Water Act (the Act). ''Serve the purposes of the Act'' (as defined in sections 101(a)(2) and 303(c) of the Act) means that water quality standards should, wherever attainable, provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water and take into consideration their use and value of public water supplies, propagation of fish, shellfish, and wildlife, recreation in and on the water, and agricultural, industrial, and other purposes including navigation.

Such standards serve the dual purposes of establishing the water quality goals for a specific water body and serve as the regulatory basis for the establishment of water-quality-based treatment controls and strategies beyond the technology-based levels of treatment required by sections 301(b) and 306 of the Act.

§ 131.3 Definitions.

(a) *The Act* means the Clean Water Act (Pub. L. 92–500, as amended (33 U.S.C. 1251 *et seq.*)).

(b) *Criteria* are elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use.

(c) *Section 304(a) criteria* are developed by EPA under authority of section 304(a) of the Act based on the latest scientific information on the relationship that the effect of a constituent concentration has on particular aquatic species and/or human health. This information is issued periodically to the States as guidance for use in developing criteria.

(d) *Toxic pollutants* are those pollutants listed by the Administrator under section 307(a) of the Act.

(e) *Existing uses* are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.

(f) *Designated uses* are those uses specified in water quality standards for each water body or segment whether or not they are being attained.

(g) *Use attainability analysis* is a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in § 131.10(g).

(h) *Water quality limited segment* means any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology-bases effluent limitations required by sections 301(b) and 306 of the Act.

(i) *Water quality standards* are provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.

(j) *States* include: The 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, and Indian Tribes that EPA determines to be eligible for purposes of water quality standards program.

(k) *Federal Indian Reservation*, *Indian Reservation*, or *Reservation* means all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation.''

(l) *Indian Tribe* or *Tribe* means any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation.

[48 FR 51405, Nov. 8, 1983, as amended at 56 FR 64893, Dec. 12, 1991; 59 FR 64344, Dec. 14, 1994]

§ 131.4 State authority.

(a) States (as defined in § 131.3) are responsible for reviewing, establishing, and revising water quality standards. As recognized by section 510 of the Clean Water Act, States may develop water quality standards more stringent

(iii) An identification of the surface waters for which the Tribe proposes to establish water quality standards.

(4) A narrative statement describing the capability of the Indian Tribe to administer an effective water quality standards program. The narrative statement should include:

(i) A description of the Indian Tribe's previous management experience which may include the administration of programs and services authorized by the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450 *et seq.*), the Indian Mineral Development Act (25 U.S.C. 2101 *et seq.*), or the Indian Sanitation Facility Construction Activity Act (42 U.S.C. 2004a);

(ii) A list of existing environmental or public health programs administered by the Tribal governing body and copies of related Tribal laws, policies, and regulations;

(iii) A description of the entity (or entities) which exercise the executive, legislative, and judicial functions of the Tribal government;

(iv) A description of the existing, or proposed, agency of the Indian Tribe which will assume primary responsibility for establishing, reviewing, implementing and revising water quality standards;

(v) A description of the technical and administrative capabilities of the staff to administer and manage an effective water quality standards program or a plan which proposes how the Tribe will acquire additional administrative and technical expertise. The plan must address how the Tribe will obtain the funds to acquire the administrative and technical expertise.

(5) Additional documentation required by the Regional Administrator which, in the judgment of the Regional Administrator, is necessary to support a Tribal application.

(6) Where the Tribe has previously qualified for eligibility or ''treatment as a state'' under a Clean Water Act or Safe Drinking Water Act program, the Tribe need only provide the required information which has not been submitted in a previous application.

(c) Procedure for processing an Indian Tribe's application.

(1) The Regional Administrator shall process an application of an Indian Tribe submitted pursuant to § 131.8(b) in a timely manner. He shall promptly notify the Indian Tribe of receipt of the application.

(2) Within 30 days after receipt of the Indian Tribe's application the Regional Administrator shall provide appropriate notice. Notice shall:

(i) Include information on the substance and basis of the Tribe's assertion of authority to regulate the quality of reservation waters; and

(ii) Be provided to all appropriate governmental entities.

(3) The Regional Administrator shall provide 30 days for comments to be submitted on the Tribal application. Comments shall be limited to the Tribe's assertion of authority.

(4) If a Tribe's asserted authority is subject to a competing or conflicting claim, the Regional Administrator, after due consideration, and in consideration of other comments received, shall determine whether the Tribe has adequately demonstrated that it meets the requirements of § 131.8(a)(3).

(5) Where the Regional Administrator determines that a Tribe meets the requirements of this section, he shall promptly provide written notification to the Indian Tribe that the Tribe is authorized to administer the Water Quality Standards program.

[56 FR 64895, Dec. 12, 1991, as amended at 59 FR 64344, Dec. 14, 1994]

Subpart B—Establishment of Water Quality Standards

§ 131.10 Designation of uses.

(a) Each State must specify appropriate water uses to be achieved and protected. The classification of the waters of the State must take into consideration the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation. In no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States.

(b) In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.

(c) States may adopt sub-categories of a use and set the appropriate criteria to reflect varying needs of such sub-categories of uses, for instance, to differentiate between cold water and warm water fisheries.

(d) At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under sections 301(b) and 306 of the Act and cost-effective and reasonable best management practices for nonpoint source control.

(e) Prior to adding or removing any use, or establishing sub-categories of a use, the State shall provide notice and an opportunity for a public hearing under §131.20(b) of this regulation.

(f) States may adopt seasonal uses as an alternative to reclassifying a water body or segment thereof to uses requiring less stringent water quality criteria. If seasonal uses are adopted, water quality criteria should be adjusted to reflect the seasonal uses, however, such criteria shall not preclude the attainment and maintenance of a more protective use in another season.

(g) States may remove a designated use which is *not* an existing use, as defined in §131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

(1) Naturally occurring pollutant concentrations prevent the attainment of the use; or

(2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or

(3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

(5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

(6) Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

(h) States may not remove designated uses if:

(1) They are existing uses, as defined in §131.3, unless a use requiring more stringent criteria is added; or

(2) Such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Act and by implementing cost-effective and reasonable best management practices for nonpoint source control.

(i) Where existing water quality standards specify designated uses less than those which are presently being attained, the State shall revise its standards to reflect the uses actually being attained.

(j) A State must conduct a use attainability analysis as described in §131.3(g) whenever:

(1) The State designates or has designated uses that do not include the uses specified in section 101(a)(2) of the Act, or

(2) The State wishes to remove a designated use that is specified in section 101(a)(2) of the Act or to adopt subcategories of uses specified in section 101(a)(2) of the Act which require less stringent criteria.

(k) A State is not required to conduct a use attainability analysis under this regulation whenever designating uses which include those specified in section 101(a)(2) of the Act.

§ 131.11 Criteria.

(a) *Inclusion of pollutants:* (1) States must adopt those water quality criteria that protect the designated use.

Pollution Control Agency

Proposed Permanent Rule Relating to Water Quality Standards and Tiered Aquatic Life Use

7050.0140 USE CLASSIFICATIONS FOR WATERS OF THE STATE.

[For text of subps 1 and 2, see M.R.]

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~~ aquatic biota, 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.

[For text of subps 4 to 8, see M.R.]

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

[For text of subps 1 and 2, see M.R.]

Subp. 3. **Narrative standards.** For all Class 2 waters, the aquatic habitat, which includes the waters of the state and stream bed, shall not be degraded in any material manner, there shall be no material increase in undesirable slime growths or aquatic plants, including algae, nor shall there be any significant increase in harmful pesticide or other residues in the waters, sediments, and aquatic flora and fauna; the normal ~~fishery and lower~~ aquatic biota ~~upon which it is dependent~~ and the use thereof shall not be seriously impaired or endangered, the species composition shall not be altered materially, and the propagation or migration of ~~the fish and other~~ aquatic biota normally present shall not be prevented or hindered by the discharge of any sewage, industrial waste, or other wastes to the waters.

Subp. 3a. **Assessment criteria.** The criteria by which water bodies are assessed to determine if beneficial uses are supported, and definitions of the data and information required for that assessment, is in Guidance Manual for Assessing the Quality of Minnesota

Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List (2014 and as subsequently amended), which is incorporated by reference. The guidance manual is not subject to frequent change and is available at http://www.pca.state.mn.us/lupg1125.

Subp. 4. **Definitions.** For the purposes of this chapter and chapter 7053, 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.

C. "Aquatic biota" means the aquatic community composed of 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, microscopic organisms, and other aquatic-dependent organisms that require aquatic systems for food or to fulfill any part of their life cycle, such as amphibians and certain wildlife species.

D. "Assemblage" means a taxonomic subset of a biological community such as fish in a stream community.

E. "Biological condition gradient" means a concept describing how aquatic communities change in response to increasing levels of stressors. In application, the biological condition gradient is an empirical, descriptive model that rates biological communities on a scale from natural to highly degraded.

F. "Biological criteria, narrative" or "biocriteria, narrative" means written statements describing the attributes of the structure and function of aquatic assemblages in a water body necessary to protect the designated aquatic life beneficial use. The singular form "biological criterion, narrative" or "biocriterion, narrative" may also be used.

G. "Biological criteria, numeric" or "biocriteria, numeric" means specific quantitative measures of the attributes of the structure and function of aquatic communities in a water body necessary to protect the designated aquatic life beneficial use. The singular form "biological criterion, numeric" or "biocriterion, numeric" may also be used.

~~C.~~ H. "BOD_5" or "five-day biochemical oxygen demand" means the amount of dissolved oxygen needed by aerobic biological organisms to break down organic material present in a given water sample at a certain temperature over a five-day period.

~~D.~~ I. "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.

~~E.~~ J. "Diel flux" means the daily change in a constituent, such as dissolved oxygen or pH, when there is a distinct daily cycle in the measurement. Diel dissolved oxygen flux means the difference between the maximum daily dissolved oxygen concentration and the minimum daily dissolved oxygen concentration.

~~F.~~ K. "Ecoregion" means an area of relative homogeneity in ecological systems based on similar soils, land use, land surface form, and potential natural vegetation. Minnesota ecoregions are shown on the map in part 7050.0468.

~~G.~~ L. "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 transparency, 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 water quality and possible loss of beneficial uses.

~~H.~~ M. "Eutrophication standard" means the combination of indicators of enrichment and indicators of response as described in subpart 5. The indicators upon which the eutrophication standard for specific water bodies are based are as provided under subparts 5a to 5c.

~~I. "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.~~

~~J.~~ N. "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.

~~K.~~ O. "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.

~~L.~~ P. "Index of biotic integrity," "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.

~~M.~~ Q. "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.

~~N.~~ R. "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.

