119)~~ (125) Rollingstone Creek, Middle Branch, (T.107, R.8, S.9, 16): 1B, 2A, 3B;

(126) Root River, Middle Branch, (T.103, R.12, S.8, 9): 1B, 2A, 3B;

~~(120)~~ (127) Root River, South Branch, (T.102, R.10, S.5, 6; T.102, R.11, S.1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 18; T.102, R.12, S.13, 21, 22, 23, 24, 26, 27; T.103, R.9, S.7, 18; T.103, R.10, S.13, 14, 15, 16, 21, 22, 23, 24, 28, 29, 32, 33; T.103, R.11, S.36): 1B, 2A, 3B;

~~(121)~~ (128) Root River, South Fork, (T.102, R.8, S.2, 3, 4, 8, 9, 10, 11, 17, 18, 19; T.102, R.9, S.24, 25, 26): 1B, 2A, 3B;

~~(122)~~ (129) Rose Valley Creek, (T.105, R.5, S.22, 27, 34, 35): 1B, 2A, 3B;

~~(123)~~ (130) Rupprecht Creek (Rollingstone Creek), (T.107, R.9, S.13, 24, 25, 26, 35): 1B, 2A, 3B;

~~(124)~~ (131) Rush Creek, (T.104, R.8, S.2, 3, 4, 10, 11, 13, 14; T.105, R.8, S.6, 7, 18, 19, 20, 29, 32, 33; T.105, R.9, S.1, 2, 12; T.106, R.9, S.26, 34, 35, 36): 1B, 2A, 3B;

~~(125)~~ (132) Salem Creek, (T.106, R.15, 16): 2C;

~~(126)~~ (133) Schueler Creek, (T.104, R.8, S.1, 2, 3): 1B, 2A, 3B;

~~(127)~~ (134) Second Creek (Handshaw Coulee), (T.111, R.12, S.15): 1B, 2A, 3B;

~~(128)~~ (135) Shady Creek, (T.104, R.11, S.19, 30): 1B, 2A, 3B;

(136) Shattuck Creek (See Nepstad Creek);

~~(129)~~ (137) Shingle Creek, (T.109, 110, R.17): 2C;

~~(130)~~ (138) Silver Creek (excluding trout waters), (T.104, 105, R.6): 2C;

~~(131)~~ (139) Silver Creek, (T.104, R.6, S.1, 2, 11, 12, 14; T.105, R.6, S.34, 35): 1B, 2A, 3B;

~~(132)~~ (140) Silver Spring Creek, (T.108, 109, R.13): 2C;

~~(133)~~ (141) Snake Creek (excluding trout waters), (T.109, R.10): 2C;

~~(134)~~ (142) Snake Creek, (T.109, R.10, S.10, 11, 14, 15, 16): 1B, 2A, 3B;

(143) South Branch Creek (Canfield Creek), (T.102, R.12, S.24, 25): 1B, 2A, 3B;

~~(135)~~ (144) Speltz Creek, (T.107, R.8, S.5, 6; T.108, R.8, S.31; T.108, R.9, S.36): 1B, 2A, 3B;

~~(136)~~ (145) Spring Brook, (T.111, R.20, S.2, 3, 4): 1B, 2A, 3B;

~~(137)~~ (146) Spring Creek, (T.110, R.12, S.7, 17, 18, 20, 21, 27, 28, 29): 1B, 2A, 3B;

~~(138)~~ (147) Spring Creek, (T.112, R.15, S.5, 6, 7, 18; T.113, R.15, S.29, 31, 32, 33, 34): 1B, 2A, 3B;

~~(139)~~ (148) Spring Valley Creek, (T.103, R.12, S.8, 17, 18, 19, 20, 30; T.103, R.13, S.23, 24, 25, 26, 27, 28, 29, 32, 33, 34): 1B, 2A, 3B;

~~(140)~~ (149) Stockton Valley Creek, (T.106, R.8, S.2, 3, 10, 11, 14, 23; T.107, R.8, S.34): 1B, 2A, 3B;

~~(141)~~ (150) Storer Creek, (T.104, R.5, S.17, 18, 19, 30): 1B, 2A, 3B;

~~(142)~~ (151) Straight Creek, (T.107, R.9, S.2, 11, 12): 1B, 2A, 3B;

~~(143)~~ (152) Sugar Creek (Sugarloaf Creek), (~~T.111,~~ T.112, ~~R.12,~~ R.13): 2C;

~~(144)~~ (153) Sullivan Creek (excluding trout waters), (T.103, R.5): 2C;

~~(145)~~ (154) Sullivan Creek, (T.103, R.5, S.12, 13, 14, 23, 24, 25, 26): 1B, 2A, 3B;

~~(146)~~ (155) Swede Bottom Creek, (T.103, R.6, S.10): 1B, 2A, 3B;

~~(147)~~ (156) Thompson Creek (Indian Springs Creek), (T.103, R.4, S.5, 6, 7; T.103, R.5, S.12, 13, 14, 15, 21, 22, 28; T.104, R.4, S.32): 1B, 2A, 3B;

~~(148)~~ (157) Torkelson Creek, (T.104, R.10, S.25, 36): 1B, 2A, 3B;

~~(149)~~ (158) Trout Brook, Wabasha County, (T.110, R.11, S.5, 8): 1B, 2A, 3B;

~~(150)~~ (159) Trout Brook, Dakota County, (T.112, R.17, S.1; T.113, R.17, S.26, 27, 35, 36): 1B, 2A, 3B;

~~(151)~~ (160) Trout Brook (Hay Creek Tributary), (T.113, R.15, S.35, 36): 1B, 2A, 3B;

(161) Trout Brook (see also Mazeppa Creek);

~~(152)~~ (162) Trout Brook (Mazeppa Creek), Goodhue, (T.110, R.15, S.3, 4; T.111, R.15, S.28, 33, 34): 7;

~~(153)~~ (163) Trout Creek, Little~~, (T.106, R.5, 6): 2C~~ (see Pickwick Creek, Little);

(164) Trout Creek, Big (see Pickwick Creek);

~~(154)~~ (165) Trout Run Creek (Trout Run), (T.104, R.10, S.4, 5, 8, 9, 16, 17, 20, 21; T.105, R.10, S.18, 19, 30, 31, 32): 1B, 2A, 3B;

~~(155)~~ (166) Trout Run Creek (Trout ~~Creek~~ Run) (excluding trout waters), (T.105, R.10): 2C;

~~(156)~~ (167) Trout RunWhitewater Park, (T.107, R.10, S.29): 1B, 2A, 3B;

~~(157)~~ (168) Trout Valley Creek (Trout Creek), Wabasha and Winona Counties, (T.108, R.9, S.5, 8, 17, 20; T.109, R.9, S.31): 1B, 2A, 3B;

~~(158)~~ (169) Unnamed Creek, Houston County, (T.101, R.4, S.21): 1B, 2A, 3B;

~~(159)~~ (170) Unnamed Creek, Spring Grove, (T.101, R.7, S.14, 22, 23, 27): 7;

~~(160)~~ (171) Unnamed Creek, Houston County, (T.102, R.4, S.18, 19, 20, 29, 30): 1B, 2A, 3B;

~~(161) Unnamed Creek, (T.103, R.7, S.31): 1B, 2A, 3B;~~

~~(162)~~ (172) Unnamed Creek, Canton, (T.101, R.9, S.20): 7;
~~(163)~~ (173) Unnamed Creek, Byron, (T.107, R.15, S.17, 20, 29): 7;
~~(164)~~ (174) Unnamed Creek (Helbig), (T.110, R.11, S.28, 33): 1B, 2A, 3B;
~~(165)~~ (175) Unnamed Creek (M-9-10-5-3), (T.101, R.7, S.6; T.101, R.8, S.1, 2): 1B, 2A, 3B;
~~(166)~~ (176) Unnamed Creek (Whitewater Tributary), (T.108, R.10, S.35, 36): 1B, 2A, 3B;
~~(167)~~ (177) Unnamed Creek, (T.105, R.7, S.19, 29, 30; T.105, R.8, S.24): 1B, 2A, 3B;
~~(168)~~ (178) Unnamed Creek (Miller Valley), (T.106, R.5, S.21, 22, 27, 28): 1B, 2A, 3B;
~~(169)~~ (179) Unnamed Creek (Deering Valley), (T.108, R.8, S.20, 28, 29): 1B, 2A, 3B;
~~(170)~~ (180) Unnamed Creek (M-9-10-5-4), (T.101, R.8, S.12, 13): 1B, 2A, 3B;
~~(171) Unnamed Creek (M910105), (T.102, R.8, S.32, 33): 1B, 2A, 3B;~~
~~(172) Unnamed Creek (M9106), (T.103, R.8, S.36): 1B, 2A, 3B;~~
~~(173)~~ (181) Unnamed Creek (T.104, R.8, S.19, 30): 1B, 2A, 3B;
~~(174)~~ (182) Unnamed Creek, Plainview, (T.108, R.11, S.16, 17, 20, 21, 22, 27, 34): 7;
~~(175)~~ (183) Unnamed Creek, West Concord, (T.108, R.17, S.17, 20, 21): 7;
~~(176)~~ (184) Unnamed Creek, Hayfield, (T.105, R.17, S.3, 4): 7;
~~(177)~~ (185) Unnamed Creek (Wells Creek Trib. #9), (T.111, R.14, S.8, 17): 1B, 2A, 3B;
~~(178)~~ (186) Unnamed Ditch, Claremont, (T.107, R.18, S.27, 34): 7;
~~(179)~~ (187) Unnamed Ditch, Owatonna, (T.108, R.20, S.33): 7;
~~(180)~~ (188) Unnamed Ditch, Lonsdale, (T.112, R.22, S.25, 35, 36): 7;
~~(181)~~ (189) Unnamed Ditch, Hampton, (T.113, R.18, S.5, 6; T.114, R.18, S.31): 7;
~~(182)~~ (190) Unnamed Dry Run, Altura, (T.107, R.9, S.7, 18): 7;
~~(183)~~ (191) Unnamed Dry Run, Owatonna, Owatonna Canning Company, (T.107, R.20, S.6; T.107, R.21, S.1): 7;
~~(184)~~ (192) Unnamed Dry Run, Owatonna, Owatonna Canning Company, (T.107, R.20, S.6; T.107, R.21, S.1): 7;
~~(185)~~ (193) Unnamed Stream, Dodge Center, Owatonna Canning Company, (T.107, R.17, S.27, 34): 7;
~~(186)~~ (194) Vermillion River, (T.113, R.20, S.1, 2, 3, 4, 9; T.114, R.18, S.19, 20; T.114, R.19, S. 21, 22, 23, 24, 28, 29, 30, 31; T.114, R.20, S.33, 34, 35, 36): 1B, 2A, 3B;
~~(187)~~ (195) Vesta Creek, (T.102, R.8, S.10, 11, 14, 15, 23): 1B, 2A, 3B;
~~(188)~~ (196) Wapsipinicon River, (T.101, R.15): 2C, ~~3B~~ 3C;
~~(189)~~ (197) Waterloo Creek, (T.101, R.6, 7): 1B, 2Bd, ~~3B~~ 3C;
~~(190)~~ (198) Watson Creek, (T.103, R.10, S.19, 20, 21, 29, 30; T.103, R.11, S.22, 23, 24, 25, 26, 27, 28, 29, 30): 1B, 2A, 3B;
~~(191) West Albany Creek, (T.110, R.12, S.28, 29, 30; T.110, R.13, S.23, 24, 25, 26): 1B, 2A, 3B;~~
(199) West Albany Creek (see Albany Creek, West);
~~(192)~~ (200) Whitewater River, Main Branch, (T.107, R.10, S.2, 3, 9, 10; T.108, R.10, S.1, 2, 10, 11, 14, 15, 22, 23, 26, 27, 35): 1B, 2A, 3B;
~~(193)~~ (201) Whitewater River, South Branch, (T.106, R.9, S.6; T.106, R.10, S.1; T.107, R.9, S.31; T.107, R.10, S.3, 10, 11, 13, 14, 24, 25, 36): 1B, 2A, 3B;
~~(194)~~ (202) Whitewater River, Middle Branch, (T.106, R.11, S.2, 3, 10; T.107, R.10, S.9, 10, 16, 17, 19, 20, 30; T.107, R.11, S.24, 25, 26, 35): 1B, 2A, 3B;
~~(195)~~ (203) Whitewater River, North Branch (Winona and Wabasha), (T.107, R.10, S.5, 6, 7, 8, 9; T.107, R.11, S.1, 2, 3; T.108, R.11, S.30, 31, 32, 33, 34): 1B, 2A, 3B;
~~(196)~~ (204) Whitewater River, North Fork, Elgin, (T.108, R.12, S.25, 26, 27): 7;
~~(197)~~ (205) Wildcat Creek (excluding trout waters), (T.103, R.4): 2C;
~~(198)~~ (206) Wildcat Creek, (T.103, R.4, S.26, 27, 28, 29, 32, 33, 34, 35): 1B, 2A, 3B;
~~(199)~~ (207) Willow Creek, (T.101, R.11, S.1, 12; T.102, R.11, S.1, 12, 13, 24, 25, 36): 1B, 2A, 3B;
~~(200)~~ (208) Winnebago Creek, (T.101, R.4, S.28, 29, 30; T.101, R.5, S.7, 8, 14, 15, 16, 17, 22, 23, 24, 25; T.101, R.6, S.12): 1B, 2A, 3B; and
~~(201)~~ (209) Wisel Creek, (T.101, R.8, S.5, 6, 8; T.102, R.8, S.19, 20, 29, 30, 31, 32): 1B, 2A, 3B.

[For text of items B to D, see M.R.]