~~O.~~ S. "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.

~~P.~~ T. "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.

~~Q.~~ U. "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.

~~R.~~ V. "Normal ~~fishery~~ aquatic biota" and "normally present" mean ~~the fishery and other~~ a healthy aquatic ~~biota~~ community 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.

~~S.~~ W. "Nuisance algae bloom" means an excessive population of algae that is characterized by obvious green or blue-green 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 of Secchi disk transparency, 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.

~~T.~~ X. "Periphyton" means algae on the bottom of a water body. In rivers or streams, these forms are typically found attached to logs, rocks, or other substrates, but when dislodged the algae will become part of the seston.

~~U.~~ Y. "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.

~~V.~~ Z. "Reference water body" means a water body minimally or least impacted by point or nonpoint sources of pollution that is representative of water bodies ~~in the same ecoregion or watershed~~ of a similar surface water body type and within a geographic region such as an 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~~ geographic region.

~~W.~~ AA. "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.

~~X.~~ BB. "River nutrient region" means the geographic basis for regionalizing the river eutrophication criteria as described in Heiskary, S. and K. Parson, Regionalization of Minnesota's Rivers for Application of River Nutrient Criteria, Minnesota Pollution Control Agency (2013), which is incorporated by reference. The document is not subject to frequent change and is available through the Minitex interlibrary loan system.

~~Y.~~ CC. "Secchi disk" means a tool that is used to measure the transparency of lake water. A Secchi disk is an eight-inch weighted disk on a calibrated rope, either white or with quadrants of black and white. To measure water transparency with a Secchi disk, the disk is viewed from the shaded side of a boat. The depth of the water at the point where the disk reappears upon raising it after it has been lowered beyond visibility is recorded.

~~Z.~~ DD. "Secchi disk transparency" means the transparency of water as measured by ~~either~~ a Secchi disk, a Secchi tube, or a transparency tube.

~~AA.~~ EE. "Secchi tube" means a tool that is used to measure the transparency of stream or river water. A Secchi tube is a clear plastic tube, one meter in length and 1-3/4 inch in diameter, with a mini-Secchi disk on a string. To measure water transparency, the tube is filled with water collected from a stream or river and, looking into the tube from the top, the weighted Secchi disk is lowered into the tube by a string until it disappears and then raised until it reappears, allowing the user to raise and lower the disk within the same water sample numerous times. The depth of the water at the midpoint between disappearance and reappearance of the disk is recorded in centimeters, which are marked on the side of the tube. If the Secchi disk is visible when it is lowered to the bottom of the tube, the transparency reading is recorded as "greater than 100 centimeters."

~~BB.~~ FF. "Seston" means particulate matter suspended in water bodies and includes plankton and organic and inorganic matter.

~~CC.~~ GG. "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. Shallow lakes are differentiated from wetlands and lakes on a case-by-case basis. Wetlands are defined in part 7050.0186, subpart 1a.

~~DD.~~ HH. "Summer-average" means a representative average of concentrations or measurements of nutrient enrichment factors, taken over one summer season.

~~EE.~~ II. "Summer season" means a period annually from June 1 through September 30.

~~FF.~~ JJ. "Transparency tube" means a tool that is used to measure the transparency of stream or river water. A transparency tube is 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 the stopper is painted black and white. To measure water transparency, 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, in centimeters, is noted. More water is released until the screw in the middle of the painted symbol on the stopper is clearly visible; this depth is noted. The two observed depths are averaged to obtain a transparency measurement.

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

LL. "Use attainability analysis" means a structured scientific assessment of the physical, chemical, biological, and economic factors affecting attainment of the uses of water bodies. A use attainability analysis is required to remove a designated use specified in section 101(a)(2) of the Clean Water Act that is not an existing use. The allowable reasons for removing a designated use are described in Code of Federal Regulations, title 40, section 131.10(g).

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

NN. "Water body type" means a group of water bodies with similar natural physical, chemical, and biological attributes, where the characteristics are similar among water bodies within each type and distinct from water bodies of other types.

[For text of subps 5 to 5c, see M.R.]

Subp. 6. **Impairment of biological community and aquatic habitat.** In evaluating whether the narrative standards in subpart 3, which prohibit serious impairment of the normal ~~fisheries and lower~~ aquatic biota ~~upon which they are dependent~~ and the use thereof, material alteration of the species composition, material degradation of stream beds, and the prevention or hindrance of the propagation and migration of ~~fish and other~~ aquatic biota normally present, are being met, the commissioner will consider all readily available and reliable data and information for the following factors of use impairment:

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

E. any other scientifically objective, credible, and supportable factors.

A finding of an impaired condition must be supported by data for the factors listed in at least one of items A to C. The biological quality of any given surface water body will be assessed by comparison to the biological conditions determined ~~for~~ by the commissioner using a biological condition gradient model or a set of reference water bodies which best represents the most natural condition for that surface ~~water body~~ water body type within a geographic region.

[For text of subps 7 and 8, see M.R.]

7050.0217 OBJECTIVES FOR PROTECTION OF SURFACE WATERS FROM TOXIC POLLUTANTS.

Subpart 1. **Purpose and applicability.** The purpose of this part is to establish the objectives for developing numeric water quality standards listed in parts 7050.0220, 7050.0222, 7050.0227, and 7052.0100 and site-specific water quality criteria for toxic pollutants or chemicals developed in the absence of numeric standards. The listed numeric standards for toxics and site-specific numeric criteria established by methods in parts 7050.0218 and 7050.0219 protect Class 2 waters for the propagation and maintenance of ~~fish and~~ aquatic ~~life~~ biota, 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 7050.0140 and 7050.0227.

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

7050.0218 FOR TOXIC POLLUTANTS: DEFINITIONS AND METHODS FOR DETERMINATION OF HUMAN HEALTH-BASED NUMERIC STANDARDS AND SITE-SPECIFIC NUMERIC CRITERIA FOR AQUATIC LIFE, HUMAN HEALTH, AND FISH-EATING WILDLIFE.

[For text of subps 1 and 2, 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 R, see M.R.]

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

~~T.~~ S. "Criterion" means a number or numbers established for a pollutant derived under this part or part 7050.0219 or 7052.0110, or issued by the USEPA, to protect aquatic life, humans, or wildlife.

~~U.~~ T. "Developmental health endpoint" or "developmental toxicity" means an adverse effect on the developing organism that may result from parental exposure prior to conception, maternal exposure during prenatal development, or direct exposure postnatally until the time of sexual maturation. Developmental toxicity may be detected at any point in the lifespan of the organism. The major manifestations of developmental toxicity include:

(1) death of the developing organism;

(2) structural abnormality;

(3) altered growth; or

(4) functional deficiency.

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

~~W.~~ V. "Durations for human health-based algorithms" or "D" means the length of the exposure period under consideration for noncancer and linear cancer algorithms.

(1) The four default D used in developing reference doses and corresponding intake rates are:

(a) acute: a period of 24 hours or less;

(b) short-term: a period of more than 24 hours, up to 30 days;

(c) subchronic: a period of more than 30 days, up to eight years based on application of the less than ten percent standard life expectancy of 70 years for humans; or

(d) chronic: a period of more than eight years.

(2) The default durations for use in the linear cancer algorithms with age dependent adjustment factors are:

(a) two years for the birth up to two-year age group;

(b) 14 years for the two- up to 16-year age group; and

(c) 54 years for the 16- up to 70-year age group.

For any algorithm, use of chemical-specific data to define durations for noncancer or linear cancer algorithms are preferred when acceptable data are available.

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

~~Y.~~ X. "Endocrine" or "E" means a change in circulating hormone levels or interactions with hormone receptors, regardless of the organ or organ system affected. Health endpoints with or without the E designation are deemed equivalent, for example, thyroid (E) = thyroid, and must be included in the same health risk index equation.

~~Z.~~ Y. "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 7053.0215, subpart 1; 7053.0225, subpart 6; and 7053.0245, subpart 1.

~~AA.~~ Z. "Food chain multiplier" or "FCM" means the ratio of a bioaccumulation factor by trophic level to an appropriate bioconcentration factor. FCM refers to values developed using USEPA models or from available and reliable field studies.

~~BB.~~ AA. "Frequency" means the number of times a standard can be exceeded in a specified period of time without causing acute or chronic toxic effects on the aquatic community, human health, or fish-eating wildlife.

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

~~DD.~~ CC. "Health risk index" means the sum of the quotients calculated by identifying all chemicals that share a common health endpoint or are based on linear carcinogenicity and dividing the water or fish tissue concentration for each chemical (measured or statistically derived) by its applicable chronic standard or chronic criterion. To meet the objectives in part 7050.0217, the health risk index must not exceed a value of one. The equations for the risk indices are found in part 7050.0222, subpart 7, items D and E.

~~EE.~~ DD. "Health risk index endpoint" or "health endpoint" means the general description of toxic effects used to group chemicals for the purpose of calculating a health risk index.

~~FF.~~ EE. "Intake rate" or "IR" means rate of ingestion, inhalation, or dermal contact, depending on the route of exposure, expressed as the amount of a media taken in, on a per body weight and daily basis, for a specified duration.

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

~~HH.~~ GG. "Lowest observable adverse effect level" or "LOAEL" means the lowest exposure level that caused a statistically or biologically significant increase in the frequency or severity of adverse effects observed between the exposed population and its appropriate control group.

~~II.~~ HH. "Magnitude" means the acceptable amount of a toxic pollutant in water or fish tissue expressed as a concentration.

~~JJ.~~ II. "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.

~~KK.~~ JJ. "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.

~~LL.~~ KK. "MDH" means the Minnesota Department of Health.

~~MM.~~ LL. "Mode of action" or "MOA" means the sequence of key events following pollutant or chemical exposure upon which the toxic outcome depends.

~~NN.~~ MM. "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. (Publication PB85-227049)

~~OO.~~ NN. "No observable adverse effect level" or "NOAEL" means the highest exposure level at which there is no statistically or biologically significant increase in the frequency or severity of adverse effects between the exposed population and its appropriate control group.

~~PP.~~ OO. "Octanol to water partition coefficient" or "K_{ow}" means the ratio of the concentration of a chemical in the octanol phase to its concentration in the aqueous phase of a two-phase octanol to water system after equilibrium of the chemical between the two phases has been achieved. The base 10 logarithm of the K_{ow} or log K_{ow} is used in the calculation of bioaccumulation factors. The log K_{ow} has been shown to be proportional to the bioconcentration potential of lipophilic organic chemicals.

~~QQ.~~ PP. "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 NOAEL.

~~RR.~~ QQ. "Reference dose" or "RfD" means an estimate of a dose for a given duration to the human population, including susceptible subgroups such as infants, that is likely to be without an appreciable risk of adverse effects during a lifetime. It is derived from a suitable dose level at which there are few or no statistically or biologically significant increases in the frequency or severity of an adverse effect between the dosed population and its associated control group. The RfD includes one or more divisors, applied to the suitable dose level, accounting for:

(1) uncertainty in extrapolating from mammalian laboratory animal data to humans;

(2) variation in toxicological sensitivity among individuals in the human population;

(3) uncertainty in extrapolating from effects observed in a short-term study to effects of long-term exposure;

(4) uncertainty in using a study in which health effects were found at all doses tested; and

(5) uncertainty associated with deficiencies in the available data.

The product of the divisors is not to exceed 3,000 in an RfD used for a chronic standard. The RfD is expressed in units of daily dose as milligrams of chemical per kilogram of body weight-day or mg/kg-day.

~~SS.~~ RR. "Relative source contribution factor" or "RSC" means the percentage or apportioned amount (subtraction method) of the reference dose for a pollutant allocated to surface water exposures from drinking or incidental water ingestion and fish consumption. In the absence of sufficient data to establish a pollutant- or chemical-specific RSC value, the default RSC is 0.2 or 0.5 as described in part 7050.0219, subpart 5.

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

~~UU.~~ TT. "Standard" means a number or numbers established for a pollutant or water quality characteristic to protect a specified beneficial use as listed in parts 7050.0221to 7050.0227. The standard for a toxic pollutant includes the CS, MS, and FAV. Some pollutants do not have an MS or an FAV due to insufficient data. For these pollutants, the CS alone is the standard.

~~VV.~~ UU. "Toxic effect" means an observable or measurable adverse biological event in an organ, tissue, or system. The designation of health endpoints does not exclude other possible observable or measurable biological events. For the purpose of grouping chemicals and creating a health risk index when multiple chemicals are present, toxic effects may be ascribed to more general health risk index endpoints or health endpoints.

~~WW.~~ VV. "Toxic pollutant" has the meaning given it in part 7050.0185, subpart 2, item F. Toxic pollutant is used interchangeably in this part and parts 7050.0217, 7050.0219, and 7050.0222, subpart 7, items B to G, with the terms "pollutant" and "chemical."

~~XX.~~ WW. "Toxic unit" means a measure of acute or chronic toxicity in an effluent. One acute toxic unit (TUa) is the reciprocal of the effluent concentration that causes 50 percent effect or mortality to organisms for acute exposures (100/LC50); one chronic toxic unit (TUc) is the reciprocal of the effluent concentration that causes no observable adverse effect level on test organisms for chronic exposures (100/NOAEL).

~~YY.~~ XX. "Trophic level" or "TL" means the food web level in an ecosystem that is occupied by an organism or group of organisms because of what they eat and how they are related to the rest of the food web. For example, trophic level 3 in an aquatic ecosystem consists of small fish such as bluegills, crappies, and smelt and trophic level 4 consists of larger carnivorous fish such as walleye, northern pike, and most trout species.

~~ZZ.~~ YY. "USEPA" means the United States Environmental Protection Agency.

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

~~BBB.~~ AAA. "Whole effluent toxicity test" means the aggregate toxic effect of an effluent measured directly by a toxicity test. Effects on tested organisms are measured and expressed as toxic units or percent effluent for both acute and chronic whole effluent toxicity tests.

Subp. 4. **Adoption of USEPA national criteria.** The USEPA establishes aquatic life and human health-based 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 Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses."

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

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

B. The USEPA criteria are adopted, subject to modification as described in this item or item C, for application to cool and warm water ~~fisheries~~ habitats and wetlands. Cool and warm water ~~fisheries~~ habitats (Class 2Bd~~,~~ and 2B~~, and 2C~~) ~~waters~~ are defined in part 7050.0430 or listed in part 7050.0470. Wetlands (Class 2D) waters are defined in part 7050.0425 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, ~~2C,~~ and 2D criteria.

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

(5) If, as a result of the recalculation of the USEPA criterion for application to Class 2Bd, 2B, ~~2C,~~ and 2D waters, the FAV for these water classes is lower than the FAV for Class 2A waters, the Class 2Bd, 2B, ~~2C,~~ or 2D FAV will be changed to equal the Class 2A FAV, unless the lower Class 2Bd, 2B, ~~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 subps 5 to 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 items A to C, see M.R.]

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

[For text of subitem (1), see M.R.]

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

[For text of subitem (3), see M.R.]

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

[For text of subitem (5), see M.R.]

Subp. 10. **Applicable criteria or human health-based standard.** The final criteria or chronic standard for human health for toxic pollutants for surface waters must be the lowest of the applicable criteria or standards for human health derived under this part and part 7050.0219.

A. Applicable criteria or standards for human health by use for Class 2A, 2Bd, 2B, ~~2C,~~ and 2D surface waters are listed for each applicable population protected (aquatic life, humans, and fish-eating wildlife). The applicable criteria or standards for human health must be the lowest of the CC or CS as described in subitems (1) to (3):

[For text of subitems (1) to (3), see M.R.]

[For text of items B to D, see M.R.]

7050.0219 HUMAN HEALTH-BASED CRITERIA AND STANDARDS.

[For text of subps 1 to 10, see M.R.]

Subp. 11. **Final baseline BAF by trophic level.** Determine the final baseline BAF by trophic level (TL):

A. Calculate geometric mean baseline BAF for TL_3 and TL_4 using available species-means for each baseline BAF method. For Class 2A water, preference is given for *Salmonidae* data and developed as a single representative TL_4 baseline BAF ~~for cold-water aquatic communities~~.

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

[For text of subps 12 to 15, see M.R.]

7050.0220 SPECIFIC WATER QUALITY STANDARDS BY ASSOCIATED USE CLASSES.

Subpart 1. **Purpose and scope.** The numeric and narrative water quality standards in 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 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.

All surface waters are protected for multiple beneficial uses. Numeric water quality standards are 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. cold water ~~sport fish (trout waters)~~ aquatic life and habitat, also protected for drinking water: Classes 1B~~, 2A,~~; 2Ae or 2Ag; 3A or 3B~~,~~; 4A and 4B~~,~~; and 5 (subpart 3a);

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

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

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

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

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

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 G, applies
(c)	means the chemical is assumed to be a human ~~carcinoge~~ carcinogen
CS	means chronic standard, 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	means final acute value, 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	means maximum standard, 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 text of items E and F, see M.R.]

Subp. 3. [Repealed, 24 SR 1105]

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

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

Subp. 4. [Repealed, 24 SR 1105]

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

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

Subp. 5. [Repealed, 24 SR 1105]

Subp. 5a. **Cool and warm water ~~sport fish~~ aquatic life and habitat and associated use classes.** Water quality standards applicable to use Classes ~~2B~~ 2Be, 2Bg, 2Bm, ~~2C,~~ or 2D; 3A, 3B, or 3C; 4A and 4B; and 5 surface waters. See 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, CHARACTERISTIC, OR POLLUTANT

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

[For text of subitems (1) to (5), see M.R.]

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

[For text of subitem (6), see M.R.]

(7) Eutrophication standards for lakes, shallow lakes, and reservoirs (phosphorus, total, µg/L; chlorophyll-a, µg/L; Secchi disk transparency, meters)

See part 7050.0222, subparts 4~~,~~ and 4a~~, and 5~~	–	–	–	–	–	–

[For text of subitems (8) to (11), see M.R.]

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

(12) Oxygen, dissolved, mg/L

See part 7050.0222, subparts 4 ~~to~~ and 6	–	–	–	–	–	–

[For text of subitems (13) to (16), see M.R.]

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

[For text of subitems (17) to (22), see M.R.]

B. METALS AND ELEMENTS

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

[For text of subitems (1) to (4), see M.R.]

(5) Cadmium, total, µg/L

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 not to exceed 400 mg/L.

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

(6) Chromium +3, total, µg/L

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 not to exceed 400 mg/L.

<u>[For text of subitems (7) and (8), see M.R.]</u>

(9) Copper, total, µg/L

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 not to exceed 400 mg/L.

(10) Lead, total, µg/L

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 not to exceed 400 mg/L.

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

[For text of subitems (11) and (12), see M.R.]

(13) Nickel, total, µg/L

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 not to exceed 400 mg/L.

[For text of subitem (14), see M.R.]

(15) Silver, total, µg/L

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 not to exceed 400 mg/L.

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

[For text of subitem (16), see M.R.]

(17) Zinc, total, µg/L

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 not to exceed 400 mg/L.

C. ORGANIC POLLUTANTS OR CHARACTERISTICS

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

[For text of subitems (1) to (5), see M.R.]

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

[For text of subitems (6) to (10), see M.R.]

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

[For text of subitems (11) to (15), see M.R.]

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

[For text of subitems (16) to (20), see M.R.]

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

[For text of subitems (21) to (25), see M.R.]

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

[For text of subitems (26) to (30), see M.R.]

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

(31) Pentachlorophenol, µg/L

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.

[For text of subitems (32) to (35), see M.R.]

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

[For text of subitems (36) to (40), see M.R.]

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

[For text of subitems (41) to (43), see M.R.]

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

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; and

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

Subp. 6. [Repealed, 24 SR 1105]

Subp. 6a. **Limited resource value waters and associated use classes.**

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

C. The level of dissolved oxygen ~~shall~~ must be maintained at concentrations:

(1) that will avoid odors or putrid conditions in the receiving water;

(2) ~~or at concentrations~~ at not less than one milligram per liter (daily average); and

(3) ~~provided that measurable concentrations are present~~ above zero milligrams per liter at all times.

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

[For text of subp 7, see M.R.]

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

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

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~~ biota, and their habitats according to the definitions in subpart 2c. 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. Abbreviations, acronyms, and symbols are explained in subpart 1.

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Acenaphthene	µg/L	20	HH	56	112	Tox
Acetochlor	µg/L	3.6	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 un-ionized as N	µg/L	16	Tox	–	–	NA

The percent un-ionized ammonia can be calculated for any temperature and pH 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):

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

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

$pk_a = 0.09 + (2730/T)$ (dissociation constant for ammonia)

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

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

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	5.1	HH	4,487*	8,974*	Tox
Bromoform	µg/L	33	HH	2,900	5,800	Tox
Cadmium, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total cadmium standards for five hardness values:

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

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

Carbon tetrachloride (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 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.

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	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total chromium +3 standards for five total hardness values:

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	–	–	NA
Copper, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total copper standards for five total hardness values:

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 2A)	**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	0.11	HH	550*	1100*	Tox
1,2-Dichloroethane (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	–*	–*	NA
Di-n-octyl phthalate	µg/L	30	Tox	825	1,650	Tox
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

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

Eutrophication standards for Class 2A lakes and reservoirs.