Subp. 8. **Cedar-Des Moines Rivers Basin.** The water use classifications for the listed waters in the CedarDes Moines Rivers Basin are as identified in items A~~, C, and~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

(1) Bancroft Creek (County Ditch No. 63), (T.103, 104, R.21): 2C;

~~(2) Bear Creek (excluding Class 7 segment), (Source to Iowa border): 2C, 3B;~~

~~(3) Beaver Creek, (T.101, 102, R.13, 14): 2C, 3B;~~
~~(4)~~ (2) Cedar River, Little, (Source to Iowa border): 2C, ~~3B~~ 3C;
~~(5) Clear Creek, (T.102, R.4): 2C;~~
~~(6)~~ (3) 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;
(4) County Ditch No. 11, Manchester, (T.103, R.22, S.11, 14, 23, 25, 26): 7;
~~(7)~~ (5) County Ditch No. 48, Conger, (T.102, R.22, S.19, 20; T.102, R.23, S.24, 25, 26, 35): 7;
~~(8)~~ (6) County Ditch No. 53 (see Soldier Creek);
~~(9)~~ (7) Deer Creek (excluding Class 7 segment), (T.101, R.19, 20): 2C, ~~3B~~ 3C;
(8) Deer Creek (County Ditch No. 71), Myrtle, (T.101, R.19, S.18; T.101, R.20, S.13): 7;
~~(10)~~ (9) Dobbins Creek, (T.103, R.16, 17): 2C;
~~(11)~~ (10) 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)~~ (11) Heron Lake Outlet, (T.104, 105, R.37): 2C;
~~(13)~~ (12) Jack Creek, Wilmont, (T.104, R.41, S.25, 26, 30, 31, 32, 33, 34, 35, 36): 7;
~~(14)~~ (13) Lime Creek, (T.101, R.22, 23): 2C, ~~3B~~ 3C;
~~(15)~~ (14) Murphy Creek, (T.103, R.18): 2C;
~~(16)~~ (15) Okabena Creek (excluding Class 7 segment), (T.102, 103, R.37, 38, 40): 2C;
~~(17)~~ (16) 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;
~~(18)~~ (17) Orchard Creek, (T.102, R.18, 19): 2C;
~~(19)~~ (18) Roberts Creek, (T.103, 104, R.16, 17, 18): 2C;
~~(20)~~ (19) Rose Creek, (T.102, 103, R.16, 17, 18): 2C;
~~(21)~~ (20) Scheldorf Creek, (T.106, R.36, S.19, 30, 31; T.106, R.37, S.13, 24, 25): 1B, 2A, 3B;
~~(22)~~ (21) Soldier Creek (Unnamed Stream and County Ditch No. 53), (T.101, R.32, 33): 2C, ~~3B~~ 3C;
~~(23)~~ (22) Turtle Creek, (T.103, R.18, 19, 20): 2C;
~~(24)~~ (23) Unnamed Creek, Emmons, (T.101, R.22, S.31): 7;
~~(25)~~ (24) Unnamed Creek, Brownsdale, (T.103, R.17, S.4, 9): 7;
~~(26)~~ (25) Unnamed Creek, Blooming Prairie, (T.104, R.18, S.5, 8, 9, 16; T.105, R.18, S.31): 7;
~~(27)~~ (26) Unnamed Creek, Blooming Prairie, (T.105, R.19, S.25): 7;
~~(28)~~ (27) 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;
(28) Unnamed Ditch, Myrtle, (T.101, R.20, S.12): 7;
(29) Unnamed Ditch, Myrtle, (T.101, R.20, S.12, 13): 7;
~~(29)~~ (30) Unnamed Ditch, Blooming Prairie, (T.105, R.19, S.25): 7;
~~(30)~~ (31) Unnamed Stream (see Soldier Creek);
~~(31)~~ (32) Wolf Creek, (T.103, R.16, 17, 18): 2C;
~~(32)~~ (33) Woodbury Creek, (T.101, 102, R.18, 19): 2C; and
~~(33)~~ (34) Woodson Creek, (T.102, R.18, S.14, 15): 1B, 2A, 3B.

[For text of items B to D, see M.R.]

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 C~~ to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

(1) Ash Creek, (T.101, R.45): 2C;
(2) Beaver Creek, (T.102, 103, 104, R.45, 46, 47): 2C, ~~3B~~ 3C;
(3) Flandreau Creek (excluding Class 7 segment), (T.107, 108, R.46, 47): 2C, ~~3B~~ 3C;
(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) Judicial Ditch No. 13 (see Skunk Creek);
~~(5)~~ (6) Kanaranzi Creek, (Source to Iowa border): 2C, ~~3B~~ 3C;
~~(6)~~ (7) Medary Creek, (Source to South Dakota border): 2C, ~~3B~~ 3C;
~~(7)~~ (8) Mound Creek, (T.103, 104, R.45): 2C;
~~(8)~~ (9) Mud Creek, (T.101, 102, R.45, 46): 2C, ~~3B~~ 3C;
~~(9)~~ (10) Pipestone Creek, (Source to South Dakota border): 2C, ~~3B~~ 3C;
~~(10)~~ (11) Rock River (excluding Class 7 segment), (Source to Iowa border): 2C, ~~3B~~ 3C;
~~(11)~~ (12) Rock River, Holland, (T.107, R.44, S.18, 19, 20, 29; T.107, R.45, S.12, 13): 7;
~~(12)~~ (13) Rock River, Little, (source to Iowa border): 2C, ~~3B~~ q3C;

(14) Sater's Creek (Unnamed Creek), Luverne, AgriEnergy, (T.102, R.45, S.9, 14, 15, 16): 7;
~~(13)~~ (15) Sioux River, Little, (Source to Iowa border): 2C, ~~3B~~ 3C;
~~(14)~~ (16) Sioux River, West Fork Little, (Source to Iowa border): 2C, ~~3B~~ 3C;
~~(15)~~ (17) Skunk Creek (Judicial Ditch No. 13), (T.101, 102, R.37, 38, 39): 2C;
~~(16)~~ (18) Split Rock Creek, (Split Rock Lake outlet to South Dakota border): 2C, ~~3B~~ 3C;
~~(17)~~ (19) Unnamed Creek, Jasper, (T.104, R.46, S.6): 7;
~~(18)~~ (20) 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)~~ (21) Unnamed Creek, Hatfield, (T.106, R.45, S.34, 35, 36): 7;
(22) Unnamed Ditch, Luverne, AgriEnergy, (T.102, R.45, S.10, 15): 7;
~~(20)~~ (23) Unnamed Ditch, Steen, (T.101, R.45, S.31, 32): 7;
~~(21)~~ (24) Unnamed Ditch, Hills, (T.101, R.46, S.28, 33): 7; and
~~(22)~~ (25) Unnamed Ditch, Lake Benton, (T.109, R.45, S.17, 19, 20): 7.

[For text of items B to D, see M.R.]

EFFLUENT LIMITS AND TREATMENT REQUIREMENTS FOR DISCHARGES TO WATERS OF THE STATE

7053.0115 SCOPE.

Parts 7053.0135 to 7053.0405 apply to all discharges of sewage, industrial, and other wastes to all waters of the state, both surface and underground. This chapter applies to point source and nonpoint source discharges. Other regulations of general or specific application that include any more stringent effluent limits or prohibitions are preserved.

Water quality standards applicable to waters of the state are in chapter 7050. Water quality standards applicable to waters in the Lake Superior basin are in chapter 7052.

7053.0135 GENERAL DEFINITIONS.

Subpart 1. **Scope.** For purposes of this chapter, the following terms have the meanings given them.

Subp. 2. **Terms defined in statute.** The terms "waters of the state," "point source," "sewage," "industrial wastes," and "other wastes," as well as any other terms for which definitions are given in the pollution control statutes, have the meanings given 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 are not "waters of the state."

Subp. 3. **Seven-day ten-year low flow or $7Q_{10}$.**

A. "Seven-day ten-year low flow" or "$7Q_{10}$" means the lowest average seven-day flow with a once in ten-year recurrence interval. A 7Q) 10 is derived by identifying the lowest average flow for a sevenconsecutiveday period from daily flow records for each year of record, from a continuous flow gauging station. The seven-day average low flow values for each year are arrayed in order of magnitude and fitted to a probability distribution. The $7Q_{10}$ is the stream or river flow that is equal to or exceeded by 90 percent of the values in the distribution.

B. 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. Where stream flow records are not available, the flow may be estimated on the basis of available information on the watershed characteristics, precipitation, runoff, and other relevant data. The calculations shall not be applied to lakes and their embayments which have no comparable flow recurrence interval.

Subp. 4. **Thirty-day ten-year low flow or $30Q_{10}$.** "Thirty-day ten-year low flow" or "$30Q_{10}$" means the lowest average 30-day flow with a once in ten-year recurrence interval. A $30Q_{10}$ is derived using the same methods used to derive a $7Q_{10}$, and the guidelines regarding period of record for flow data and estimating a $7Q_{10}$ apply equally to determining a $30Q_{10}$, as described in subpart 3. The calculations shall not be applied to lakes and their embayments which have no comparable flow recurrence interval.

Subp. 5. **Commissioner.** "Commissioner" means the commissioner of the Pollution Control Agency or the commissioner's designee.

Subp. 6. **Effluent limit.** The terms "effluent limit" (equals "effluent limitation"), "point source," and "national pollutant discharge elimination system" have the meanings given them in part 7001.1020.

Subp. 7. **Nonpoint source.** "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 11.

Subp. 8. **Physical alteration.** "Physical alteration" means the dredging, filling, draining, or permanent inundating of a wetland. Restoring a degraded wetland by reestablishing its hydrology is not a physical alteration.

Subp. 9. **Surface waters.** "Surface waters" means waters of the state, excluding groundwater as defined in *Minnesota Statutes*, section 115.01, subdivision 6.

Subp. 10. **Other terms.** Other terms and abbreviations used in this chapter that are not specifically defined in applicable federal or

state law must be construed in conformance with the context, in relation to the applicable section of the statutes pertaining to the matter, and current professional usage.

7053.0155 DETERMINATION OF COMPLIANCE.

In making tests or analyses of the waters of the state, sewage, industrial wastes, or other wastes to determine water quality condition and compliance with effluent limits and nonpoint source reduction measures, samples must be collected in a manner and place, and of such type, number, and frequency, as may be considered necessary by the agency to adequately reflect the condition of the waters, the composition of the effluents, and the effects of the pollutants upon the uses specified in part 7050.0140. The samples must be collected, preserved, and analyzed following accepted quality control and quality assurance methods and according to the procedures in *Code of Federal Regulations*, title 40, part 136. The agency may accept or may develop other methods, procedures, guidelines, or criteria for collecting and analyzing effluent samples and measuring water quality characteristics.

7053.0195 VARIANCE FROM TREATMENT REQUIREMENTS.

Subpart 1. **Variance.** In any case when, upon application of the responsible person or persons, the agency finds that by reason of exceptional circumstances the strict enforcement of any provision of this chapter 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 effluent limits would be unreasonable, impractical, or not feasible under the circumstances, the agency in its discretion may grant a variance upon conditions it prescribes for prevention, control, or abatement of pollution in harmony with the general purposes of this chapter and the intent of the applicable state and federal laws. The United States Environmental Protection Agency shall be advised of any permits that may be issued under this subpart, together with information as to the need for the variance.

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. The list must be available for public inspection and must be provided to the United States Environmental Protection Agency. The list must 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 from discharge effluent limits or treatment requirements granted by the agency under this part are subject to agency and public review at least every five years. Variances from water quality standards are granted by the agency under parts 7000.7000 and 7050.0190. Variances may be modified or suspended under the procedures in part 7000.7000.

7053.0205 GENERAL REQUIREMENTS FOR DISCHARGES TO WATERS OF THE STATE.

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

Subp. 2. **Nuisance conditions prohibited.** No sewage, industrial waste, or other wastes may 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 limits. Separation of sanitary sewage from natural runoff may be required when necessary to ensure continuous effective treatment of sewage.

Subp. 4. **Highest levels of effluent quality.** The highest levels of effluent quality, including, but not limited to, five-day carbonaceous biochemical oxygen demand, that are attainable through continuous operation at the maximum capability of all primary and secondary units of treatment works or their equivalent, discharging effluents into the waters of the state, must be maintained in order to enhance conditions for the specified uses.

Subp. 5. **Mixing zones and compliance with water quality standards.**

A. Reasonable allowance must be made for dilution of the effluents that are in compliance with this chapter, following discharge into waters of the state. The agency, by allowing dilution, shall 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 as specified in subpart 7 must not violate the applicable water quality standards in chapters 7050 and 7052, including the nondegradation requirements contained in those chapters. This subpart also applies in cases where a Class 7 water is tributary to a Class 2 water.

B. Means for expediting mixing and dispersion of sewage, industrial waste, or other waste effluents in the receiving waters must be provided so far as practicable when deemed necessary by the agency to maintain the quality of the receiving waters according to chapters 7050 and 7052.

C. Mixing zones must be established by the agency on an individual basis, with primary consideration being given to the following

guidelines:

(1) mixing zones in rivers shall permit an acceptable passageway for the movement of fish;

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

(3) mixing zone characteristics shall not be lethal to aquatic organisms;

(4) for contaminants other than heat, the final acute value, 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;

(5) mixing zones should be as small as possible and not intersect spawning or nursery areas, migratory routes, water intakes, or mouths of rivers; and

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

Subp. 6. **Other requirements preserved.** The requirements of this chapter, and specifically the requirements in parts 7053.0215 and 7053.0225, 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 this chapter, chapters 7050 and 7052, and the requirements of the Clean Water Act or its implementing regulations, the more stringent requirement controls.

Subp. 7. **Minimum stream flow.**

A. Discharges of sewage, industrial waste, or other wastes must be controlled so that the water quality standards are maintained at all stream flows that are equal to or greater than the $7Q_{10}$ for the critical month or months, except for the purpose of setting ammonia effluent limits. Discharges of ammonia in sewage, industrial waste, or other wastes must be controlled so that the ammonia water quality standard is maintained at all stream flows that are equal to or exceeded by the $30Q_{10}$ for the critical month or months.

B. Allowance must 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. **Water quality based effluent limits.** Notwithstanding parts 7053.0235 and 7053.0245, the agency may require a specific discharger to meet effluent limits for specific pollutants or whole effluent toxicity that are necessary to maintain the water quality of the receiving water at the standards established in chapters 7050 and 7052, including the nondegradation requirements contained in those chapters. Any effluent limit determined to be necessary under this subpart and part 7053.0235 may only be required of a discharger after the discharger has been given notice of the specific effluent limits 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 satisfies the notice and opportunity for hearing requirements of this subpart.

Subp. 9. **Water quality standard-based ammonia effluent limits.** For the purpose of establishing limits to meet the ammonia water quality standard, a statistic that estimates the central value, such as the mean or median, for ambient pH and temperature of the receiving water for the critical months must be used.

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

Subp. 11. **Liquid substances.** Liquid substances that are not commonly considered to be sewage or industrial waste, but that could constitute a pollution hazard, must be stored according to chapter 7151. Other wastes as defined by law or other substances that could constitute a pollution hazard, including substances from nonpoint sources and households, must 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 in this chapter and chapters 7050 and 7052 or cause pollution as defined by law.