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.

Eutrophication standards for Class 2A rivers and streams.

North River Nutrient Region:

Phosphorus, total	µg/L	less than or equal to 50
Chlorophyll-a (seston)	µg/L	less than or equal to 7
Diel dissolved oxygen flux	mg/L	less than or equal to 3.0
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 1.5

Central River Nutrient Region:

Phosphorus, total	µg/L	less than or equal to 100
Chlorophyll-a (seston)	µg/L	less than or equal to 18
Diel dissolved oxygen flux	mg/L	less than or equal to 3.5
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 2.0

South River Nutrient Region:

Phosphorus, total	µg/L	less than or equal to 150
Chlorophyll-a (seston)	µg/L	less than or equal to 35
Diel dissolved oxygen flux	mg/L	less than or equal to 4.5
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 3.0

Additional narrative eutrophication standards for Class 2A rivers and streams are found under subpart 2b.

Substance, Characteristic, or Pollutant (Class 2A)	**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	0.10	HH	260*	520*	Tox
Heptachlor epoxide (c)	ng/L	0.12	HH	270*	530*	Tox
Hexachlorobenzene (c)	ng/L	0.061	HH	–*	–*	Tox
Lead, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total lead standards for five total hardness values:

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

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

Lindane (c) (Hexachlorocyclohexane, gamma-)	µg/L	0.0087	HH	1.0*	2.0*	Tox
Mercury, total in water	ng/L	6.9	HH	2,400*	4,900*	Tox
Mercury, total in edible fish	mg/kg ppm	0.2	HH	NA	NA	NA
Methylene chloride (c) Dichloromethane)	µg/L	45	HH	13,875*	27,749*	Tox
Metolachlor	µg/L	23	Tox	271	543	Tox
Naphthalene	µg/L	65	HH	409	818	Tox
Nickel, total	µg/L	equation	Tox/HH	equation	equation	Tox

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 µg/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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total nickel standards for five total hardness values:

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	equation	equation	Tox

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

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 for five pH values:

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

Substance, Characteristic, or Pollutant (Class 2A)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
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
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	0.12	Tox	equation	equation	Tox

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

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)

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

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

Example of silver standards for five total hardness values:

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

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
Total suspended solids (TSS)	mg/L	10	NA	–	–	NA
TSS standards for Class 2A may be exceeded for no more than ten percent of the time. This standard applies April 1 through September 30						
Vinyl chloride (c)	µg/L	0.17	HH	–*	–*	NA
Xylene, total m,p,o	µg/L	166	Tox	1,407	2,814	Tox
Zinc, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of zinc standards for five total hardness values:

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

[For text of subps 2a and 2b, see M.R.]

Subp. 2c. **Beneficial use definitions for cold water stream and river habitats (Class 2A).**

A. Subitems (1) to (4) apply to the beneficial uses in items B and C:

(1) The designation and attainment of beneficial uses are based on the biological criteria in subpart 2d.

(2) The attributes of species composition, diversity, and functional organization are measured using:

(a) the fish-based IBI as defined in Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014); or

(b) the macroinvertebrate IBI as defined in Development of a Macroinvertebrate-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014).

(3) Water body types for streams and rivers are defined in the documents referenced in subitem (2).

(4) The following documents are incorporated by reference and are not subject to frequent change:

(a) Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012). The document is available on the agency's Web site at www.pca.state.mn.us;

(b) Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014). The document is available on the agency's Web site at www.pca.state.mn.us;

(c) Development of a Macroinvertebrate-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014). The document is available on the agency's Web site at www.pca.state.mn.us; and

(d) Development of Biological Criteria for Tiered Aquatic Life Uses, Minnesota Pollution Control Agency (2016). The document is available on the agency's Web site at www.pca.state.mn.us.

B. "Exceptional cold water aquatic life and habitat" or "Class 2Ae" is a beneficial use that means waters capable of supporting and maintaining an exceptional and balanced, integrated, adaptive community of cold water aquatic organisms having a species composition, diversity, and functional organization comparable to the 75th percentile of biological condition gradient level 3 as established in Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).

C. "General cold water aquatic life and habitat" or "Class 2Ag" is a beneficial use that means waters capable of supporting and maintaining a balanced, integrated, adaptive community of cold water aquatic organisms having a species composition, diversity, and functional organization comparable to the median of biological condition gradient level 4 as established in Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).

Subp. 2d. **Biological criteria for cold water stream and river habitats (Class 2A).**

Water Body Type	**Tier**	**Class**	**Assemblage**	**Biocriterion**
Southern cold water streams	Exceptional	2Ae	Fish	82
	General	2Ag	Fish	50
Northern cold water streams	Exceptional	2Ae	Fish	60
	General	2Ag	Fish	35
Northern cold water streams	Exceptional	2Ae	Macroinvertebrates	52
	General	2Ag	Macroinvertebrates	32
Southern cold water streams	Exceptional	2Ae	Macroinvertebrates	72
	General	2Ag	Macroinvertebrates	43

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~~ biota and their habitats according to the definitions in subpart 3c. 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. Abbreviations, acronyms, and symbols are explained in subpart 1.

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Acenaphthene	µg/L	20	HH	56	112	Tox
Acetochlor	µg/L	3.6	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 un-ionized as N	µg/L	40	Tox	–	–	NA

The percent un-ionized ammonia can be calculated for any temperature and pH 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):

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

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)

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
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	6.0	HH	4,487*	8,974*	Tox
Bromoform	µg/L	41	HH	2,900	5,800	Tox
Cadmium, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total cadmium standards for five hardness values:

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

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

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	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total chromium +3 standards for five total hardness values:

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	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total copper standards for five total hardness values:

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 2Bd)	**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-Dichloroethane (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	–*	–*	NA
Di-n-octyl phthalate	µg/L	30	Tox	825	1,650	Tox
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

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

Eutrophication standards for Class 2Bd lakes, shallow lakes, and reservoirs.

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.

Eutrophication standards for Class 2Bd rivers and streams.

North River Nutrient Region

Phosphorus, total	µg/L	less than or equal to 50
Chlorophyll-a (seston)	µg/L	less than or equal to 7
Diel dissolved oxygen flux	mg/L	less than or equal to 3.0
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 1.5

Central River Nutrient Region

Phosphorus, total	µg/L	less than or equal to 100
Chlorophyll-a (seston)	µg/L	less than or equal to 18
Diel dissolved oxygen flux	mg/L	less than or equal to 3.5
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 2.0

South River Nutrient Region

Phosphorus, total	µg/L	less than or equal to 150
Chlorophyll-a (seston)	µg/L	less than or equal to 35
Diel dissolved oxygen flux	mg/L	less than or equal to 4.5
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 3.0

Additional narrative eutrophication standards for Class 2Bd rivers and streams are found under subpart 3b.

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
Hexachlorobenzene (c)	ng/L	0.24	HH	–*	–*	Tox
Lead, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total lead standards for five total hardness values:

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

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Lindane (c) (Hexachlorocyclohexane, gamma-)	µg/L	0.032	HH	4.4*	8.8*	Tox
Mercury, total in water	ng/L	6.9	HH	2,400*	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	equation	Tox/HH	equation	equation	Tox

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 μg/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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total nickel standards for five total hardness values:

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 site-specific basis according to part 7050.0220, subpart 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 $7Q_{10}$.

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

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

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 for five pH values:

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

Substance, Characteristic, or Pollutant (Class 2Bd)	**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	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	equation	equation	Tox

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

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)

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

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

Example of total silver standards for five total hardness values:

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
Total suspended solids (TSS)						
North River Nutrient Region	mg/L	15	NA	-	-	NA
Central River Nutrient Region	mg/L	30	NA	-	-	NA
South River Nutrient Region	mg/L	65	NA	-	-	NA
Red River mainstem - headwaters to border	mg/L	100	NA	-	-	NA
TSS standards for the Class 2Bd North, Central, and South River Nutrient Regions and the Red River mainstem may be exceeded for no more than ten percent of the time. This standard applies April 1 through September 30						
Total suspended solids (TSS), summer average						
Lower Mississippi River mainstem - Pools 2 through 4	mg/L	32	NA	-	-	NA
Lower Mississippi River mainstem below Lake Pepin	mg/L	30	NA	-	-	NA

TSS standards for the Class 2Bd Lower Mississippi River may be exceeded for no more than 50 percent of the time. This standard applies June 1 through September 30

Substance, Characteristic, or Pollutant (Class 2Bd)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Vinyl chloride (c)	µg/L	0.18	HH	–*	–*	NA
Xylene, total m,p,o	µg/L	166	Tox	1,407	2,814	Tox
Zinc, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total zinc standards for five total hardness values:

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

[For text of subps 3a and 3b, see M.R.]

Subp. 3c. **Beneficial use definitions for warm or cool water stream and river habitats (Class 2Bd).**

A. Subitems (1) to (4) apply to the beneficial uses in items B to D:

(1) The designation and attainment of beneficial uses are based on the biological criteria in subpart 3d.

(2) The attributes of species composition, diversity, and functional organization are measured using:

(a) the fish-based IBI as defined in Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014); or

(b) the macroinvertebrate IBI as defined in Development of a Macroinvertebrate-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014).

(3) Water body types for streams and rivers are defined in the documents referenced in subitem (2).

(4) The following documents are incorporated by reference and are not subject to frequent change:

(a) Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012). The document is available on the agency's Web site at www.pca.state.mn.us;

(b) Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014). The document is available on the agency's Web site at www.pca.state.mn.us;

(c) Development of a Macroinvertebrate-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014). The document is available on the agency's Web site at www.pca.state.mn.us; and

(d) Development of Biological Criteria for Tiered Aquatic Life Uses, Minnesota Pollution Control Agency (2016). The document is available on the agency's Web site at www.pca.state.mn.us.

B. "Exceptional cool and warm water aquatic life and habitat, also protected as a source for drinking water" or "Class 2Bde" is a beneficial use that means waters capable of supporting and maintaining an exceptional and balanced, integrated, adaptive community of warm or cool water aquatic organisms having a species composition, diversity, and functional organization comparable to the 75th percentile of biological condition gradient level 3 as established in Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).

C. "General cool and warm water aquatic life and habitat, also protected as a source for drinking water" or "Class 2Bdg" is a beneficial use that means waters capable of supporting and maintaining a balanced, integrated, adaptive community of warm or cool water aquatic organisms having a species composition, diversity, and functional organization comparable to the median of biological condition gradient level 4 as established in Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).

D. "Modified cool and warm water aquatic life and habitat, also protected as a source for drinking water" or "Class 2Bdm" is a beneficial use that means waters capable of supporting and maintaining a balanced, integrated, adaptive community of warm or cool water aquatic organisms having a species composition, diversity, and functional organization comparable to the median of biological condition gradient level 5 as established in Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).

(1) To meet the definition in this item, waters must have been the subject of a use attainability analysis and must have been found to be incapable of supporting and maintaining the Class 2Bdg beneficial use because of human-induced modifications of the physical habitat that preclude the potential for recovery of the fauna. These modifications must be the result of direct alteration to the channel, such as drainageway maintenance, bank stabilization, and impoundments.

(2) Examples of Class 2Bdm waters are the stream channel modification activities regulated under:

(a) sections 401 and 404 of the Clean Water Act; or

(b) Minnesota Statutes, chapter 103E.

Subp. 3d. **Biological criteria for warm or cool water stream and river habitats (Class 2Bd).**

Water Body Type	**Tier**	**Class**	**Assemblage**	**Biocriterion**
Southern rivers	Exceptional	2Bde	Fish	71
	General	2Bdg	Fish	49
Southern streams	Exceptional	2Bde	Fish	66
	General	2Bdg	Fish	50
	Modified	2Bdm	Fish	35
Southern headwaters	Exceptional	2Bde	Fish	74
	General	2Bdg	Fish	55
	Modified	2Bdm	Fish	33
Northern rivers	Exceptional	2Bde	Fish	67
	General	2Bdg	Fish	38
Northern streams	Exceptional	2Bde	Fish	61

	General	2Bdg	Fish	47
	Modified	2Bdm	Fish	35
Northern headwaters	Exceptional	2Bde	Fish	68
	General	2Bdg	Fish	42
	Modified	2Bdm	Fish	23
Low gradient	Exceptional	2Bde	Fish	70
	General	2Bdg	Fish	42
	Modified	2Bdm	Fish	15
Northern forest rivers	Exceptional	2Bde	Macroinvertebrates	77
	General	2Bdg	Macroinvertebrates	49
Prairie and southern forest rivers	Exceptional	2Bde	Macroinvertebrates	63
	General	2Bdg	Macroinvertebrates	31
High-gradient northern forest streams	Exceptional	2Bde	Macroinvertebrates	82
	General	2Bdg	Macroinvertebrates	53
Low-gradient northern forest streams	Exceptional	2Bde	Macroinvertebrates	76
	General	2Bdg	Macroinvertebrates	51
	Modified	2Bdm	Macroinvertebrates	37
High-gradient southern streams	Exceptional	2Bde	Macroinvertebrates	62
	General	2Bdg	Macroinvertebrates	37
	Modified	2Bdm	Macroinvertebrates	24
Low-gradient southern forest streams	Exceptional	2Bde	Macroinvertebrates	66
	General	2Bdg	Macroinvertebrates	43
	Modified	2Bdm	Macroinvertebrates	30
Low-gradient prairie streams	Exceptional	2Bde	Macroinvertebrates	69
	General	2Bdg	Macroinvertebrates	41
	Modified	2Bdm	Macroinvertebrates	22

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~~ biota, and their habitats according to the definitions in subpart 4c. 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. Abbreviations, acronyms, and symbols are explained in subpart 1.

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Acenaphthene	µg/l	20	HH	56	112	Tox
Acetochlor	µg/L	3.6	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	–	–	NA

The percent un-ionized ammonia can be calculated for any temperature and pH 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):

$$f = 1/(10^{(pka\text{-}pH)} + 1) \times 100$$

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)

Substance, Characteristic, or Pollutant (Class 2B)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
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	98	HH	4,487	8,974	Tox
Bromoform	µg/L	466	HH	2,900	5,800	Tox
Cadmium, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total cadmium standards for five hardness values:

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

Substance, Characteristic, or Pollutant (Class 2B)	Units	CS	Basis for CS	MS	FAV	Basis for MS, FAV
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 24-hour period.

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	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total chromium +3 standards for five total hardness values:

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	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total copper standards for five total hardness values:

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-Dichloroethane (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	–*	–*	NA
Di-n-octyl phthalate	µg/L	30	Tox	825	1,650	Tox
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

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

Eutrophication standards for Class 2B lakes, shallow lakes, and reservoirs.

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.

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

Eutrophication standards for Class 2B rivers and streams.

North River Nutrient Region

Phosphorus, total	µg/L	less than or equal to 50
Chlorophyll-a (seston)	µg/L	less than or equal to 7
Diel dissolved oxygen flux	mg/L	less than or equal to 3.0
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 1.5

Central River Nutrient Region

Phosphorus, total	µg/L	less than or equal to 100
Chlorophyll-a (seston)	µg/L	less than or equal to 18
Diel dissolved oxygen flux	mg/L	less than or equal to 3.5
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 2.0

South River Nutrient Region

Phosphorus, total	µg/L	less than or equal to 150
Chlorophyll-a (seston)	µg/L	less than or equal to 40
Diel dissolved oxygen flux	mg/L	less than or equal to 5.0
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 3.5

Site-specific standards for specified river reaches or other waters are:

Mississippi River Navigational Pool 1 (river miles 854.1 to 847.7 reach from Fridley to Ford Dam in St. Paul)

Phosphorus, total	µg/L	less than or equal to 100
Chlorophyll-a (seston)	µg/L	less than or equal to 35

Mississippi River Navigational Pool 2 (river miles 847.7 to 815.2 reach from Ford Dam to Hastings Dam)

Phosphorus, total	µg/L	less than or equal to 125
Chlorophyll-a (seston)	µg/L	less than or equal to 35

Mississippi River Navigational Pool 3 (river miles 815.2 to 796.9 reach from Hastings Dam to Red Wing Dam)

Phosphorus, total	µg/L	less than or equal to 100
Chlorophyll-a (seston)	µg/L	less than or equal to 35

Mississippi River Navigational Pool 4 (river miles 796.9 to 752.8 reach from Red Wing Dam to Alma Dam). Lake Pepin occupies majority of Pool 4 and Lake Pepin site-specific standards are used for this pool.

Mississippi River Navigational Pools 5 to 8 (river miles 752.8 to 679.1 Alma Dam to Genoa Dam)

Phosphorus, total	µg/L	less than or equal to 100
Chlorophyll-a (seston)	µg/L	less than or equal to 35

Lake Pepin

Phosphorus, total	µg/L	less than or equal to 100
Chlorophyll-a (seston)	µg/L	less than or equal to 28

Crow Wing River from confluence of Long Prairie River to the mouth of the Crow Wing River at the Mississippi River

Phosphorus, total	µg/L	less than or equal to 75
Chlorophyll-a (seston)	µg/L	less than or equal to 13
Diel dissolved oxygen flux	mg/L	less than or equal to 3.5
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 1.7

Crow River from the confluence of the North Fork of the Crow River and South Fork of the Crow River to the mouth of the Crow River at the Mississippi River

Phosphorus, total	µg/L	less than or equal to 125
Chlorophyll-a (seston)	µg/L	less than or equal to 27
Diel dissolved oxygen flux	mg/L	less than or equal to 4.0
Biochemical oxygen demand (BOD_5)	mg/L	less than or equal to 2.5

Additional narrative eutrophication standards for Class 2B rivers and streams are found in subpart 4b.

Substance, Characteristic, or Pollutant (Class 2B)	**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
Hexachlorobenzene (c)	ng/L	0.24	HH	–*	–*	Tox
Lead, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total lead standards for five total hardness values:

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

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Lindane (c) (Hexachlorocyclobenzene, gamma-)	µg/L	0.036	HH	4.4*	8.8*	Tox
Mercury, total in water	ng/L	6.9	HH	2,400*	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	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total nickel standards for five total hardness values:

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 site-specific basis according to part 7050.0220, subpart 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 $7Q_{10}$. This standard applies to all Class 2B waters except for:

(1) 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~~.~~; and

(2) the portion of the Minnesota River from the outlet of the Blue Lake wastewater treatment works (River Mile 21) to the mouth at Fort Snelling. For the specified reach of the Minnesota River, the standard is not less than 5 mg/L as a daily average year round.

Parathion	µg/L	0.013	Tox	0.07	0.13	Tox
Pentachlorophenol	µg/L	equation	Tox/HH	equation	equation	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 for five pH values:

pH su	6.5	7.0	7.5	8.0	8.5
Pentachlorophenol					
CS 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	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	equation	equation	Tox

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

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

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

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

Example of total silver standards for five total hardness values:

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
Total suspended solids (TSS)						
North River Nutrient Region	mg/L	15	NA	–	–	NA
Central River Nutrient Region	mg/L	30	NA	–	–	NA
South River Nutrient Region	mg/L	65	NA	–	–	NA
Red River mainstem - headwaters to border	mg/L	100	NA	–	–	NA
TSS standards for the Class 2B North, Central, and South River Nutrient Regions and the Red River mainstem may be exceeded for no more than ten percent of the time. This standard applies April 1 through September 30						
Total suspended solids (TSS), summer average						
Lower Mississippi River mainstem - Pools 2 through 4	mg/L	32	NA	–	–	NA
Lower Mississippi River mainstem below Lake Pepin	mg/L	30	NA	–	–	NA
TSS standards for the Class 2B Lower Mississippi River may be exceeded for no more than 50 percent of the time. This standard applies June 1 through September 30						

Substance, Characteristic, or Pollutant (Class 2B)	**Units**	**CS**	**Basis for CS**	**MS**	**FAV**	**Basis for MS, FAV**
Vinyl chloride (c)	µg/L	9.2	HH	–*	–*	NA
Xylene, total m,p,o	µg/L	166	Tox	1,407	2,814	Tox
Zinc, total	µg/L	equation	Tox	equation	equation	Tox

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 greater than 400 mg/L, 400 mg/L shall be used to calculate the standard.

Example of total zinc standards for five total hardness values:

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

[For text of subps 4a and 4b, see M.R.]

Subp. 4c. **Beneficial use definitions for warm or cool water stream and river habitats (Class 2B).**

A. Subitems (1) to (4) apply to the beneficial uses in items B to D:

(1) The designation and attainment of beneficial uses are based on the criteria in subpart 4d.

(2) The attributes of species composition, diversity, and functional organization are measured using:

(a) the fish-based IBI as defined in Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014); or

(b) the macroinvertebrate IBI as defined in Development of a Macroinvertebrate-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014).

(3) Water body types for streams and rivers are defined in the documents referenced in subitem (2).

(4) The following documents are incorporated by reference and are not subject to frequent change:

(a) Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012). The document is available on the agency's Web site at www.pca.state.mn.us;

(b) Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014). The document is available on the agency's Web site at www.pca.state.mn.us;

(c) Development of a Macroinvertebrate-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014). The document is available on the agency's Web site at www.pca.state.mn.us; and

(d) Development of Biological Criteria for Tiered Aquatic Life Uses, Minnesota Pollution Control Agency (2016). The document is available on the agency's Web site at www.pca.state.mn.us.