Subp. 12. **Point source dischargers must report to agency.** All persons operating or responsible for sewage, industrial waste, or other waste disposal systems that are adjacent to or that discharge effluents to waters of the state 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 must 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. 13. **Compliance with permit conditions.** A person who is in compliance with the terms and conditions of the person's permit issued under chapter 7001 must not be deemed in violation of any water quality standard in chapters 7050 and 7052 for which a corresponding effluent limit is established in the permit. However, exceedances of the water quality standards in a receiving water constitutes grounds for modification of a permit for any discharger to the receiving water who is causing or contributing to the exceedances. Chapter 7001 governs the modification of any such permit.

7053.0215 REQUIREMENTS FOR POINT SOURCE DISCHARGES OF SEWAGE.

Subpart 1. **Minimum secondary treatment for municipal point source and other point source dischargers of sewage.** 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" means works that will provide effective sedimentation, biochemical oxidation, and disinfection, or the equivalent, including effluents conforming to the following:

Characteristic or Pollutant	Limiting Concentration or Range*
Five-day carbonaceous biochemical oxygen demand*	25 mg/L
Fecal coliform group organisms **	200 organisms per 100 milliliters
Total suspended solids*	30 mg/L
Oil	Essentially free of visible oil
Phosphorus	See part 7053.0255
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. If a whole effluent toxicity test performed on the effluent results in less than 50 percent mortality of the test organisms, the effluent must 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 HH, 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.

**Disinfection of wastewater effluents to reduce the levels of fecal coliform organisms to the stated value is required from April 1 through October 31 for Class 2 waters and May 1 through October 31 for 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 all year. 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 limit is limited to sewage or other effluents containing admixtures of sewage and do not apply to industrial wastes, except when 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.**

A. The secondary treatment effluent limits in subpart 1, for five-day carbonaceous biochemical oxygen demand and total suspended solids, do 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 limits for five-day carbonaceous biochemical oxygen demand or total suspended solids contained in subpart 1.

B. For those municipal point source dischargers and other point source dischargers of sewage that meet the conditions of item A, the following effluent limits for five-day carbonaceous biochemical oxygen demand and total suspended solids apply as the arithmetic mean of all samples collected during a calendar month.

Five-day carbonaceous biochemical oxygen demand	40 mg/L*
Total suspended solids	45 mg/L**

*In any calendar week, the arithmetic mean for five-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 limits in subpart 1 apply to those municipal point source dischargers and other point source dischargers of sewage whose limits for fiveday carbonaceous biochemical oxygen demand and total suspended solids are established by this subpart.

Subp. 3. **Exception for pond facilities.**

A. The secondary treatment effluent limits in subpart 1 for total suspended solids do 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 limit for total suspended solids for a discharge from the pond is as follows:

Total suspended solids	45 mg/L* (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 limits in subpart 1 apply to those municipal point source dischargers and other point source dischargers of sewage whose limits for total suspended solids are established by this subpart.

7053.0225 REQUIREMENTS FOR POINT SOURCE DISCHARGES OF INDUSTRIAL OR OTHER WASTES.

Subpart 1. **Applicable effluent limits.** Any person discharging industrial or other wastes from a point source shall comply with the requirements in items A to C.

A. Point source dischargers of industrial or other wastes must comply with all applicable federal standards adopted 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 limits for fiveday carbonaceous biochemical oxygen demand, total suspended solids, pH, or oil are not established by the federal standards under item A for any point source discharger of industrial or other wastes, the point source discharger shall comply with the effluent limits for those substances established in part 7053.0215, subpart 1, or with such other equivalent mass limits established under part 7053.0205, subpart 8, if applicable.

C. Point source dischargers of industrial or other wastes shall comply with all additional effluent limits 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. **Dredge disposal exemption.** The requirements for total suspended solids and phosphorus under subpart 1, item B, and for phosphorus under subpart 4, do not apply to waters discharged from a dredge disposal facility and returned to the water body where the water was removed if:

A. best management practices and best practicable technology are established in a state disposal system permit for the facility; and

B. the designated uses as established under parts 7050.0140 and 7050.0400 to 7050.0470 are maintained.

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 7053.0255.

Subp. 5. **Exception for total suspended solids limits for ponds.** A point source discharger of industrial or other wastes that uses a stabilization pond 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 limits applicable to a discharger under subpart 1, item B, are the limits in part 7053.0215, subpart 3, rather than the total suspended solids limits in part 7053.0215, subpart 1.

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 7053.0215, subpart 1, for toxic or corrosive pollutants.

7053.0235 ADVANCED WASTEWATER TREATMENT REQUIREMENTS.

Subpart 1. **Inadequate dilution.** In any instance where it is evident that the minimal treatment specified in part 7053.0215, subpart 1, or 7053.0225 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 water quality standards specified in chapters 7050 and 7052, the specific standards may be interpreted as effluent limits for control purposes. In addition, the following effluent limits 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:

Pollutant	Limits
Five-day carbonaceous biochemical oxygen demand	5 mg/L (arithmetic mean of all samples taken during any calendar month)

The five milligrams per liter limit shall not apply to discharges to surface waters classified as limited resource value waters, pursuant to parts 7050.0140, subpart 8, and 7050.0400 to 7050.0470, except as may be needed to comply with part 7053.0245, subpart 3.

Subp. 2. **Limits for pond facilities.** The concentrations specified in part 7053.0215, subpart 1, or, if applicable, part 7053.0225, may be used in lieu of the limit in this part 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 ensure that the applicable water quality standards are met during the discharge period.

Subp. 3. **Variability of operation.** If treatment works are designed and constructed to meet the specified limits given in this part 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 in this part and in part 7053.0215, subpart 1, or, if applicable, part 7053.0225, provided the water quality standards and all other requirements of the agency and the United States Environmental Protection Agency are being met. The variability of operation must be based on adequate monitoring of the treatment works and the effluent and receiving waters as specified by the agency.

7053.0245 REQUIREMENTS FOR POINT SOURCE DISCHARGES TO LIMITED RESOURCE VALUE WATERS.

Subpart 1. **Effluent limits.** For point source discharges of sewage, industrial, or other wastes to surface waters classified as limited resource value waters pursuant to parts 7050.0140, subpart 8, and 7050.0400 to 7050.0470, the agency shall require treatment facilities that will provide effluents conforming to the following limits:

Pollutant	Limiting Concentration
Five-day carbonaceous biochemical oxygen demand	15 mg/L* (arithmetic mean of all samples taken during any calendar month)

*This 15 milligrams per liter limit does not apply to discharges to limited resource value waters if the principal method of treatment is

through stabilization ponds, in which case the limits in parts 7053.0215, subpart 3, and 7053.0225, subpart 5, apply. All effluent limits specified in part 7053.0215, subpart 1, are also applicable to dischargers of sewage to limited resource value waters, provided that toxic or corrosive pollutants are limited to the extent necessary to protect the designated uses of the receiving water or affected downstream waters.

Subp. 2. **Alternative secondary treatment effluent limits.** The agency shall allow treatment works to be constructed or operated to produce effluents to limited resource value waters at levels up to those stated in part 7053.0215, 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 limits established by this part, the quality of limited resource value waters must not allow a violation of applicable water quality standards in waters of the state that 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 7050.0140, subpart 8, and 7050.0400 to 7050.0470, does not supersede, alter, or replace the classification and designation of such waters as public waters pursuant to *Minnesota Statutes*, chapter 103G.

7053.0255 PHOSPHORUS EFFLUENT LIMITS FOR POINT SOURCE DISCHARGES OF SEWAGE, INDUSTRIAL, AND OTHER WASTES.

Subpart 1. **Scope.** The phosphorus effluent limits in this part are in addition to the effluent limits specified elsewhere in this chapter. In the event of any conflict between this part and other applicable regulations, the more stringent requirement applies.

Subp. 2. **Definitions.** For the purposes of this part, the following definitions apply. Other relevant definitions are found in part 7050.0150, subpart 4.

A. "122-day ten-year low flow" or "$122Q_{10}$" means the lowest average 122-day flow with a once in ten-year recurrence interval. A $122Q_{10}$ is derived using the same methods used to derive a $7Q_{10}$, and the guidelines regarding period of record for flow data and estimating a $7\text{-}Q_{10}$ apply equally to determining a $122Q_{10}$ as described in part 7053.0135, subpart 3.

B. "Affects" means a measurable increase in the adverse effects of phosphorus loading as determined by monitoring or modeling, including, but not limited to, an increase in chlorophyll-a concentrations, a decrease in water transparency, or an increase in the frequency or duration of nuisance algae blooms, from an individual point source discharge.

C. "Expanded discharge" means a disposal system that after May 1, 2008, discharges more than 1,800 pounds of total phosphorus per year to a surface water on an annual average basis, and increases in wastewater treatment capacity as indicated by an increase in the:

(1) design average wet weather flow for the wettest 30day period for point source dischargers of sewage with a continuous discharge, typically a mechanical facility;

(2) design average wet weather flow for the wettest 180-day period for point source dischargers of sewage with a controlled discharge, typically a pond facility; or

(3) design average daily flow rate for dischargers of industrial or other wastes.

D. "Lake" means an enclosed basin filled or partially filled with standing fresh water with a maximum depth greater than 15 feet. Lakes may have no inlet or outlet, an inlet or outlet, or both an inlet and outlet.

E. "Measurable increase" or "measurable impact" means a change in trophic status that can be discerned above the normal variability in water quality data using a weight of evidence approach. The change in trophic status does not require a demonstration of statistical significance to be considered measurable. Mathematical models may be used as a tool in the data analysis to help predict changes in trophic status.

F. "New discharge" means a discharge that was not in existence before May 1, 2008, and discharges more than 1,800 pounds of total phosphorus per year.

G. "Reservoir" means a body of water in a natural or artificial basin or water course where the outlet or flow is artificially controlled by a structure such as a dam. Reservoirs are distinguished from river systems by having a hydraulic residence time of at least 14 days. For purposes of this item, residence time is determined using a flow equal to the $122Q_{10}$ for the months of June through September, a $122Q_{10}$ for the summer months.

H. "Shallow lake" means an enclosed basin filled or partially filled with standing fresh water with a maximum depth of 15 feet or less or with 80 percent or more of the lake area shallow enough to support emergent and submerged rooted aquatic plants (the littoral zone). It is uncommon for shallow lakes to thermally stratify during the summer. The quality of shallow lakes will permit the propagation and maintenance of a healthy indigenous aquatic community, and they will be suitable for boating and other forms of aquatic recreation for which they may be usable. For purposes of this chapter, shallow lakes will be differentiated from wetlands and lakes on a case-by-case basis. Wetlands are defined in part 7050.0186, subpart 1a.

Subp. 3. **Total phosphorus effluent limits.**

A. Phosphorus removal to one milligram per liter is required when subitem (1), (2), or (3) applies:

(1) the discharge of effluent is directly to or affects a lake, shallow lake, or reservoir;

(2) the discharge is to the specific basins and water bodies designated in subpart 5; or

(3) the discharge is new or expanded as defined in subpart 2, except when the discharger can demonstrate to the commissioner that the discharger qualifies for an alternative phosphorus limit as provided in subpart 4.

B. If a phosphorus effluent limit is required under item A, removal of nutrients from all wastes must 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 under this part are subject to the variance provisions of parts 7000.7000 and 7053.0195.

Subp. 4. **Alternative phosphorus effluent limits for new or expanded discharges.** New or expanded discharges subject to a one milligram per liter phosphorus effluent limit in subpart 3, item A, subitem (3), may request an alternative limit or no limit if one or more of items A to C apply. New or expanded discharges are defined in subpart 2. The exemptions in this subpart do not apply to facilities that discharge directly to or affect a lake, shallow lake, or reservoir or to discharges to the waters listed in subpart 5. Dischargers seeking an alternative limit due to very high per capita treatment costs or economic hardship must apply for a variance under parts 7000.7000 and 7053.0195.

The information submitted to the commissioner for consideration of an alternative limit must include, at a minimum, a description of the treatment technology used, influent and effluent total phosphorus concentrations, a phosphorus management plan for the facility, descriptions of any measures already taken to reduce phosphorus sources to the facility, and expected reductions in phosphorus concentrations following implementation of the phosphorus management plan. The discharger may qualify for an alternative total phosphorus limit or no limit if it can demonstrate:

A. the discharge is to or upstream of a water body listed on the applicable impaired water list, section 303(d) of the Clean Water Act, and the total maximum daily load study is complete and approved by the United States Environmental Protection Agency at the time the new or expanding facility is in the planning and design phase. The total maximum daily load study must have considered impacts from phosphorus loading on the impaired water body. In this case, the total maximum daily load study will determine the applicable phosphorus effluent limit;

B. the environmental benefits to be achieved by meeting a phosphorus limit are outweighed or negated by the environmental harm caused by meeting a limit; or

C. the treatment works, regardless of the type of treatment technology, must use chemical addition to achieve compliance with the one milligram per liter limit and the discharge is to a receiving stream in a watershed listed in subitems (1) to (3). In this case the discharger may be granted a seasonal one milligram per liter limit, applicable from May 1 through September 30 and not applicable from October 1 through April 30:

(1) the lower Mississippi River and its tributaries from the mouth of the Chippewa River in Wisconsin to the Minnesota border;

(2) the Bois de Sioux and Red Rivers and their tributaries from the southern end of Lake Traverse at Browns Valley to the Canadian border; and

(3) the Missouri, Des Moines, and Cedar Rivers and their tributaries in Minnesota.

Subp. 5. **Designated waters.** The one milligram per liter phosphorus limit established in subpart 3 applies to the waters designated in items A to F.

A. All intrastate waters lying within the drainage basin of Lake Superior in the counties of Aitkin, Carlton, Cook, Itasca, Lake, Pine, and St. Louis (Townships 45 to 65 North, Ranges 7 East to 23 West).

B. The interstate waters of Lake St. Croix in Washington County (Townships 26 to 30 North, Range 20 West).

C. The St. Louis River from its source at Seven Beaver Lake (Township 58 North, Range 12 West) to and including St. Louis Bay (Townships 49 and 50 North, Ranges 14 and 15 West) and Superior Bay (Townships 49 and 50 North, Ranges 13 and 14 West).

D. The Mississippi River from its source to the Blandin Dam at the outlet of Paper Mill Reservoir in the city of Grand Rapids approximately 400 feet upstream from the bridge on U.S. Highway 169 including Lake Andrusia (Township 146 North, Range 31 West), Lake Bemidji (Townships 146 and 147 North, Range 33 West), Cass Lake (Townships 145 and 146 North, Ranges 30 and 31 West), Lake Itasca (Township 143 North, Range 36 West), Pokegama Lake (Townships 54 and 55 North, Ranges 25 and 26 West), and Winnibigoshish Lake (Townships 145, 146, and 147 North, Ranges 27, 28, and 29 West).