B. "Exceptional cool and warm water aquatic life and habitat" or "Class 2Be" is a beneficial use that means waters capable of supporting and maintaining an exceptional and balanced, integrated, adaptive community of warm or cool water aquatic organisms having a species composition, diversity, and functional organization comparable to the 75th percentile of biological condition gradient level 3 as established in Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).

C. "General cool and warm water aquatic life and habitat" or "Class 2Bg" is a beneficial use that means waters capable of supporting and maintaining a balanced, integrated, adaptive community of warm or cool water aquatic organisms having a species composition, diversity, and functional organization comparable to the median of biological condition gradient level 4 as established in Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).

D. "Modified cool and warm water aquatic life and habitat" or "Class 2Bm" is a beneficial use that means waters capable of supporting and maintaining a balanced, integrated, adaptive community of warm or cool water aquatic organisms having a species composition, diversity, and functional organization comparable to the median of biological condition gradient level 5 as established in Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).

(1) To meet the definition in this item, waters must have been the subject of a use attainability analysis and must have been found to be incapable of supporting and maintaining the Class 2Bg beneficial use because of human-induced modifications of the physical habitat that preclude the potential for recovery of the fauna. These modifications

must be the result of direct alteration to the channel, such as drainageway maintenance, bank stabilization, and impoundments.

(2) Examples of Class 2Bm waters are the stream channel modification activities regulated under:

(a) sections 401 and 404 of the Clean Water Act; or

(b) Minnesota Statutes, chapter 103E.

Subp. 4d. **Biological criteria for warm or cool water stream and river habitats (Class 2B).**

Water Body Type	**Tier**	**Class**	**Assemblage**	**Biocriterion**
Southern rivers	Exceptional	2Be	Fish	71
	General	2Bg	Fish	49
Southern streams	Exceptional	2Be	Fish	66
	General	2Bg	Fish	50
	Modified	2Bm	Fish	35
Southern headwaters	Exceptional	2Be	Fish	74
	General	2Bg	Fish	55
	Modified	2Bm	Fish	33
Northern rivers	Exceptional	2Be	Fish	67
	General	2Bg	Fish	38
Northern streams	Exceptional	2Be	Fish	61
	General	2Bg	Fish	47
	Modified	2Bm	Fish	35
Northern headwaters	Exceptional	2Be	Fish	68
	General	2Bg	Fish	42
	Modified	2Bm	Fish	23
Low gradient	Exceptional	2Be	Fish	70
	General	2Bg	Fish	42

	Modified	2Bm	Fish	15
Northern forest rivers	Exceptional	2Be	Macroinvertebrates	77
	General	2Bg	Macroinvertebrates	49
Prairie and southern forest rivers	Exceptional	2Be	Macroinvertebrates	63
	General	2Bg	Macroinvertebrates	31
High-gradient northern forest streams	Exceptional	2Be	Macroinvertebrates	82
	General	2Bg	Macroinvertebrates	53
Low-gradient northern forest streams	Exceptional	2Be	Macroinvertebrates	76
	General	2Bg	Macroinvertebrates	51
	Modified	2Bm	Macroinvertebrates	37
High-gradient southern streams	Exceptional	2Be	Macroinvertebrates	62
	General	2Bg	Macroinvertebrates	37
	Modified	2Bm	Macroinvertebrates	24
Low-gradient southern forest streams	Exceptional	2Be	Macroinvertebrates	66
	General	2Bg	Macroinvertebrates	43
	Modified	2Bm	Macroinvertebrates	30
Low-gradient prairie streams	Exceptional	2Be	Macroinvertebrates	69
	General	2Bg	Macroinvertebrates	41
	Modified	2Bm	Macroinvertebrates	22

Subp. 5. [See repealer.]

[For text of subps 6 to 9, see M.R.]

7050.0227 SPECIFIC WATER QUALITY STANDARDS FOR CLASS 7 WATERS OF THE STATE; LIMITED RESOURCE VALUE WATERS.

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

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 for substances, characteristics, or pollutants given below shall not be exceeded in the waters:

Substance, Characteristic, or Pollutant	Class 7 Standard
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.
Oxygen, dissolved	The level of dissolved oxygen must be maintained at concentrations: i. ~~which~~ that will avoid odors or putrid conditions in the receiving water; ~~or at concentrations~~ ii. at not less than 1 mg/L (daily average); and ~~provided that measurable concentrations are present~~ iii. above 0 mg/L 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.

7050.0430 UNLISTED WATERS.

Subpart 1. **Statewide surface waters.** Except as provided in subparts 2 and 3, all surface waters of the state that are not listed in part 7050.0470 and that are not wetlands as defined in part 7050.0186, subpart 1a, are hereby classified as Class ~~2B~~ 2Bg, 3C, 4A, 4B, 5, and 6 waters.

Subp. 2. **Boundary Waters Canoe Area Wilderness.**

A. All streams in the Boundary Waters Canoe Area Wilderness [11/5/84P] not listed in part 7050.0470 are classified as Class 1B, 2Bdg, 3B.

B. All lakes in the Boundary Waters Canoe Area Wilderness [11/5/84P] not listed in part 7050.0470 are classified as Class 1B, 2Bd, 3B.

C. All wetlands in the Boundary Waters Canoe Area Wilderness [11/5/84P] are classified as Class 2D.

Subp. 3. **Voyageurs National Park.**

A. All streams in Voyageurs National Park [11/5/84P] not listed in part 7050.0470 are classified as Class 2Bg, 3B.

B. All lakes in Voyageurs National Park [11/5/84P] not listed in part 7050.0470 are classified as Class 2B, 3B.

C. All wetlands in Voyageurs National Park [11/5/84P] are classified as Class 2D.

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 water body is~~ lakes, wetlands, calcareous fens, and scientific and natural areas are described by township, range, and section. Specific stream stretches are described by township, range, and section; stream confluence; geographic coordinates; road crossing; some other recognizable landmark; or a combination of these descriptors. Streams and rivers are listed by the eight-digit hydrologic unit code (HUC) of the major watersheds in part 7050.0469 in which the streams and rivers are located. The tables that specify the applicable beneficial uses for the stream and river reaches are incorporated by reference in part 7050.0470. 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.

[For text of subps 2 and 3, see M.R.]

7050.0469 MAP: MINNESOTA'S MAJOR WATERSHEDS.

Major Watersheds in Minnesota

7050.0470 CLASSIFICATIONS FOR SURFACE WATERS IN MAJOR DRAINAGE BASINS.

Subpart 1. **Lake Superior Basin.** The water use classifications for the stream reaches within each of the major watersheds in the Lake Superior Basin listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other listed waters in the Lake Superior Basin are as identified in items ~~A~~ B to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 04010101 Lake Superior - North (August 9, 2016);

(2) 04010102 Lake Superior - South (August 9, 2016);

(3) 04010201 St. Louis River (August 9, 2016);

(4) 04010202 Cloquet River (August 9, 2016); and

(5) 04010301 Nemadji River (August 9, 2016).

~~(1) Ahlenius Creek, (T.53, R.14, S.9, 10): 1B, 2A, 3B;~~

~~(2) Amenda Creek, (T.59, R.5, S.19, 20, 29, 30, 31; T.59, R.6, S.36): 1B, 2A, 3B;~~

~~(3) Amity Creek, (T.50, R.13, S.5, 6; T.50, R.14, S.1; T.51, R.13, S.31, 32; T.51, R.14, S.26, 27, 28, 35, 36): 1B, 2A, 3B;~~

~~(4) Amity Creek, East Branch (T.51, R.13, S.30, 31; T.51, R.14, S.13, 14, 15, 22, 24, 25, 36): 1B, 2A, 3B;~~

~~(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;~~

~~(7) Artichoke Creek, (T.52, R.17, S.7, 17, 18): 1B, 2A, 3B;~~

~~(8) Assinika Creek, (T.63, R.1E, S.1; T.63, R.2E, S.7, 8, 16, 17, 21; T.64, R.1E, S.36; T.64, R.2E, S.31): 1B, 2A, 3B;~~

~~(9) Bally Creek, (T.61, R.1W, S.3, 4, 5, 6, 7, 8, 9, 10, 11; T.61, R.2W, S.12): 1B, 2A, 3B;~~

~~(10) Baptism River, East Branch, (T.57, R.6, S.6; T.57, R.7, S.1, 2, 3, 9, 10, 11, 12, 16, 17, 20; T.58, R.6, S.30, 31; T.58, R.7, S.13, 17, 19, 20, 21, 22, 23, 24, 25, 26, 29, 30, 36; T.58, R.8, S.22, 23, 24, 25, 26): 1B, 2A, 3B;~~

~~(11) Baptism River, Main Branch, (T.56, R.7, S.3, 4, 5, 9, 10, 14, 15; T.57, R.7, S.20, 27, 28, 29, 33, 34): 1B, 2A, 3B;~~

~~(12) Baptism River, West Branch, (T.57, R.7, S.7, 17, 18, 20; T.57, R.8, S.1, 2, 12; T.58, R.8, S.2, 3, 4, 9, 10, 11, 15, 16, 20, 21, 22, 28, 33, 34, 35, 36; T.59, R.8, S. 34, 35): 1B, 2A, 3B;~~

~~(13) Barber Creek (East Swan River) (Chisholm Creek) Chisholm, (T.58, R.20, S.21, 22, 26, 27, 34, 35): 7;~~

~~(14) Barker Creek, (T. 60, R.3W, S.5, 6, 7, 8; T.60, R.4W, 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;~~

~~(20) Beaver River, West Branch, (T.55, R.8, S.7, 17, 18; T.55, R.9, S.2, 3, 4, 10, 11, 12, 13, 14): 1B, 2A, 3B;~~

~~(21) Berry Creek (Breda), (T.55, R.12, S.6, 7; T.55, R.13, S.12, 13; T.56, R.11, S.6; T.56, R.12, S.1, 11, 12, 14, 15, 16, 21, 28, 29, 31, 32; T.57, R.11, S.10, 15, 16, 21, 28, 29, 31, 32): 1B, 2A, 3B;~~

~~(22) Blackhoof River, (T. 47, R.16, S.29, 30; T.47, R.17, S.6, 7, 9, 10, 14, 15, 16, 17, 18, 19, 20, 22, 25, 26, 27, 28; T.48, R.17, S.30, 31): 1B, 2A, 3B;~~

~~(23) Blesner Creek, (T.58, R.6, S.20, 29, 30, 31): 1B, 2A, 3B;~~

~~(24) Blind Temperance Creek, (T.60, R.4W, S.19, 29, 30, 32; T.60, R.5W, S.24, 25, 36): 1B, 2A, 3B;~~