E. The Little Minnesota River and Big Stone Lake from the South Dakota border crossing to the outlet of Big Stone Lake at the dam immediately upstream from the U.S. Highway 12 bridge in Ortonville.

F. Albert Lea Lake (Township 102 North, Ranges 20 and 21 West) in Freeborn County.

Subp. 6. **Averaging period for phosphorus limit.** The phosphorus limit required under subpart 3 must be a calendar month arithmetic mean unless the commissioner finds, after considering the criteria listed in items A and B, that a different averaging period is acceptable. In no case shall the one milligram per liter limit exceed a moving mean of 12 monthly values reported on a monthly basis or a simple mean for a specified period, not to exceed 12 months. Calendar month effluent limits in effect as of February 7, 2000, must remain in effect unless an assessment of the criteria listed in items A and B indicate a different averaging period is acceptable. An averaging period other than monthly is acceptable when:

A. there is no measurable or predictable difference in the adverse effects of the phosphorus loading from the facility on the receiving water or downstream water resources compared to the loading that would result using a 30-day average limit; and

B. the treatment technologies being considered offer environmental, financial, or other benefits.

7053.0265 DISCHARGE RESTRICTIONS APPLICABLE TO MISSISSIPPI RIVER FROM RUM RIVER TO ST. ANTHONY FALLS.

Subpart 1. **Scope and beneficial uses.** The restrictions on discharges specified in this part are applicable to that portion of the Mississippi River from, but not including, the mouth of the Rum River to the upper lock and dam at St. Anthony Falls, approximately at the northeastward extension of Fifth Avenue South in the city of Minneapolis, and tributary streams. The primary use of these waters is as a source of public water supply for drinking, food processing, and related purposes. Other uses applicable to these waters are defined in parts 7050.0410, 7050.0430, and 7050.0470, subpart 4.

Subp. 2. **Discharges prohibited.** Discharges listed in items A to C are prohibited to the waters defined in subpart 1.

A. Raw sewage and industrial waste or other wastes, treated or untreated, containing viable pathogenic organisms or any substances that may cause disease, endanger the public health, or otherwise impair the quality of the receiving waters for public water supply.

B. Treated sewage effluent from any source, including, without limitation, discharges from watercraft.

C. Treated sewage, industrial waste, or other wastes so as to cause any material increase in taste, odor, color, or turbidity above natural levels or otherwise to impair the quality of the water so as to render it objectionable or unsuitable as a source of water supply.

Subp. 3. **Variance.** The variance provisions of parts 7000.7000 and 7053.0195 are applicable to this part.

7053.0275 ANTIBACKSLIDING.

Subpart 1. **Antibacksliding applies.** Any point source discharger of sewage, industrial, or other wastes for which a national pollutant discharge elimination system permit has been issued by the agency that contains effluent limits more stringent than those that would be established by parts 7053.0215 to 7053.0265 shall continue to meet the effluent limits established by the permit, unless the permittee establishes that less stringent effluent limits are allowable pursuant to federal law, under section 402(o) of the Clean Water Act, *United States Code*, title 33, section 1342.

Subp. 2. **Less stringent effluent limits.** If a permittee establishes that it is entitled to less stringent effluent limits under subpart 1, the agency shall establish new effluent limits according to the criteria in items A to F.

A. If past treatment performance data are representative of future performance, the new effluent limits must reflect the level of pollutant control that has been consistently achieved by the permittee in the past.

B. 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 limits, the agency shall consider:

(1) the performance capabilities of the existing treatment facility under the changed factors; and

(2) 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 limits must 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.

C. The new effluent limits must reflect the performance capabilities of all treatment facilities under proper operation and maintenance practices.

D. In no event may the new effluent limits be less stringent than the effluent limits established under parts 7053.0215 to 7053.0265.

E. In all cases, the beneficial uses and the water quality standards in chapters 7050 and 7052 must be maintained in the receiving water.

F. If less stringent effluent limits 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 limits in a permit shall be made according to 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 limits.

7053.0305 REQUIREMENTS FOR ANIMAL FEEDLOTS.

Subpart 1. **Definitions.** For purposes of this part, the terms in items A to D 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 21, 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 limits 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 7053.0225, subpart 1, shall comply with the following limits after allowance for pollutant removal by

a treatment works:

Pollutant	Limiting Concentration
Five-day biochemical oxygen demand	25 mg/L (arithmetic mean of all samples taken during any calendar month)

If the discharge is directly to or affects a lake, shallow lake, or reservoir, or to the waters listed in part 7053.0255, subpart 5, the person discharging the pollutants shall comply with the nutrient control requirements in part 7053.0255, subpart 3, items A and B. Feedlots are not considered new or expanded discharges as defined in part 7053.0255, subpart 2.

B. The effluent limits 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 limits 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.

7053.0405 REQUIREMENTS FOR AQUACULTURE FACILITIES.

Subpart 1. **Definitions.** For purposes of this part, the terms in items A to J have the meanings given them.

A. "Aquaculture therapeutics" means drugs, medications, or disease control chemicals that are approved for concentrated aquatic animal production facility use by the United States Food and Drug Administration or the United States Environmental Protection Agency.

B. "Aquatic animal production" means harvest of unprocessed aquatic animals, including mortalities, where the animals are fed fish food.

C. "Chemical additive" means an aquaculture therapeutic, growth-inducing compound, hormone, or algal control product that is added to a concentrated aquatic animal production facility.

D. "Cold water aquatic animals" means aquatic animals in the Salmonidae family of fish, such as trout and salmon.

E. "Concentrated aquatic animal production facility" means a hatchery, fish farm, or other facility that contains, grows, or holds aquatic animals as described in subitems (1) to (4).

(1) Cold water aquatic animal facilities that produce more that 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year or feed more than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding.

(2) Warm and cool water aquatic animal facilities that produce more than 45,454 harvest weight kilograms (approximately 100,000 pounds) of aquatic animals per year.

(3) Case-by-case designation of concentrated aquatic animal production facilities. The commissioner may designate any warm, cool, or cold water aquatic animal production facility as a concentrated aquatic animal facility upon determining that it may cause a violation of an applicable state or federal water quality rule or regulation. In making this designation, the commissioner shall consider the following factors:

(a) the location and quality of the receiving waters;

(b) the holding, feeding, and production capacities of the facility; and

(c) the quantity and nature of the pollutants reaching waters of the state.

A permit application is not required from a concentrated aquatic animal production facility designated under this item until the commissioner has conducted an on-site inspection of the facility and has determined that the facility is required to be regulated under the permit program. A permit is required under this subitem only after the facility has been given notice of the commissioner's determination and an opportunity to request a hearing as provided in part 7000.1800.

(4) Harvest weight is considered the weight of aquatic animal product that leaves a production facility, minus the weight of aquatic animal product that enters the same production facility.

F. "Continuous discharge" means a discharge that occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

G. "Existing beneficial uses" means the uses that have been made or may be reasonably anticipated to be made during the time of the proposed operations of waters of the state for domestic water supply, tourism and recreational industries, transportation, industrial consumption, wellhead protection, wildlife sustenance, wetland protection, fire protection, fire prevention, or other uses within this state, and, at the discretion of the agency, any uses in another state or interstate waters flowing through or originating in this state.

H. "Fish food" means materials including processed feeds, grains and seeds, plants, plant wastes, meat, and dead fish or other dead animal parts, but not including living aquatic animals, for the purposes of sustaining growth, repairing vital processes, or furnishing energy for aquatic animals present in the facility.

I. "Recirculating flow" means wastewater, within a concentrated aquatic animal production facility, that is collected from aquatic animal rearing units, treated, and then returned to aquatic animal rearing units for reuse.

J. "Warm and cool water aquatic animals" means all other aquatic animals not included in the Salmonidae family of fish.

Subp. 2. **Permit required.** No person may construct, operate, or maintain a concentrated aquatic animal production facility until the agency has issued a national pollutant discharge elimination system and state disposal system (NPDES/SDS) permit for the facility according to chapter 7001. Production levels of multiple projects and multiple stages of a single project that are connected actions or phased actions shall be considered in total under subpart 1, item E.

Subp. 3. **Treatment technology discharge requirements.**

A. All concentrated aquatic animal production facilities shall collect, remove, treat, and properly dispose of unconsumed fish food and fish wastes.

B. All concentrated aquatic animal production facilities that discharge industrial or other wastes to waters of the state shall comply with the requirements of parts 7053.0225, subparts 1, 3, 4, and 5, and 7053.0275.

C. The owner or operator of a recirculating flow facility may apply for a variance from the requirements of item B according to parts 7000.7000 and 7053.0195. The variance application must provide detailed information on:

(1) the treatment, collection, removal, and disposal of wastes after wastewater flow leaves aquatic animal rearing units and before the wastewater is returned for reuse to rearing units;

(2) the rate of wastewater discharge flow compared to the volume of water in the aquatic animal rearing units;

(3) the reduction in the mass discharge of pollutants due to the design, operation, and maintenance of the recirculating system; and

(4) the reduction in water appropriation due to the design, operation, and maintenance of the recirculating system.

Subp. 4. **Additional requirements.** Except as expressly excluded in this part, the construction, operation, and maintenance of a concentrated aquatic animal production facility shall comply with the requirements of this chapter and chapters 7050 and 7052.

Subp. 5. **Interim reversible impacts.**

A. Upon application of the responsible person or persons and according to parts 7000.7000 and 7053.0195, the agency shall grant a variance from subpart 3, item A or B, if the agency also finds that:

(1) the construction, operation, and maintenance of the facility will not impair the existing beneficial uses and the level of water quality necessary to protect the existing beneficial uses;

(2) the economic or social development of concern will not occur due to the standards in subpart 3;

(3) allowing lower water quality is necessary to accommodate important economic or social development in the area in which the receiving waters are located;

(4) the baseline quality of the receiving waters has been established according to item C;

(5) a closure plan for the facility has been submitted according to item E;

(6) financial assurance for the facility has been established and maintained according to item F;

(7) the applicant has submitted a permit application for the facility for which the variance is sought in compliance with subpart 2;

(8) the applicant has submitted a completed variance application according to item B; and

(9) the receiving waters will be restored to baseline quality within three years of initiation of closure.

However, no variances may be granted that would result in noncompliance with applicable federal rules, regulations, or standards for water quality.

B. In addition to the requirements of part 7000.7000, subpart 2, the written application for a variance must contain:

(1) the baseline quality data of the receiving waters collected under commissioner-approved protocol according to item C;

(2) the closure plan according to item E; and

(3) an up-to-date closure cost estimate for the facility prepared under item E and evidence of the financial assurance required in item F.

C. Baseline quality must be established by no less than two consecutive years, or equivalent, of preoperational data on the receiving waters. The equivalent testing program must require 12 sampling events for the parameters in item E collected during the months of May through October. Testing programs used to establish baseline quality must be reviewed and approved by the commissioner before the start of testing. The commissioner shall supply the specific intra-year and inter-year variables.

D. If a variance is granted under item A, the permittee shall restore the receiving waters to baseline quality when:

(1) aquatic animal production from the facility ceases;

(2) any of the limiting concentrations in item G are exceeded;

(3) the permit for the facility expires and reissuance of the permit is not applied for or is applied for and denied;

(4) the permit for the facility is revoked;

(5) an agency order to cease operation is issued; or

(6) the required financial assurance under item F for closure, postclosure monitoring, or corrective actions is not maintained with the proper payment or substitute instrument.

E. The applicant shall submit a closure plan with the variance application. The closure plan shall demonstrate financial assurance under item F for closure, postclosure monitoring, and corrective actions for restoration of the receiving waters to baseline quality and shall describe the methods and processes that will be implemented to restore the receiving waters to baseline quality within three years of initiation of closure. The demonstration must show that no additional restoration is needed beyond three years. Restoration to baseline quality of the following parameters is required: dissolved oxygen, total phosphorus, and chlorophyll-a. Restoration to the baseline quality level means that the mean postclosure baseline quality levels are not significantly different, as determined with the appropriate statistical test, from the mean preoperational baseline quality level.

F. The applicant shall submit to the commissioner, for review and approval, a closure, postclosure monitoring, and corrective action cost estimate and evidence of financial assurance, prepared according to parts 7035.2685 to 7035.2805.

G. The following limiting concentrations are established to prevent irreversible pollution and to protect the existing beneficial uses and apply to the receiving waters at all times:

Characteristic or Pollutant	Limiting Concentration or Range
Total organic carbon	5 mg/L*
Nitrate nitrogen	10 mg/L instantaneous value**
Chlorophyll-a	30 m\ag/L***
Dissolved oxygen	Not less than 3 mg/L in the bottom half of the hypolimnion and 5 mg/L in the upper half of the hypolimnion, instantaneous value****

* Annual mean.

** "Instantaneous value" means the concentration in one sample.

*** Monthly mean (May through September).

**** If the baseline monitoring shows that the preoperational oxygen concentration for the same time of the year is less than three milligrams per liter for the bottom half of the hypolimnion and five milligrams per liter for the upper half, there may be no further reduction of the preoperational oxygen concentrations. If the baseline quality of a pollutant is greater than the limiting concentration, or less in the case of dissolved oxygen, the baseline quality of the pollutant must be used as the limiting concentration.

Subp. 6. **Special conditions.**

A. In addition to the requirements for monitoring, testing, and reporting under part 7001.0150, subpart 2, item B, the permittee shall report the aquatic animal production and amount of fish food used. The commissioner may require the permittee to monitor receiving waters to determine natural background levels and baseline quality and to determine compliance with state and federal antidegradation and water quality standard requirements. The monitoring shall consider natural seasonal and year-to-year variations in background levels and baseline quality.

B. The permittee shall transport aquatic animal mortalities for rendering or disposal at a land-based facility. Aquatic animal mortalities shall not be disposed of in waters of the state. The permittee shall prevent blood produced through harvest of aquatic animals from entering waters of the state untreated. The blood generated shall be transported to a land-based rendering or disposal facility approved by the commissioner or discharged to a publicly owned treatment works according to the applicable publicly owned treatment works national pollutant discharge elimination system or state disposal system (NPDES/SDS) permit.

C. The permittee shall maintain an operation record book of daily operations and other occurrences that may affect water quality including addition of fish food, composition of fish food, aquatic animal transfers and harvests, cleaning, mortalities, major weather events, and power failures. The operation record book must be available at all times for inspection and copying by the commissioner.

D. The permittee shall submit an annual report to the commissioner. The report shall include:

(1) a general description of the operations conducted for the past calendar year;

(2) a summary of the monitoring data;

(3) the mass of aquatic animals currently at the facility;

(4) aquatic animal production at the facility for the past calendar year;

(5) methods, amounts, and locations of the removal and disposal of waste fish food, filter backwash, sludges, sediments, mortalities, and other accumulated solids generated at the facility; and

(6) proposed changes in operation or production for the coming year.

E. The discharge of water treatment and chemical additives must comply with parts 7050.0218 and 7050.0221 to 7050.0227.

REPEALER. *Minnesota Rules*, parts 7050.0200; 7050.0210, subparts 1, 3, 9, 10, 12, 13a, 15, 17, and 18; 7050.0211; 7050.0212; 7050.0213; 7050.0214; 7050.0215; 7050.0216; 7050.0221, subpart 5; 7050.0222, subpart 8; 7056.0010; 7056.0020; 7056.0030; 7056.0040; 7065.0010; 7065.0020; 7065.0030; 7065.0040; 7065.0050; 7065.0060; 7065.0070; 7065.0100; 7065.0110; 7065.0120; 7065.0130; 7065.0140; 7065.0150; 7065.0160; 7065.0200; 7065.0210; 7065.0220; 7065.0230; 7065.0240; 7065.0250; and 7065.0260, are repealed.

Commissioners' Orders

Various agency commissioners are authorized to issue "commissioner's orders" on specified activities governed by their agency's enabling laws. See the *Minnesota Statutes* governing each agency to determine the specific applicable statutes. Commissioners' orders are approved by assistant attorneys general as to form and execution and published in the *State Register*. These commissioners orders are compiled in the year-end subject matter index for each volume of the *State Register*.

Department of Natural Resources

Order #1 - Establish Permit Fees to Conduct Fishing Contests

Pursuant to the provisions of *Minnesota Statues*, section 97C.081, subdivision 3 as amended by *Laws of 2007*, Chapter 57, Article 1, Section 101, the following permit fees are prescribed by the Commissioner of the Minnesota Department of Natural Resources for permitted fishing contests.

1) $120 for an open water contest not exceeding 100 participants and without an off-site weigh-in;
2) $400 for an open water contest with more than 100 participants and without an off-site weigh-in
3) $500 for open water contest not exceeding 100 participants with an off-site weigh-in;
4) $1,000 for an open water contest with more than 100 participants with an off-site weigh-in; or
5) $120 for an ice fishing contest with more than 150 participants.

Permit fees for permitted fishing contests need to be submitted at the time of application to the appropriate Regional Fisheries Office.

Now therefore, it is hereby ordered that the contest fees described above are hereby adopted.

Dated: July 17, 2007

Mark Holton, Commissioner
Department of Natural Resources

Official Notices

Pursuant to *Minnesota Statutes* §§ 14.101, an agency must first solicit comments from the public on the subject matter of a possible rulemaking proposal under active consideration within the agency by publishing a notice in the *State Register* at least 60 days before publication of a notice to adopt or a notice of hearing, and within 60 days of the effective date of any new statutory grant of required rulemaking.

The *State Register* also publishes other official notices of state agencies and non-state agencies, including notices of meetings and matters of public interest.

Office of the Minnesota Attorney General

Meeting Notice for Revisions of "Landlord and Tenants: Rights and Responsibilities"

Pursuant to *Minnesota Statute 504B.275*, the Attorney General's Office will hold a public meeting regarding proposed revisions to its publication entitled "Landlord and Tenants: Rights and Responsibilities." The meeting will be held Monday, August 6, 2007, from 10:00-11:00 a.m., at the second floor of the Bremer Tower, 445 Minnesota Street, St. Paul, MN 55101.

Comments are also welcome by mail, phone or fax. Please contact John Aiken at (651) 296-2622, to request the revised brochure text or to send comments. He will also take comments by fax at (651) 296-9663, or by mail at 1400 Bremer Tower, 445 Minnesota Street, St. Paul, MN 55101.

Minnesota Department of Health

Notice of Meeting of the Health Care Transformation Task Force July 30, 2007

NOTICE IS HEREBY GIVEN that the first meeting of the Health Care Transformation Task Force will take place on Monday, July 30, 2007. The meeting will take place from 9:30 a.m. to 4:00 p.m. at the Minnesota Department of Health, 625 Robert Street N., Saint Paul.

For more information contact:

Julie Kamrath
Division of Health Policy
Minnesota Department of Health
(651) 201-3550

Department of Human Services

Health Care Purchasing and Delivery Systems Division

Health Care Administration

Public Notice of Maximum Allowable Costs of Medical Assistance Outpatient Prescribed Drugs

NOTICE IS HEREBY GIVEN to recipients, providers of services, and to the public of additions to the state Medical Assistance maximum allowable cost (state MAC) list for certain outpatient prescribed drugs.

At least once each calendar year, the United States Department of Health and Human Services, Centers for Medicare & Medicaid Services, publishes a federal upper limit (FUL) payment schedule for many commonly prescribed multiple-source drugs. The federal upper limit is set at a rate equal to 150 percent of the published price for the least costly therapeutic equivalent that can be purchased by pharmacists. This FUL payment schedule constitutes the federal MAC list. For many multiple-source drugs that are not on the federal MAC list, the Department establishes a state MAC list. Additionally, the Department imposes a state MAC for many multiple-source drugs that are on the federal MAC list, as long as the savings are at least as much as the savings would be using the federal MAC list.

The Department requires Medical Assistance pharmacy providers to submit their usual and customary costs. Pharmacy providers are reimbursed at the lower of: 1) the federal or state MAC, plus a dispensing fee; 2) the submitted usual and customary charge to the general public; or 3) a discount off of average wholesale price, plus a dispensing fee.

On January 13, 2003 at 27 SR 1117-1130, the Department published the MAC list, listing the federal and state MACs. Additional changes to the state MAC list were published on February 18, 2003 (27 SR 1331-1334), March 3, 2003 (27 SR 1386-1393), April 21, 2003 (27 SR 1583-1584), August 4, 2003 (28 SR 102-103), October 13, 2003 (28 SR 505-506), October 20, 2003 (28 SR 528-529), December 15, 2003 (28 SR 784-785), January 26, 2004 (28 SR 934-935), March 8, 2004 (28 SR 1089-1090), April 5, 2004 (28 SR 1232), April 19, 2004 (28 SR 1313-1314), May 3, 2004 (28 SR 1367-1368), August 9, 2004 (29 SR 173), August 23, 2004 (29 SR 224-225), November 8, 2004 (29 SR 510), November 15, 2004 (29 SR 534-535), February 7, 2005 (29 SR 923-924), February 14, 2005 (29 SR 951-952), March 7, 2005 (29 SR 1038-1039), April 11, 2005 (29 SR 1174-1175), June 27, 2005 (29 SR 1607), July 18, 2005 (30 SR 49-50), August 15, 2005 (30 SR 147), August 29, 2005 (30 SR 226-227), October 17, 2005 (30 SR 402-403), November 14, 2005 (30 SR 511-512), December 12, 2005 (30 SR 617-618), January 9, 2006 (30 SR 770-771), January 30, 2006 (30 SR 833), February 13, 2006 (30 SR 884) , February 27, 2006 (30 SR 926-927) March 20, 2006 (30 SR 1006-1007) , April 10, 2006 (30 SR 1109), May 30, 2006 (30 SR 1249-1250), July 31, 2006 (31 SR 138-139), August 21, 2006 (31 SR 268), September 18, 2006 (31 SR 380 - 381), October 2, 2006 (31 SR 474-477), October 16. 2006 (31 SR 519-520), November 6, 2006 (31 SR 614), January 2, 2007 (31 SR 867-868), January 29, 2007 (31 SR 958-959), February 26, 2007 (31 SR 1169-1170), April 23, 2007 (31SR 1444-1445), April 30, 2007 (31 SR 1523) and June 18, 2007 (31 SR 1810-1811).

Effective July 24, 2007 the Department will add the following outpatient prescribed drugs to the state MAC list:

Drug Name	Strength	MAC Price
ONDANSETRON HCL	TA-4MG	$0.805
ONDANSETRON HCL	UL-4MG	$0.704
ONDANSETRON HCL	TA-8MG	$1.229
ONDANSETRON HCL	UL-8MG	$1.001
BUPROPION HCL XL	TI-300MG	$3.600
METOPROLOL SUCCINATE	TI-25MG	$0.710

These additions are made to bring Medical Assistance reimbursement to pharmacists more closely in line with the actual acquisition cost of the drugs listed above. The Department estimates that there will be a state savings of $171,000.00 for State Fiscal Year 2006 (July 1, 2007 through June 30, 2008).

This notice is published pursuant to *Code of Federal Regulations*, Title 42, section 447.205, which requires publication of a notice when there is a rate change in the methods and standards for setting payment rates for Medical Assistance services.

Official Notices

Written comments and requests for information may be sent to Kristin Young, Pharmacy and Program Manager, Health Care Purchasing and Delivery Systems Division, Health Care Administration, Minnesota Department of Human Services, P.O. Box 64984, St. Paul, Minnesota 55164-0984; **phone:** (651) 431-2504 or **email:** *kristen.c.young@state.mn.us*

Department of Labor and Industry

Labor Standards Unit

Notice of Additional Rate to Highway/Heavy Prevailing Wage Rates for Asbestos Abatement Worker in Region 3

An additional rate has been added to the Highway/Heavy Prevailing Wage Rates certified 10/23/06, for Labor Code 435, Asbestos Abatement Worker in Region 3.

Copies may be obtained by writing the Minnesota Department of Labor and Industry, Prevailing Wage Section, 443 Lafayette Road North, St. Paul, Minnesota 55155-4306, or by calling (651) 284-5091, or accessing our web site at *www.doli.state.mn.us*. Charges for the cost of copying and mailing are $.25 per page for the first 100 pages, $.65 per page after that. Make check or money order payable to the State of Minnesota.

Steve Sviggum, Commissioner
Department of Labor and Industry

Metropolitan Airports Commission

Notice of Public Hearing on Draft Reliever Airports Rates and Charges Ordinance

NOTICE IS HEREBY GIVEN that on the 8th day of August, 2007, at 7:00 p.m. at the Thomas Jefferson High School Auditorium, 4001 West 102nd Street, Bloomington, Minnesota, the Metropolitan Airports Commission will hold a public hearing to receive verbal and written testimony relative to proposed amendments to Ordinance No. 101. Ordinance No. 101 sets rents, fees, and other charges for property at the Commission's minor and intermediate use airports.

Copies of the following documents may be obtained at *www.mspairport.com* or by contacting Kelly Ubel at 612-467-0522:

- Draft Reliever Airports Rates and Charges Ordinance
- Ordinance No. 101 (Reliever Airports Rates and Charges Ordinance, effective January 1, 2005)
- Reliever Airports Task Force Report, dated January 10, 2006.

Written comments will be accepted at the public hearing or until 5:00 p.m. on Friday, August 10, 2007 at the following address:

Attn: Reliever Airports Dept.
Metropolitan Airports Commission
General Office
6040 28th Avenue South
Minneapolis, MN 55450-2799

Dated this 18th day of July, 2007.

Mr. Jeffrey W. Hamiel, Executive Director
Metropolitan Airports Commission
6040 - 28th Avenue South
Minneapolis, MN 55450

Metropolitan Council

Notice of Public Meeting on Adoption of New Fee (Direct Connection Application Fee) Tuesday, August 14, 2007, 3:30 p.m.

The Metropolitan Council's Environmental Services staff will conduct a public meeting to provide information and receive public comment on a proposed fee: the Direct Connection Application Fee.

If adopted, the direct connection application fee will reimburse MCES for administrative costs for time spent by MCES staff on a connection request (permitting, reviewing, modifying, drawing and inspecting). This fee will apply when a request is made to connect directly to an MCES interceptor. The fee will be billed to the city or township (the city or township may collect from private parties).

The public meeting will be held:

- 3:30 p.m., Tuesday, August 14, 2007
- Metropolitan Council, Council Chambers
- 390 Robert St. (building on the SE corner of Robert and 6th Street)
- St. Paul, MN 55101

All interested persons are encouraged to attend the meeting and/or offer written comments. Upon request, the Council will provide a reasonable accommodation to persons with disabilities. In addition to speaking at the meeting, comments may be made in the following ways:

- Mail comments to: Dan Schueller, 390 Robert St., St. Paul, MN 55101
- Fax comments to: Dan Schueller at (651) 602-1477
- Send comments electronically to: *data.center@metc.state.mn.us*
- Record comments on the Council's Public Comment Line: (651) 602-1500
- TTY: (651) 291-0904

Comments must be received by: 4:00 p.m., Friday, August 24, 2007.

Minnesota Pollution Control Agency

Municipal Division

Request for Comments on Planned Adoption of Rules Governing Water Quality Trading

Subject of Rules. The Minnesota Pollution Control Agency (Agency) requests comments on its planned development of rules governing Water Quality Trading. The Agency is developing rules intended to authorize water quality trading processes in Minnesota. Rules will be consistent with the United States Environmental Protection Agency's January 13th, 2003, Water Quality Trading Policy and will allow the implementation of flexible market-based solutions intended to accelerate the achievement of water quality goals and other environmental benefits. The Agency will explore options for water quality trading between point sources, between point and non-point sources and between non-point sources.

Persons or Groups Affected. The planned rules will affect many sectors whose activities influence Minnesota's surface water quality and quantity. These are likely to include, but may not be limited to; individuals, companies, public advocacy groups and governmental entities whose interests involve point source discharges, urban, construction, industrial and agricultural stormwater sources, agricultural drainage management, and other activities that influence surface water quality and quantity.

Statutory Authority. *Minnesota Statutes*, section 115.03(1)(e) authorizes the Agency to adopt, issue, reissue, modify, deny, or revoke permits, variances, standards, and rules.

Public Comment. Interested persons or groups may submit comments or information on these planned rule amendments for 60 days

from the date of publication of this Notice. The Agency plans to consult with an advisory committee to comment on the planned rule development. If you are interested in participating in this rule development committee please contact Marco Graziani at the number below.

Rules Drafts. The Agency has not yet prepared a draft of the planned rules, although interested parties may request to be notified when a draft is available by contacting Marco Graziani at the number below.

Agency Contact Person. Written or oral comments, questions or requests to receive a draft of the rule when it has been prepared, and requests for more information on these planned rules should be directed to:

Marco Graziani
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194
Telephone: (651) 296-8632 or
(TTY) (651) 282-5332
E-mail: *marco.graziani@pca.state.mn.us*

Alternative Format. Upon request, this Request for Comments can be made available in an alternative format, such as large print, Braille, or cassette tape. To make such a request, please contact the Agency contact person at the address or telephone number listed above.