~~(25) Bluff Creek, (T.63, R.1W, S.13, 23, 24, 25): 1B, 2A, 3B;~~

~~(26) Boulder Creek, (T.53, 54, R.14): 2C;~~

~~(27) Breda Creek (see Berry Creek);~~

~~(28) Brule River, (T.62, R.2E, S.1, 2; T.62, R.3E, S.4, 5, 6, 9, 10, 15, 16, 22, 27, 34; T.63, R.2E, S.21, 22, 23, 25, 26, 27, 28, 33, 35, 36; T.63, R.3E, S.30, 31, 32): 1B, 2A, 3B;~~

~~(29) Brule River (excluding trout waters and waters within Boundary Waters Canoe Area Wilderness), (T.63, 64, R.1W, 1E, 2E): 1B, 2Bd, 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;~~

~~(32) Buhl Creek, Buhl, (T.58, R.19, S.20, 29): 7;~~

~~(33) *Burnt Creek, [11/5/84P] (T.62, R.4W, S.8, 9): 1B, 2A, 3B;~~

~~(34) Burnt Creek, (T.62, R.4W, S.16, 17, 20): 1B, 2A, 3B;~~

~~(35) Cabin Creek, (T.59, R.6W, S.19, 20; T.59, R.7, S.24): 1B, 2A, 3B;~~

~~(36) Captain Jacobson Creek, (T.52, R.12, S.1, 2, 3; T.53, R.12, S.33, 34, 35): 1B, 2A, 3B;~~

~~(37) Carey Creek, (T.53, R.14, S.28, 33): 1B, 2A, 3B;~~

~~(38) Caribou Creek, (T.60, R.3W, S.2, 3, 10): 1B, 2A, 3B;~~

~~(39) Caribou River, (T.58, R.6, S.1, 2, 11, 13, 14, 15, 22, 23, 24, 25, 26, 36; T.59, R.6, S.23, 24, 25, 26, 35, 36): 1B, 2A, 3B;~~

~~(40) Carlson Creek, (T.52, R.12, S.19; R.13, S.14, 15, 23, 24): 1B, 2A, 3B;~~

~~(41) Carlson Creek (Stony Brook), (T.62, R.4E, S.3, 4, 9, 10; T.63, R.4E, S.31, 32, 33, 34): 1B, 2A, 3B;~~

~~(42) Cascade River, (T.60, R.2W, S.1; T.61, R.1W, S.19, 20, 21, 30, 31; T.61, R.2W, S.1, 12, 13, 14, 24, 25, 26, 35, 36; T.62, R.2W, S.10, 11, 14, 15, 16, 22, 23, 24, 25, 36): 1B, 2A, 3B;~~

(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;~~

(45) ~~Castle Danger Creek (Campers), (T.54, R.9, S.30, 31, 32): 1B, 2A, 3B;~~

(46) ~~Cedar Creek, Lake County, (T.56, R.8, S.13, 14, 23, 24, 26): 1B, 2A, 3B;~~

(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;~~

(48) ~~Cemetery Creek, (T.51, R.17, S.4, 5, 9): 1B, 2A, 3B;~~

(49) ~~Chellberg Creek (Chalberg Creek), (T.51, R.16, S.7; T.51, R.17, S.1, 2, 3, 10, 12): 1B, 2A, 3B;~~

(50) ~~Chester Creek, (T.50, R.14, S.7, 8, 9, 14, 15, 16, 23): 1B, 2A, 3B;~~

(51) ~~Chester Creek, East Branch, (T.50, R.14, S.4, 5, 9, 15, 16): 1B, 2A, 3B;~~

(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;~~

(53) ~~Clear Creek, Carlton County, (T.46, R.17, S.9, 10, 11, 12, 16, 17, 20, 29): 1B, 2A, 3B;~~

(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;~~

(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;~~

(56) ~~Cloudy Spring Creek, (T.57, R.9, S.5, 6, 7, 18; T.57, R.10, S.12, 13, 24): 1B, 2A, 3B;~~

~~(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;~~

~~(58) Coolidge Creek, (T.55, R.14, S.19, 29, 30; T.55, R.15, S.25, 26, 35, 36): 1B, 2A, 3B;~~

~~(59) Cranberry Creek, (T.58, R.13): 2C;~~

~~(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;~~

~~(61) Crow Creek, (T.53, R.10, S.1, 2; T.54, R.10, S.15, 22, 23, 26, 35): 1B, 2A, 3B;~~

~~(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;~~

~~(63) Crystal Creek, (T.48, R.16, S.6; T.48, R.17, S.1): 1B, 2A, 3B;~~

~~(64) Cutface Creek (Good Harbor Creek), (T.61, R.1W, S.27, 28, 29, 34): 1B, 2A, 3B;~~

~~(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;~~

~~(66) Deer Creek, (T.47, R.16, S.19, 20, 28, 29; T.47, R.17, S.11, 12, 13, 24): 1B, 2A, 3B;~~

~~(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;~~

~~(68) Devil Track River, (T.61, R.1E, S.2, 3, 10, 11, 12, 13; T.62, R.1E, S.26, 31, 32, 33, 34, 35): 1B, 2A, 3B;~~

~~(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;~~

~~(70) Dragon Creek, (T.57, R.6, S.8, 9, 16, 17, 21): 1B, 2A, 3B;~~

~~(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;~~

~~(72) Dutchess Slough Creek (Dutch Slough), (T.50, R.17, S.4, 9, 10, 13, 14, 15, 24): 1B, 2A, 3B;~~

~~(73) Egge Creek, (T.57, R.7, S.2, 3, 4, 11): 1B, 2A, 3B;~~

~~(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;~~

~~(75) Elbow Creek, Eveleth, (T.57, R.17, S.6; T.57, R.18, S.1): 7;~~

~~(76) Elm Creek, (T.49, R.16, S.1, 2; T.50, R.16, S.35): 1B, 2A, 3B;~~

~~(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;~~

~~(78) Farquhar Creek, (T.62, R.4E, S.2, 11; T.63, R.4E, S.34, 35): 1B, 2A, 3B;~~

~~(79) *Fiddle Creek, [11/5/84P] (T.64, R.1W, S.34): 1B, 2A, 3B;~~

~~(80) Fiddle Creek, (T.63, R.1W, S.2, 3, 10, 15; T.64, R.1W, S.35): 1B, 2A, 3B;~~

~~(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, 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;~~

~~(83) Fox Farm Creek, (T.62, R.1E, S.19, 30): 1B, 2A, 3B;~~

~~(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;~~

~~(85) Fry Creek, (T.62, R.2W, S.25; T.62, 1W, S.30, 31): 1B, 2A, 3B;~~

~~(86) Gauthier Creek, (T.62, R.3E, S.16, 20, 21, 22, 27): 1B, 2A, 3B;~~

~~(87) Gill Creek, (T.48, R.16, S.2): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(96) Hollow Rock Creek, (T.63, R.5E, S.9, 10, 11, 14, 15, 16, 23, 24, 25): 1B, 2A, 3B;~~

~~(97) Honeymoon Creek (Spring Creek), (T.61, R.4W, S.28, 31, 32, 33): 1B, 2A, 3B;~~

~~(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;~~

~~(99) Horn Creek, (T.62, R.4W): 1B, 2Bd, 3C;~~

~~(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;~~

~~(101) Humphrey Creek, (T.54, R.14, S.23, 26, 27, 33, 34): 1B, 2A, 3B;~~

~~(102) Hunter Creek (Hunters Creek), (T.46, R.18, S.2, 11, 12, 13; T.47, R.18, S.34, 35): 1B, 2A, 3B;~~

~~(103) Indian Camp Creek, (T.60, R.2W, S.3, 10, 11; T.61, R2W, S.34): 1B, 2A, 3B;~~

~~(104) Indian Creek, (T.55, R.12, S.3; T.56, R.12, S.14, 22, 23, 27, 34): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(107) Johnson Creek, (T.50, R.17, S.3, 10, 11, 14; T.51, R.17, S.34): 1B, 2A, 3B;~~

~~(108) Johnson Creek, (T.55, R.12, S.35, 36): 1B, 2A, 3B;~~

~~(109) Jonvick Creek, (T.60, R.2W, S.7, 19; T.60, R.3W, S.12, 13, 14, 24): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(113) Kehtel Creek, (T.51, R.15, S.8, 17, 18, 19, 20): 1B, 2A, 3B;~~

~~(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;~~

~~(115) Kingsbury Creek, (T.49, R.15, S.4, 9, 10, 11, 13, 14; T.50, R.15, S.33, 34): 1B, 2A, 3B;~~

~~(116) Kinney Creek, (T.57, R.10, S.15, 21, 22, 28, 33): 1B, 2A, 3B;~~

~~(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, 32; T.52, R.12, S.24, 25, 36): 1B, 2A, 3B;~~

~~(118) Knife River, Little, (T.52, R.12, S.16, 17, 21, 22, 23, 26, 27, 28, 35, 36): 1B, 2A, 3B;~~

~~(119) Knife River, Little, East Branch, (T.53, R.11, S.17, 20, 21, 22, 27, 33, 34): 1B, 2A, 3B;~~

~~(120) Knife River, Little, West Branch, (T.52, R.11, S.6; T.53, R.11, S.31; T.53, R.12, S.13, 14, 23, 24, 25, 26, 36): 1B, 2A, 3B;~~

~~(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;~~

~~(122) Koski Creek, (T.61, R.4W, S.5, 8; T.62, R.4W, S.31, 32): 1B, 2A, 3B;~~

~~(123) Lavi Creek, (T.52, R.15, S.21, 28): 1B, 2A, 3B;~~

~~(124) Leskinen Creek, (T.57, R.7, S.15, 21, 22, 28): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(127) Lullaby Creek, (T.63, R.1E, S.4, 5, 8, 9): 1B, 2A, 3B;~~

~~(128) Manganika Creek, Virginia, (T.58, R.17, S.19; T.58, R.18, S.24): 7;~~

~~(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;~~

~~(130) Manitou River, Little, (T.57, R.6, S.2; T.58, R.6, S.34, 35): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(133) Marais River, Little, (T.57, R.6, S.5, 8, 16, 17, 21): 1B, 2A, 3B;~~