NOTE: Comments received in response to this notice will not necessarily be included in the formal rulemaking record submitted to the Administrative Law Judge when a proceeding to adopt rules is started. The Agency is required to submit to the judge only those written comments received in response to the rules after they are proposed. If you submitted comments during the development of the rules and you want to ensure that the Administrative Law Judge reviews the comments, you should resubmit the comments after the rules are formally proposed.

Brad Moore, Commissioner
Pollution Control Agency

State Grants & Loans

In addition to requests by state agencies for technical/professional services (published in the State Contracts Section), the *State Register* also publishes notices about grants and loans available through any agency or branch of state government. Although some grant and loan programs specifically require printing in a statewide publication such as the *State Register*, there is no requirement for publication in the *State Register* itself. Agencies are encouraged to publish grant and loan notices, and to provide financial estimates as eell as sufficient time for interested parties to respond.

Department of Employment and Economic Development
Business and Community Development Division
Request for Proposals for the Development of Entrepreneurs and Small Businesses in Faribault and Martin Counties

The Department of Employment and Economic Development is seeking proposals from eligible organizations for development or continuation of a program to assist in the development of entrepreneurs and small businesses in Faribault County and Martin County in state fiscal years 2008 and 2009.

The department anticipates making a grant contract award of $49,000 in fiscal 2008 to an organization serving Faribault County and a grant contract award of $49,000 in fiscal 2008 to an organization serving Martin County. An additional $49,000 to each awardee will be available in fiscal 2009 contingent on successful delivery of services in fiscal 2008. The department desires work to begin immediately upon execution of the grant contract agreement.

This request does not obligate the department to spend the estimated dollar amount.

The department is authorized to make these awards under 2007 *Minn. Laws* Chap.135, Art. 1, sec. 3, Subd.2(aa).

The full text of this Request for Proposals follows. Questions should be directed to

Charles Schaffer
Small Business Assistance Office
Minnesota Department of Employment and Economic Development
332 Minnesota St., Suite E-200
First National Bank Bldg.
St. Paul, MN 55101
Telephone: (651) 296-0617
E-mail: *charles.schaffer@state.mn.us*

Other department personnel are not allowed to discuss the Request for Proposals with anyone, including responders, before the proposal submission deadline.

Background

The 2007 legislature appropriated to the department funds for grants to two eligible organizations, one to deliver entrepreneurial and small business development services in Faribault County and one to deliver those same services in Martin County. The authorizing legislation requires the grants to be made "to continue or to develop a program" of such entrepreneurial and business development assistance.

$49,000 is available for grants to each organization in each year of the 2008-2009 biennium. Each state grant dollar must be matched with one dollar of non-state funds. Any funds not granted or spent in the first year of the biennium do not cancel but are available in the second year. The department intends to enter into a grant contract agreement with an eligible organization serving Faribault County and another eligible organization serving Martin County for fiscal year 2008 with funding for the second year contingent upon successful delivery of services in fiscal 2008.

Eligible Organizations

Organizations eligible for receipt of these grant funds are: a Minnesota county, city, town or school district; a regional development commission, a Minnesota Institution of higher education as defined in *Minnesota Statutes,* section 136A.28 Subd.6; a Minnesota private

foundation meeting the definition of section 509 of the federal Internal Revenue Code; a non-profit organization organized under Minnesota law and holding tax-exempt status under Internal Revenue Code section 501(c)(3) or section 501(c)(4)(A) or section 501(c)(5). To be eligible an organization must have the county where services will be delivered (Faribault or Martin) in its current service area or must demonstrate its ability to offer services in that county on a regular and continuing basis over the period of the grant.

Scope of Work

The authorizing legislation is silent as to what constitutes the entrepreneur and small business development services to be delivered with grant funds. A major indication of the nature of those services, however, can be obtained by looking at the outcomes required by the authorizing legislation to be reported to the commissioner of the department as part of the grantee's work under the grant. Those are (see also the definitions below in the section on reporting standards):

- the number of businesses served;
- the number of businesses started, stabilized, or expanded;
- the number of jobs created and retained;
- business success rates.

These outcomes require that the grantee be able to offer direct services of business counseling and assistance to entrepreneurs and small businesses in areas like, but not limited to:

- assessment of an individual's knowledge, skills, abilities, temperment, risk tolerance, and other factors to start and successfully operate a small business;
- business feasibility analysis;
- assessment of individual business opportunities;
- business financial analysis;
- business capital needs forecasting and access to capital;
- general marketing and research;
- business specific market plan development;
- business plan development;
- accounting systems, planning and financial controls;
- procedural and regulatory considerations for start up or operations;
- payments and collections;
- technology identification, adoption and use;
- e-commerce;
- personnel hiring and training.

A grantee organization should be able to deliver these kinds of services, though not necessarily all of them.

Use of state grant funds for loans to, grants to, or equity investments in client businesses served by the grantee or other organizations is not an acceptable use of the grant funds.

To ensure adequate breadth and depth of topical expertise necessary for delivery of services, state grant funds may be used for the delivery of services by a grantee's staff or by individual outside consultants retained by the grantee. Grant funds, however, may not be used for services delivered by third-party organizations.

State grant funds must be used by the grantee exclusively for costs of direct service delivery (e.g., personnel costs on an hourly basis and the cost of personnel travel associated with direct service delivery). No grant funds may be used for administrative overhead or indirect costs.

Reporting Standards

The authorizing legislation requires grantees to report to the commissioner by February 1 of the fiscal year in which an organization receives a grant with the information noted above. The department will also require those same data to be reported for the period between February 1 of the fiscal year in which an organization receives a grant and the end of the fiscal year. The following definitions will apply to those reports.

Number of jobs created. This is the number of full-time jobs added on a payroll basis by a client of the grantee in the period between commencement of grantee assistance to the client and the grantee's reporting date.

Number of businesses started. This is the number of businesses, other than business reorganizations and changes in form, that have effected formation under any form of organization allowed by Minnesota law while clients of the grantee in the period between commencement of grantee assistance to the client and the grantee's current reporting date.

Number of businesses stabilized. This is the number of grantee client businesses that have resolved internal and/or external challenges to the client business' existence or growth using grantee assistance and which have emerged as a result of that assistance as a going concern in the period between commencement of the grantee's assistance to the client and the grantee's reporting date.

Number of businesses expanded. This is the number of grantee client businesses that have expanded product lines, markets, production facilities, employment, or other factors of production with positive revenue results using grantee assistance in the period between commencement of the grantee's assistance to the client and the grantee's reporting date.

Business success rate. This is the ratio of the number of grantee assisted businesses that have passed beyond the development stage (as defined by Statement of Financial Accounting Standards No 7) and are going concerns at the close of the grantee's reporting period to the total number of grantee assisted businesses in that reporting period.

Number of customer's served. The terms "customer" and "client" can be used interchangeably to mean a business entity that has received or is receiving grantee services. The number served is the number of customers or clients receiving or having received such services in the grantee's reporting period.

Reporting period. There are two reporting periods: the time period between execution of a grant contract with a grantee and January 31, 2008 and the time period between February 1, 2008 and June 30, 2008.

Reporting date. February 1, 2008 for grantee services delivered between execution of the grant contract and January 31, 2008 and July 1, 2008 for grantee services delivered between February 1, 2008 and June 30, 2008.

Availability of Funds

Payment to the grantee will be made by the state on a reimbursement basis on a schedule to be developed with the grantee.

Effect of Other State Legislation

2007 *Minn. Laws* Chap. 148, Art. 2. Secs. 22 and 23 gave the Department of Administration responsibility for developing a new grants management process to be uniform across all state agencies. The timetable for development of that process is presently unknown as is the possible effect of the new process on existing agreements. In its grant contract agreement with the successful responders to this request for proposals the state will utilize a grant contract agreement containing all of the state's usual contract language as recommended by the Legislative Auditor in his report on state grant administration in January, 2007. Potential respondents unfamiliar with state contract requirements and language are advised to obtain an example from Charles Schaffer at the address and phone number given above.

Proposal Requirements

Each proposal must contain:

· A description of the organization's current structure, goals, resources, and activities with particular emphasis on direct service delivery to entrepreneurs and small businesses of the kinds of services noted in the section above on Scope of Work. This must be provided in sufficient detail and transparency to enable reviewers to understand the amount, kind and quality of services provided.

· A detailed description of the kinds of services the organization proposes to deliver and to what degree of sophistication. Do not simply list the items from the Scope of Work section here without expansion.

· The anticipated proportion of services that will be delivered by staff and by outside consultants and the capabilities of service delivery personnel (current or proposed) who will deliver services. Do not simply attach resumes.

· The actual physical locations where the organization proposes to deliver its services and its schedule for ensuring availability and accessibility of those services to clients. Organizations not located in the target county should demonstrate how they will ensure service delivery in the target county.

· An estimate of the number of clients who can be served based on the anticipated average number of hours of service delivery and the cost of service delivery. That is, how many clients, for how many hours, at what cost.

- The measures and results of any quality assessment done currently by organization for its on-going efforts.
- A proposed budget for the first year of the grant showing the use of both state monies and non-state match in relation to delivery of specific services and the source and amount of non-state match for the full $49,000 first year grant.

Non-state match monies must be committed exclusively to match of the state grant funds.

- A copy of the organizations most recent audited financial statement conducted by an independent auditor.

Successful respondents will be asked to provide other information required by the state, to include – for example- evidence of workers' compensation insurance before any grant contract is executed.

Selection Criteria

Representatives of the Department of Employment and Economic Development will evaluate all responses received by the deadline in the manner noted below in the section on Submitting a Proposal. The evaluation factors are:

- The nature, level, and success of the organization's experience in direct service delivery to entrepreneurs and small businesses;
- The breadth and depth of the organization's proposed services;
- The qualifications of personnel proposed to deliver services under the grant;
- The organization's demonstration of its ability to deliver services at physical locations in the target county at a schedule convenient to entrepreneurs and small businesses;
- Cost detail and the efficiency of proposed efforts.

Submitting a Proposal

All proposals must be received in hard copy (no faxes or emails) not later than 4:30 PM, September 7, 2007 at:

Attention: Charles Schaffer
Minnesota Department of Employment
and Economic Development
First National Bank Bldg.
332 Minnesota St., Suite E200
St. Paul, MN 55101-1351

Submit four copies of the complete proposal sealed in a mailing envelope or package with the respondent's name and address written on the outside. An authorized representative of the organization must sign at least one submitted copy of the proposal in ink.

The Department of Employment and Economic Development anticipates having the grant contracts in place by September 30, 2007.

Department of Employment and Economic Development

Request for Proposals for Grant for Interpreters for Deaf, Hard-of-hearing, and Deaf-blind Regional Transition Program

The Minnesota Department of Employment and Economic Development, Rehabilitation Services is seeking proposals for a grant to provide interpreters for a regional transition program that specializes in providing culturally appropriate transition services leading to employment for deaf, hard-of-hearing, and deaf-blind students receiving services under a special education plan.

Applicants eligible to receive the grant will be intermediate school districts, as defined by *Minnesota Statute* 136D.01 which provide transitional services leading to employment for 18 to 21 year old students who are deaf, hard-of-hearing or deaf-blind.

The Minnesota Department of Employment and Economic Development (DEED) is particularly interested in proposals that provide interpreter services for individuals who are 18 to 21 and entering and maintaining the job market. The initial grant will be for $350,000 and may be renewed.

Proposals must be submitted using DEED proposal document and may not exceed 10 additional narrative pages. Instructions for completing the proposal document begin on page 4. To be considered as a potential vendor, 3 copies of your proposal must be received

no later than 4:30 p.m. on **August 20th**, by John Sherman, Minnesota Department of Employment and Economic Development, 332 Minnesota Street, Suite E200, St. Paul, MN, 55101. If you need copies of the proposal format document, call John Sherman at (651) 297-3380 or **e-mail:** *john.sherman@state.mn.us*

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Health Department

Environmental Health Division

Request for Proposals for Indoor Radon Grant

The Minnesota Department of Health (MDH) has obtained a grant from the U.S. Environmental Protection Agency (EPA) to work on radon-related activities. MDH has elected to distribute some of these monies to local partners through grant contracts. Grants will be awarded in amounts ranging from $3,000 to $15,000.

Applicants must request application packets by contacting Heather Kehn at the address below. The application packet includes a description of application requirements, forms and checklists. Previous applicants are reminded that each new application must be complete and stand on its own merits.

Key Dates:

Proposals must be postmarked by August 24, 2007, or hand delivered or faxed no later than 3:30 p.m. on August 24, 2007. Contracts will be executed October 1, 2007. All grant expenditures must be made and all grant related activities must be completed by September 30, 2008.

Proposals will be accepted for the following:

- Increase the amount of homes with radon reducing features;
- Increase the amount of homes tested and mitigated for radon in Minnesota; and
- Increase the public's knowledge about radon.

In order to fund projects, applicants are required to provide a one-to-one match. One dollar of non-federal money must be spent for each dollar the EPA gives Minnesota organizations. Applicants must demonstrate that they can provide the required match.

Eligible Applicants:

Applicants eligible for this funding include boards of health, county and city governments, universities and colleges, and non-profit organizations.

Eligible Costs:

Personnel, Fringe Benefits, In-state travel, Equipment, Supplies and Contracts

Contact Person:

Heather Kehn
Environmental Health
Indoor Air Unit
625 Robert Street, North
P.O. Box 64975
St. Paul, MN 55164-0975
Phone: (651) 201-4604
Fax: (651) 201-4606
E-mail: *heather.kehn@health.state.mn.us*

State Grants and Loans

Minnesota Department of Health

Office of Rural Health and Primary Care

Request for Proposals: 2007-8 Interconnected Electronic Health Record Grant Program

The Office of Rural Health and Primary Care, Minnesota Department of Health, is soliciting proposals for grants under the authority of *Minnesota Statutes,* Section 144.3345 to support the adoption and use of interoperable electronic health records by health care providers in rural and medically underserved areas of the state that frequently cannot fully afford the investment in health information technology. The grant program goals include adoption and use of electronic health records, as well as health information exchange among different health and health care organizations within a community.

Total Funding: $3.5 million is available for: 1) EHR Readiness Assessment and Planning Grants up to $50,000 or 2) EHR Implementation Grants up to $750,000. A one-to-three match is required; that is, applicants must provide one dollar in the form of cash or in-kind services for every three dollars provided by the grant program.

Eligible applicants:

1) *Community e-health collaboratives.* Two or more health care organizations representing at least two of following types of health care settings: community clinics, rural hospitals, physician clinics located in a community with a population of less than 50,000, nursing facilities, community health boards or boards of health, nonprofit health information exchange organizations; and other providers.

2) *Community clinics* as defined under *Minnesota Statutes,* Section 145.9268, and

3) *Regional or community-based health information exchange organizations* as defined under M.S. 144.291.

To be considered for funding, proposals must be received by **4:30 p.m., Tuesday, September 4, 2007,** at the Minnesota Department of Health, Office of Rural Health and Primary Care, Attn: Karen Welle.

By mail: P.O. Box 64882, St. Paul, MN 55164-0882.

By courier: 85 East Seventh Place, Suite 220, St. Paul, MN, 55101.

Late proposals will not be considered.

The full Request for Proposals and application forms are available at: *http://www.health.state.mn.us/divs/cfh/orhpc/grant/home.htm* or *www.health.state.mn.us/e-health*

For more information contact Karen Welle at (651) 201-3865 or *karen.welle@health.state.mn.us*

Minnesota Office of Higher Education

Request for Proposals for Grant Funding under the Intervention for College Attendance Program (ICAP)

The Office of Higher Education requests proposals from postsecondary institutions, professional organizations, community-based organizations or other nonprofits for provision of outreach services that foster postsecondary attendance and retention by Minnesota's historically underserved students in grades six through 12 and historically underrepresented college students.

ICAP grants will support programs that provide outreach services including, but not limited to: academic counseling, mentoring, fostering and improving parental involvement in planning and facilitating a college education, services for students with English as a second language, academic enrichment activities, tutoring, career awareness and exploration, orientation to college life, assistance with high school course selection and information about college admission requirements, and financial aid counseling.

For each year of the 2008-2009 biennium, $696,000 is available to support grant activities.

The Request for Proposals is available on the agency's website at: *http://www.ohe.state.mn.us*. Click on News and then click the Request for Proposals page. In addition, the documents may be obtained by contacting:

Nancy B. Walters, Ph.D., Program Manager
Office of Higher Education
1450 Energy Park Drive, Suite 350
St. Paul, MN 55108-5227
Phone: (651) 259-3907
Fax: (651) 642-0675
E-mail: *nancy.walters@state.mn.us*

Proposals must be delivered by 4:00 p.m., Wednesday, September 19, 2007. Faxed or e-mailed proposals will not be accepted.

State Contracts

Informal Solicitations: Informal soliciations for professional/technical (consultant) contracts valued at over $5,000 through $50,000, may either be published in the *State Register* or posted on the Department of Administration, Materials Management Division's (MMD) Web site. Interested vendors are encouraged to monitor the P/T Contract Section of the MMD Web site at *www.mmd.admin.state.mn.us* for informal solicitation announcements.

Formal Solicitations: Department of Administration procedures require that formal soliciations (announcements for contracts with an estimated value over $50,000) for professional/technical contracts must be published in the *State Register*. Certain quasi-state agency and Minnesota State College and University institutions are exempt from these requirements.

Requirements: There are no statutes or rules requiring contracts to be advertised for any specific length of time, but the Materials Management Division strongly recommends meeting the following requirements:

$0 - $5000 does not need to be advertised. Contact the Materials Management Division: (651) 296-2600
$5,000 - $25,000 should be advertised in the *State Register* for a period of at least seven calendar days;
$25,000 - $50,000 should be advertised in the *State Register* for a period of at least 14 calendar days; and
anything above $50,000 should be advertised in the *State Register* for a minimum of at least 21 calendar days

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State Contracts

Minnesota State Colleges and Universities

Lake Superior College

Sealed Bids Will Be Taken for Parking Lot Paving

Sealed Bids will be taken for Parking Lot Paving at Lake Superior College's Emergency Response Training Center, 1501 Highway 23, Duluth Minnesota 55808.

Will be received by: Attn: Peter Marthaler for Lake Superior College
Krech Ojard & Assoc
227 West First Str, Suite 200
Duluth Minnesota 55802

Until 12:00 PM (NOON), local time, Thursday, August 2, 2007 at which time the bids will be opened and publicly read aloud.

Project scope: Grade existing gravel parking lot to drain as per proposed contours. Grading to be done with existing in-place Class-5, as well as approximately 20 c.y. Class 5, stocked piled on site. Place 4,305 s.y. of 2" MVNW bituminous as per plan. Place 4305 s.y. of 1 1/2" MVWE bituminous as per plan. Construct 320 I.f. of bituminous curb. Construct 57 s.y. of rip rap Class II with geotextile.

Bidding Documents as prepared by the Project Architect/Engineer; Krech Ojard & Assoc, are on file at the offices of the:

1. above named Project Architect/Engineer: Krech Ojard & Assoc., 227 W First Street, Suite 200, Duluth Minnesota 55802

2. also at the following Builders' Exchange,

Duluth Builders' Exchange,
802 Garfield Ave
Duluth MN 55802

St. Paul Builders' Exchange
445 Farrington Street
St. Paul MN 55103

Minneapolis Builders' Exchange
1123 Glenwood Ave
Minneapolis MN 55405

McGraw Hill Construction Plan Room
4530 W 77th Street, Suite 350
Edina MN 55435

MAMC (National Assoc of Minority Contractors of Upper Midwest)
2781 Freeway Blvd, #100
Brooklyn Center, MN 55430

Minnesota State Colleges and Universities

Metropolitan State University

Notice of Availability of Request for Proposal (RFP) for Owner's Representative for Metropolitan State University Classroom/Office Center Addition

The State of Minnesota, acting through its Board of Trustees of the Minnesota State Colleges and Universities, on behalf of Metropolitan State University, is soliciting proposals from interested, qualified consultants for Owner's Representative services for the above referenced project.

A full Request for Proposals is available by contacting Jean Alaspa, Metropolitan State University, *jean.alaspa@metrostate.edu* or (651) 793-1700.

An informational meeting is tentatively scheduled for **10:30 AM**, July 26, 2007 in *Room 301* Founders Hall, Metropolitan State University, 700 East Seventh Street, St. Paul, MN 55106. All firms interested in this meeting should contact, Dan Kirk at (651) 793-1712

or *dan.kirk@metrostate.edu* to sign up to attend the meeting.

Proposals must be delivered to Jean Alaspa, Metropolitan State University, Founders Hall Suite 321, 700 East Seventh Street, St. Paul, MN 55106 not later than 2:00 P.M., Monday, August 6, 2007. Late responses will not be considered.

Minnesota State Colleges and Universities are not obligated to complete the proposed project and reserves the right to cancel the solicitation if it is considered to be in its best interest.

Minnesota State Colleges and Universities
Metropolitan State University
Advertistment for Bids for Monumental Signage and Flagpoles

Sealed Bids for: **MONUMENTAL SIGNAGE & FLAGPOLES**
Metropolitan State University
700 East 7th Street
Saint Paul, Minnesota 55106

will be received by: **Jean Alaspa**
Metropolitan State University
700 East 7th Street
Founders Hall Office 321
St Paul, MN 55106

Until **2:00 PM**, local time**, Wednesday August 08, 2007** at which time the bids will be opened and publicly read aloud.

Project Scope: New cast-in-place concrete, brick and cast stone monumental site sign, 3 new flagpoles, and related lighting and electrical work.

A **mandatory Pre-Bid Meeting** will be held at **2:00 PM, Wednesday August 01, 2007**, in **Room 321, Founders Hall, Metropolitan State University**. The Architect/Engineer and/or College/University Representatives will review the bidding procedures, Bidding Documents and other conditions with interested Bidders and answer questions.

Bidding Documents as prepared by the Project Architect/Engineer; **Bentz/Thompson/Rietow, Inc.**, are on file at the offices of the:

1) following Builders' Exchanges*:* St. Paul, Minneapolis, and St. Cloud
2) McGraw Hill Construction Plan Room
3) Reed Construction Data Plan Room
4) MEDA Minority Contractors Plan Room
5) National Association of Minority Contractors of Upper Midwest

Complete sets only of Bidding Documents for use by Bidders in submitting a bid may be obtained at the following address:

Bentz/Thompson/Rietow
801 Nicollet Mall, Suite 801
Minneapolis, MN 55402
(612) 332-1234

A deposit of **$75.00** is required for each set.

Prospective Bidders requesting that Bidding Documents (complete sets only) be mailed to them, may send a separate non-refundable payment (check made out to the Architect) for **$25.00** per set for shipping & handling (in addition to the **$75.00** deposit) to the Architect.

State Contracts

Documents will be sent to street addresses only (P.O. Boxes not acceptable).

Each bid which totals over $15,000.00 shall be accompanied by a certified check, payable to **Minnesota State Colleges and Universities,** in the sum of not less than 5% of the total base bid; or a corporate surety bond of a surety company duly authorized to do business in the state of Minnesota in the same amount; which is submitted as bid security, conditioned upon the Bidder entering into a contract with Minnesota State Colleges and Universities in accordance with the terms of the bid.

Minnesota State Colleges and Universities
Minneapolis Community & Technical College
Request for Proposals to Provide Electrical Systems Operation and Preventive Maintenance Services

Minneapolis Community & Technical College is requesting proposals to provide **Electrical Systems Operation and Preventive Maintenance Services** at our Main Campus and satellite locations.

Description: The awarded contractor will provide appropriately licensed and qualified building operators to operate and maintain electrical equipment and related systems for the college.

Bid Questions: Roger Broz at 612-659-6800 or
E-mail: *Roger.Broz@minneapolis.edu*

Pre-bid Conference: 10:00am Tuesday July 24, 2007 in Room T 0600 at Minneapolis Community & Technical College.

Deadline for Bids: 2:00pm Tuesday July 31, 2007.

Contact for bid copies
Mary Prozeller -
Minneapolis Community & Technical College
1501 Hennepin Avenue
Minneapolis, MN 55403
Tel: (612) 659-6800
E-mail: *Mary.Prozeller@minneapolis.edu*

Submit Proposals to:
Roger Broz / MCTC Facilities
Room T 0600
1415 Hennepin Ave.
Mpls., MN 55403
Tel: (612) 659-6800

Minnesota State Colleges and Universities (MnSCU)
Rochester Community and Technical College
Notice of Request for Bid for a Equallogic PS 300 E Computer Data Storage Unit - Must Match Existing 3 Units

NOTICE IS HEREBY GIVEN that Rochester Community and Technical College Request for Bid for a computer data storage unit.

To receive a copy of the Bid , send an e-mail to *June.meitzner@roch.edu* or fax your request to (507) 285-7104.

Bids are due back by Monday, August 6, 2007 4:00 P.M. CDT and are to be addressed to June Meitzner, Rochester Community and Technical College, 851 - 30th Ave S.E., Room EA 134, Rochester, MN 55904.

Late responses will not be considered.

Minnesota State Colleges and Universities is not obligated to complete the proposed project and reserves the right to cancel this solicitation.

Minnesota State Colleges and Universities (MnSCU)

St. Cloud Technical College

Call for Bids for 2007 / 08 House Project Building Materials & Cantius House Project Building Materials

NOTICE IS HEREBY GIVEN that sealed bids will be received by the St. Cloud Technical College, St. Cloud, Minnesota, until 2:00 P.M. Central Daylight Time, Monday, August 13, 2007, for the purchase of 2007/08 HOUSE PROJECT BUILDING MATERIALS & CANTIUS HOUSE PROJECT #4 BUILDING MATERIALS according to specifications on file in the Business Office, Room 1-401, St. Cloud Technical College, 1540 Northway Drive, St. Cloud, Minnesota. Each project must be bid separately and marked accordingly. St. Cloud Technical College reserves the right to reject any or all bids, or portions thereof, or to waive any irregularities or informalities, in bid received.

Bids containing any alteration or erasure will be rejected unless initialed as required by law. Bids made in pencil will be rejected. Bids must be signed and dated.

It is understood that this is NOT a Purchase Order but a request for bid.

Specifications may be obtained from the St. Cloud Technical College Business Office, Room 1-401, 1540 Northway Drive, St. Cloud, MN 56301; Telephone: (320) 308-5479.

Minnesota State Colleges and Universities (MnSCU)

St. Cloud Technical College

Request for Bid for Office Furniture System

NOTICE IS HEREBY GIVEN that St. Cloud Technical College will receive bids for an Office Furniture System. Specifications will be available on July 16, 2007, at *http://www.sctc.edu/rfp*. Sealed bids marked "Office Furniture System Bid" must be received by Christine Blommer at St. Cloud Technical College, Room 1-401, 1540 Northway Drive, St. Cloud, MN 56301 by 2:00 PM on July 30, 2007. St. Cloud Technical College reserves the right to reject any or all bids, or portions thereof, or to waive any irregularities or informalities, in the proposal received.

Bids containing any alteration or erasure will be rejected unless initialed as required by law. Bids made in pencil will be rejected. Bids must be signed and dated.

It is understood that this is NOT a Purchase Order but a request for bid.

Questions

All questions and inquires related to this RFB must be in writing and directed to Steve Whipple, Dean of General Education, St. Cloud Technical College, 1540 Northway Drive, St. Cloud, MN 56303, 320-308-5953. Other department personnel are NOT allowed to discuss the RFB with anyone, including responders, before the bid submission deadline.

State Contracts

Minnesota State Colleges and Universities (MnSCU)

St. Cloud Technical College

Request for proposals for Water Filtration Systems

NOTICE IS HEREBY GIVEN that St. Cloud Technical College will receive proposals for the procurement, delivery and installation of WATER FILTRATION SYSTEMS in the Water Environment Technologies lab. The complete Request for Proposal will be available on Monday, July 16, 2007, on the website *http://www.sctc.edu/rfp*.

Proposal responses must be delivered in a sealed envelope or package clearly marked "Water Filtration Systems RFP" to Christine Blommer at St. Cloud Technical College, Room 1-401, 1540 Northway Drive, St. Cloud, MN 56303 by 2:00 p.m. on Friday, August 3, 2007. St. Cloud Technical College reserves the right to reject any or all proposals, or portions thereof, or to waive any irregularities or informalities, in proposals received.

Background/Purpose:

The purpose of this Request for Proposal (RFP) is to evaluate and select a vendor to construct, deliver and install a complete water filtration system at St. Cloud Technical College's Water Environment Technologies lab, located at 1540 Northway Drive, St. Cloud, Minnesota.

Questions:

All questions and inquiries related to this RFP must be in writing and directed to Bruce Peterson, Academic Dean, St. Cloud Technical College, 1540 Northway Drive, St. Cloud, MN 56303, **e-mail:** *bpeterson@sctc.edu*, **phone** (320) 290-2185. Other department personnel are NOT allowed to discuss the Request for Proposal with anyone, including responders, before the proposal submission deadline.

Minnesota State Colleges and Universities

South Central College

Request for Network Based Solution to Stop and Mitigate Malware, Virus and other Threats to Network Devices

South Central College is looking for a network based solution to stop and mitigate malware, virus and other related threats to all connected network devices. The NAC should also provide access control for a wide variety of customers such as students, faculty, staff and guests. The system should address these problems on a wide range of devices including PDA's, laptops, and workstations in addition to multiple operating systems. Sealed bids will be accepted until 1:00 pm on August 6, 2007 at which time bids will be opened. South Central College does reserve the right to reject any or all bids.

Additional technical information in regard to this proposal can be addressed to Mr. John Horton at (507) 389-7371 or Mr. Steve Mills at (507) 387-7330.

If you are interested in bidding on this project, please contact Mr. Doug Midthun for bid forms and guidelines. Mr. Midthun can be reached at (507) 389-7287 or by e-mail at doug.midthun@southcentral.edu.

Department of Commerce

Notice of Availability of Contract for Professional and Technical Services to Support the Department's Energy Facilities Permitting Staff in Preparing Environmental Review Documents

The Minnesota Department of Commerce is requesting proposals for the purpose of providing the Department with any or all aspects of planning, consultation, document preparation, and production required to support preparation of environmental review documents.

Work is proposed to start after September 1, 2007.

A Request for Proposals will be available by e-mail and mail from this office through **August 3, 2007**. **A written request (by e-mail, direct mail, or fax) is required to receive the Request for Proposal.** After **August 3, 2007**, the Request for Proposal must be picked up in person.

The Request for Proposal can be obtained from:

Amy Bicek
Minnesota Department of Commerce
85 Seventh Place E, Suite 500
Saint Paul, MN 55101
Fax: (651) 297-7891
E-mail: *amy.bicek@state.mn.us* (preferred contact method)

Proposals submitted in response to the Request for Proposals in this advertisement must be received at the address above no later than **August 15, 2007,** 4:00 pm CT. **Late proposals will not be considered.** Fax or e-mailed proposals will **not** be considered.

This request does not obligate the State to complete the work contemplated in this notice. The State reserves the right to cancel this solicitation. All expenses incurred in responding to this notice are solely the responsibility of the responder.

Minnesota Department of Education

Request for Proposal for Securing Business Intelligence Tools

NOTICE IS HEREBY GIVEN that the Department of Education is seeking proposals from qualified and experienced vendors for the purpose of securing tools for the process of extracting, transforming and loading data from the Minnesota Department of Education data warehouse and additional business intelligence tools for publishing and analyzing those data. The RFP will be available for release on July 25, 2007.

If you are interested in obtaining this RFP and to ensure you are on the mailing list for future information please submit a request to *oet.rfp@state.mn.us*.

Questions of clarification regarding this RFP must be submitted in writing, via email, by 4:00 PM CDT, on August 3, 2007 to *oet.rfp@state.mn.us.* Vendor proposals are due by 4:00 PM CDT, on August 24, 2007.

State Contracts

Minnesota Historical Society
(On behalf of the Minnesota Sesquicentennial Commission)
Notice of Request for Proposals for Event Producer for the Minnesota Sesquicentennial

The Minnesota Historical Society, on behalf of the Minnesota Sesquicentennial Commission (Commission), is seeking competitive proposals from a qualified Event Producer to manage the Sesquicentennial Statehood Weekend, May 9 through May 11, 2008.

The Event Producer will work closely with the Commission and its staff to plan, produce, and execute all facets of the celebration, including, but not limited to: budget planning; recruiting and selecting vendors, volunteers, and entertainment; and supervising site construction and deconstruction.

The Request for Proposals is available from Mary Green-Toussaint, Purchasing Coordinator, Minnesota Historical Society, 345 Kellogg Boulevard West, Saint Paul, Minnesota 55102. Telephone: 651-259-3175; e-mail: mary.green-toussaint@mnhs.org.

Proposals must be received no later that 2:00 p.m., Local Time, on Tuesday, August 21, 2007. A public bid opening will be conducted at that time. Late proposals will not be accepted.

Dated: July 23, 2007

Minnesota Historical Society
(On behalf of the Minnesota Sesquicentennial Commission)
Notice of Request for Proposals for Merchandise Sales Companies to Supply Minnesota Sesquicentennial Products

The Minnesota Historical Society, on behalf of the Minnesota Sesquicentennial Commission, is seeking competitive proposals from merchandise sales companies who can provide Minnesota Sesquicentennial products for sale during 2008, the 150th anniversary year of Minnesota statehood.

The Request for Proposals is available from Mary Green-Toussaint, Purchasing Coordinator, Minnesota Historical Society, 345 Kellogg Boulevard West, Saint Paul, Minnesota 55102. Telephone: 651-259-3175; e-mail: mary.green-toussaint@mnhs.org.

Proposals must be received no later that 2:00 p.m., Local Time, on Tuesday, August 21, 2007. A public bid opening will be conducted at that time. Late proposals will not be accepted.

Dated: July 23, 2007

Minnesota Historical Society
(On behalf of the Minnesota Sesquicentennial Commission)
Notice of Request for Proposals for Public Relations/Media Consultant on Behalf of the Minnesota Sesquicentennial

The Minnesota Historical Society, on behalf of the Minnesota Sesquicentennial Commission (Commission), is seeking competitive proposals from a qualified public relations/media consultant. The Consultant, working closely with Commission staff and a competitively selected event planner, will plan, produce, and execute all facets of sponsor development, media buys, and placement, and the promotion of Sesquicentennial events through 2008.

The Request for Proposals is available from Mary Green-Toussaint, Purchasing Coordinator, Minnesota Historical Society, 345 Kellogg Boulevard West, Saint Paul, Minnesota 55102. Telephone: 651-259-3175; e-mail: mary.green-toussaint@mnhs.org.

Proposals must be received no later that 2:00 p.m., Local Time, on Tuesday, August 21, 2007. A public bid opening will be conducted at that time. Late proposals will not be accepted.

Dated: July 23, 2007

Department of Human Services

Child Safety and Permanency Division

Notice of Availability of Contract for Child Abuse and Neglect Prevention Statewide Network Support

The Minnesota Department of Human Services is requesting proposals for the purpose of designing, developing and delivering services to increase public awareness, knowledge and engagement in the prevention of child abuse and neglect; building statewide capacity for parent leadership, education and peer support to prevent child abuse and neglect; supporting statewide child abuse and neglect prevention through development and maintenance of website; planning and administration of a statewide child abuse prevention and neglect conference and promotion of child abuse prevention month

Work is proposed to start after October 1, 2007.

A Request for Proposals will be available by mail from this office through August 6, 2007. **A written request (by direct mail or fax) is required to receive the Request for Proposal.** After August 6, 2007 the Request for Proposal must be picked up in person.

The Request for Proposal can be obtained from:

Theresa Davis
Child Safety and Permanency Division
Department of Human Services
P.O. Box 64962
444 Lafayette Road 55164-0962
Fax: (651) 431-3880

Proposals submitted in response to the Request for Proposals in this advertisement must be received at the address above no later than 4 PM August 20, 2007. **Late proposals will not be considered.** Faxed or e-mailed proposals will **NOT** be considered.

This request does not obligate the State to complete the work contemplated in this notice. The State reserves the right to cancel this solicitation. All expenses incurred in responding to this notice are solely the responsibility of the responder.

Minnesota Supreme Court

REQUEST FOR PROPOSAL for Learning Content Management System (LCMS) & Performance Rating Management System (PRMS) – Education and Organization Development & Human Resources

The Minnesota Judicial Branch, State Court Administrator's Office, (State) is using a competitive selection process to select the vendor responsible for implementation of a fully integrated web-based application containing at minimum Learning Content Management System (LCMS) and Performance Rating Management System (PRMS) modules. This is not a bid but a request for a proposal that could become the basis for negotiations leading to a contract with a designated vendor to provide services as described in this document.

Your proposal must be submitted in writing in a sealed envelope to:

Matt Ream, Human Resources Division
State Court Administration
25 Rev. Dr. Martin Luther King Jr. Blvd.
St. Paul, MN 55155

The submission must include 1 paper copies and 1 electronic (PDF) copy. No facsimile submissions will be accepted.

DEADLINE: Proposals must be received no later than 4:00 p.m. local (i.e., St. Paul) time on August 15, 2007**.**

A full Request for Proposal is available on the Minnesota Supreme Court website: *www.courts.state.mn.us*

Department of Transportation (Mn/DOT)

Engineering Services Division

Notice of Potential Availability of Contracting Opportunities for a Variety of Highway Related Technical Activities ("Consultant Pre-Qualification Program")

This document is available in alternative formats for persons with disabilities by calling Brad Hamilton at (651) 366-4626 for persons who are hearing or speech impaired by calling Minnesota Relay Service at (800) 627-3529.

Mn/DOT, worked in conjunction with the Consultant Reform Committee, the American Council of Engineering Companies of Minnesota (ACEC/MN), and the Department of Administration, to develop the Consultant Pre-Qualification Program as a new method of consultant selection. The ultimate goal of the Pre-Qualification Program is to streamline the process of contracting for highway related professional/technical services. Mn/DOT awards most of its consultant contracts for highway-related technical activities using this method, however, Mn/DOT also reserves the right to use Request for Proposal (RFP) or other selection processes for particular projects. Nothing in this solicitation requires Mn/DOT to use the Consultant Pre-Qualification Program.

Mn/DOT is currently requesting applications from consultants. Refer to Mn/DOT's Consultant Services web site, indicated below, to see which highway related professional/technical services are available for application. Applications are accepted on a continual basis. All expenses incurred in responding to this notice will be borne by the responder. Response to this notice becomes public information under the Minnesota Government Data Practices.

Consultant Pre-Qualification Program information, application requirements and applications forms are available on Mn/DOT's Consultant Services web site at: *http://www.dot.state.mn.us/consult*.

Send completed application material to:

Brad Hamilton
Consultant Services
Office of Technical Support
Minnesota Department of Transportation
395 John Ireland Blvd. Mail Stop 680
St. Paul Minnesota 55155

Note: DUE DATE: APPLICATION MATERIAL WILL BE ACCEPTED ON A CONTINUAL BASIS.

Department of Transportation (Mn/DOT)

Engineering Services Division

Notice Concerning Professional/Technical Contract Opportunities

NOTICE TO ALL: The Minnesota Department of Transportation (Mn/DOT) is now placing additional public notices for professional/technical contract opportunities on Mn/DOT's Consultant Services **website** at: *www.dot.state.mn.us/consult.*

New public notices may be added to the website on a daily basis and be available for the time period as indicated within the public notice.

Non-State Bids, Contracts & Grants

The *State Register* also serves as a central marketplace for contracts let out on bid by the public sector. The *State Register* meets state and federal guidelines for statewide circulation of public notices. Any tax-supported institution or government jurisdiction may advertise contracts and requests for proposals from the private sector. It is recommended that contracts and RFPs include the following: 1) name of contact person; 2) institution name, address, and telephone number; 3) brief description of commodity, project or tasks; 4) cost estimate; and 5) final submission date of completed contract proposal. Allow at least three weeks from publication date (four weeks from the date article is submitted for publication). Surveys show that subscribers are interested in hearing about contracts for estimates as low as $1,000. Contact editor for futher details.

Metropolitan Council

INVITATION FOR PREQUALIFICATION for Chanhassen & Empire Hauled Liquid Waste Disposal Sites Improvements

Prequalification Submittal Documents (PSDs) are solicited by the Metropolitan Council ("Council") for the purpose of establishing a list of qualified vendors to supply the Council with Unattended Scale Entry Access System for the Hauled Liquid Water Sites. The Council intends to procure equipment for four (4) unattended entry access systems. The Council intends to use a two-step process to procure these programmable logic controllers. In this first step, vendors are invited to submit PSDs which will be evaluated based upon required specifications. In the second step, the Council will issue an Invitation for Bids only to Vendors whose PSD was determined to be acceptable, either initially or as a result of further discussions and investigation. Bids submitted by Vendors in the second step must be based on the vendor's approved PSD.

Vendors interested in obtaining an Invitation for Prequalification should contact:

Miriam Lopez-Rieth
Administrative Assistant
Metropolitan Council
390 North Robert Street
St. Paul, Minnesota 55101
Phone: (651) 602-1095
Fax: (651) 602-1083
E-mail: *Miriam.lopez-rieth@metc.state.mn.us*

The tentative schedule for this procurement is as follows:

Invitation for Prequalification Issued	**July 23, 2007**
Due date of Prequalification Submittal	**August 10, 2007**
Notification of Successful Prequalification	**August 24, 2007**
Invitation for Bids	**August 30, 2007**
Due Date of Bids	**September 21, 2007**
Award of Contract	**October 2007**
Complete Delivery of Programmable Logic Controllers	**June 2010**

Metropolitan Council

Notice of Request for Proposals (RFP) for Flexible Spending Account Administrator

Contract 07P050

The Metropolitan Council is requesting proposals for Flex Benefits for all employees. The term of the contract will be up to five years. A tentative schedule for the project is as follows:

Issue Request for Proposals	**July 23, 2007**
Receive Proposals	**August 20, 2007**
Contract negotiated, executed, NTP	**October 15, 2007**

All firms interested in being considered for this project and desiring to receive an RFP package are invited to submit a Letter of Interest to:

Miriam Lopez-Rieth, Contracts and Procurement Unit
Metropolitan Council
390 North Robert Street
St. Paul, MN 55101
Phone: (651) 602-1095
Fax: (651) 602-1183
E-mail: *Miriam.Lopez-Rieth@metc.state.mn.us*

Inquiries regarding technical aspects of the project should be directed to Gordon Backlund 651-602-1801.

University of Minnesota

Subscribe to Bid Information Service (BIS)

The University of Minnesota offers 24 hour/day, 7day/week access to all Request for Bids/Proposals through its web-based Bid Information Service (BIS). Subscriptions to BIS are free. Visit our website at *bidinfo.umn.edu* or call the BIS Coordinator at (612) 625-5534.

Request for Bids/Proposals are also available to the public each business day from 8:00 a.m. to 4:30 p.m. in the Purchasing Services lobby, Suite 560, 1300 S. 2nd Street, Minneapolis, Minnesota 55454.

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All-Outdoors Atlas: Central & Northwest Minnesota, Year: 2007, Stock No.12-183, Price:$29.95
All-Outdoors Atlas: Southern Minnesota, Year: 2007, Stock No.12-184, Price:$29.95

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