~~(134) Mark Creek, (T.61, R.2W, S.1, 2, 3, 4, 5, 6, 9): 1B, 2A, 3B;~~

~~(135) Marshall Creek, (T.52, R.15, S.10, 15): 1B, 2A, 3B;~~

~~(136) Martin Creek, (T.58, R.6, S.2, 3, 11): 1B, 2A, 3B;~~

~~(137) McCarthy Creek, (T.53, R.11, S.18; T.53, R.12, S.12, 13): 1B, 2A, 3B;~~

~~(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;~~

~~(139) Mile Post Forty-Three Creek (Fortythree Creek, East and West Branch), (T.56, R.8, S.2, 3, 10, 11, 13, 14, 15): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(144) Mississippi Creek, Little, (T.62, R.2W, S.20, 21, 26, 29, 32, 33, 34, 35): 1B, 2A, 3B;~~

~~(145) Mistletoe Creek, (T.60, R.3W, S.3, 4; T.61, R.2W, S.7, 18; T.61, R.3W, S.11, 13, 14, 15, 23, 24, 25, 26, 34, 35): 1B, 2A, 3B;~~

~~(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;~~

~~(147) Mons Creek, (T.62, R.3E, S.4; T.63, R.3E, S.28, 29, 33): 1B, 2A, 3B;~~

~~(148) Moose Creek, (T.59, R.6, S.31, 32, 33, 34): 1B, 2A, 3B;~~

~~(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;~~

~~(150) Mud Creek, St. Louis County, (T.54, R.12, S.20, 21, 22, 29, 30): 1B, 2A, 3B;~~

~~(151) Mud Creek, Cook County, (T.62, R.1E, S.8, 9, 16, 17, 21, 22): 1B, 2A, 3B;~~

~~(152) Mud Creek, Little, (T.57, R.11, S.11, 12, 14, 22, 23): 1B, 2A, 3B;~~

~~(153) Murmur Creek, (T.61, R.2W, S.15, 20, 21, 22, 29, 30): 1B, 2A, 3B;~~

~~(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;~~

~~(155) Myhr Creek, (T.62, R.3E, S.23, 24, 26): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(161) Net River, Little, (T.46, R.16, S.3, 10, 15, 22, 26, 27, 34): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(166) Otter Creek, Big (Otter Creek), (T.48, R.16, S.7; T.48, R.17, S.3, 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;~~

~~(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;~~

~~(168) Palisade Creek, (T.56, R.7, S.16, 17, 18, 19, 20, 21, 22; T.56, R.8, S.24): 1B, 2A, 3B;~~

~~(169) Pancake Creek, (T.54, R.22, S.20, 28, 29, 33): 1B, 2A, 3B;~~

~~(170) Pancake Creek, (T.60, R.4W, S.17, 18; T.60, R.5W, S.11, 13, 14): 1B, 2A, 3B;~~

~~(171) Pecore Creek, (T.61, R.4W, S.19, 20, 21): 1B, 2A, 3B;~~

~~(172) Peters Creek, (T.54, R.22, S.22, 23, 27, 28): 1B, 2A, 3B;~~

~~(173) Pigeon River (South Fowl Lake outlet to Pigeon Bay of Lake Superior): 1B, 2Bd, 3A;~~

~~(174) Pike Lake Creek, (T.61, R.2W, S.10, 11, 15): 1B, 2A, 3B;~~

~~(175) Pine Mountain Creek (Falls Creek), (T.63, R.1E, S.23, 26, 27, 28, 33): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(178) *Plouff Creek [11/5/84P] (T.62, R.5W, S.23): 1B, 2A, 3B;~~

~~(179) Poplar River (Missouri Creek), (T.60, R.3W, S.3, 4, 5, 6, 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;~~

~~(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;~~

~~(181) Railroad Creek, (T.50, R.17, S.1, 11, 12, 14): 1B, 2A, 3B;~~

~~(182) Red River, (T.48, R.15, S.30; T.48, R.16, S.25, 26): 1B, 2A, 3B;~~

~~(183) Red Rock Creek, (T.63, R.5E, S.21, 22, 26, 27, 28, 35): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(186) Rock Cut Creek, (T.58, R.6, S.18, 19, 20; T.58, R.7, S.13): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(189) Rosebush Creek (Fall River), (T.61, R.1W, S.13, 23, 24, 25; T.61, R.1E, S.18): 1B, 2A, 3B;~~

~~(190) Ross Creek, (T.52, R.13, S.1, 2, 3, 4, 5; T.53, R.13, S.33): 1B, 2A, 3B;~~

~~(191) Ryan Creek, (T.55, R.14, S.14, 15, 22): 1B, 2A, 3B;~~

~~(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;~~

~~(193) Sargent Creek, (T.48, R.15, S.4, 5, 9, 10; T.49, R.15, S.28, 29, 32): 1B, 2A, 3B;~~

~~(194) Sawbill Creek, (T.62, R.4W, S.7, 18, 19, 20, 28, 29, 30; T.62, R.5W, S.25): 1B, 2A, 3B;~~

~~(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;~~

~~(196) Scanlon Creek, (T.49, R.16, S.30; T.49, R.17, S.25): 1B, 2A, 3B;~~

~~(197) Schmidt Creek, (T.51, R.12, S.17): 1B, 2A, 3B;~~

~~(198) Schoolhouse Creek, (T.58, R.7, S.35, 36): 1B, 2A, 3B;~~

~~(199) Section 16 Creek, (T.58, R.5W, S.16): 1B, 2A, 3B;~~

~~(200) Section 36 Creek, (T.46, R.16, S.1, 2, 11, 12, 13; T.47, R.16, S.36): 1B, 2A, 3B;~~

~~(201) Silver Creek, Carlton County, (T.48, R.16, S.15, 16, 17, 21, 28): 1B, 2A, 3B;~~

~~(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;~~

~~(203) Silver Creek, Big (Silver Creek), Carlton County, (T.46, R.17, S.14, 23, 24, 25, 36): 1B, 2A, 3B;~~

~~(204) Silver Creek, East Branch, (T.53, R.10, S.5, 8, 9, 16, 21): 1B, 2A, 3B;~~

~~(205) Sixmile Creek, (T.60, R.4W, S.13, 14, 15, 22, 23, 27, 28, 33): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(212) Spring Creek, Carlton County, (T.46, R.17, S.3, 4, 5, 6): 1B, 2A, 3B;~~

~~(213) Spring Creek, St. Louis County, (T.54, R.12, S.1, 2): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(216) Stewart Creek, (T.49, R.15, S.21, 22, 26, 27): 1B, 2A, 3B;~~

~~(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;~~

~~(218) Stewart River, (T.55, R.11, S.7; T.55, R.12, S.12, 13): 1B, 2A, 3B;~~

~~(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;~~

~~(220) Stickle Creek, (T.63, R.1W, S.1, 2, 11, 12, 14): 1B, 2A, 3B;~~

~~(221) Stone Creek, (T.61, R.2E, S.2, 3; T.62, R.2E, S.21, 22, 27, 34, 35): 1B, 2A, 3B;~~

~~(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;~~

~~(223) Stony Brook, Carlton County, (T.46, R.17, S.10, 11, 15, 16, 21): 1B, 2A, 3B;~~

~~(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;~~

~~(225) Stream Number 30, (T.54, R.8, S.5, 6; T.55, R.8, S.19, 30, 31): 1B, 2A, 3B;~~

~~(226) Stumble Creek, (T.59, R.5W, S.16, 21, 22, 26, 27, 28): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(229) Sucker River, Little, (T.51, R.12, S.2, 3): 1B, 2A, 3B;~~

~~(230) Sugar Loaf Creek, (T.58, R.5W, S.17, 19, 20, 29): 1B, 2A, 3B;~~

~~(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;~~

~~(232) Sundling Creek, (T.61, R.1W, S.10, 11, 14, 15, 16, 17, 18; T.61, R.2W, S.13): 1B, 2A, 3B;~~

~~(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;~~

~~(234) Swamper Creek, (T.64, R.1E, S.20, 29, 32): 1B, 2A, 3B;~~

~~(235) Swan Creek, East, (T.56, R.20, S.3, 4, 5, 10, 11): 1B, 2A, 3B;~~

~~(236) Swan Creek, Little, (T.56, R.19, S.17, 19, 20, 30; T.56, R.20, S.25, 26, 35): 1B, 2A, 3B;~~

~~(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;~~

~~(238) Swan River, West (excluding trout waters), (T.55, 56, R.20, 21): 2C;~~

~~(239) Swanson Creek, (T.61, R.4W, S.6, 7, 8; T.61, R.5W, S.1): 1B, 2A, 3B;~~

~~(240) Tait River, (T.60, R.3W, S.4; T.61, R.3W, S.28, 33): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(243) Temperance River (excluding trout waters), (T.62, R.4W): 1B, 2Bd, 3C;~~

~~(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;~~

~~(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;~~

(246) ~~Thompson Creek, (T.62, R.1W, S.17, 19, 20; T.62, R.2W, S.24): 1B, 2A, 3B;~~

(247) ~~Tikkanen Creek, (T.57, R.7, S.5, 6, 8, 16, 17): 1B, 2A, 3B;~~

(248) ~~Timber Creek, (T.62, R.1E, S.1; T.63, R.1E, S.25, 36; T.63, R.2E, S.31): 1B, 2A, 3B;~~

(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;~~

(250) ~~Torgenson Creek, (T.61, R.4W, S.30; T.61, R.5W, S.24, 25): 1B, 2A, 3B;~~

(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;~~

(252) ~~Tower Creek, Lake County, (T.57, R.7, S.9): 1B, 2A, 3B;~~

(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;~~

(254) ~~Trout Brook, (T.54, R.22, S.1): 1B, 2A, 3B;~~

(255) ~~Twin Points Creek, (T.54, R.9, S.10, 11, 13, 14): 1B, 2A, 3B;~~

(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;~~

(257) ~~Ugstad Creek, (T.51, R.15, S.21, 22, 26, 27, 28): 1B, 2A, 3B;~~

(258) ~~Unnamed (Deer) Creek, (T.47, R.16, S.19, 29, 30; T.47, R.17, S.13, 14, 24): 1B, 2A, 3B;~~

(259) ~~Unnamed Creek, Carlton County, (T.47, R.17, S.28, 29, 33, 34, 35): 1B, 2A, 3B;~~

~~(260) Unnamed Creek, Carlton County, (T.47, R.17, S.31, 32, 33, 34): 1B, 2A, 3B;~~

~~(261) Unnamed Creek, (T.55, R.8, S.20, 21, 29, 32, 33): 1B, 2A, 3B;~~

~~(262) Unnamed Creek, Meadowlands, (T.53, R.19, S.22, 23): 7;~~

~~(263) Unnamed Creek, (S-17-6), (T.53, R.11, S.30, 31, 32; T.53, R.12, S.25): 1B, 2A, 3B;~~

~~(264) Unnamed Creek, (S-17-9), (T.53, R.11, S.5; T.54, R.11, S.20, 29, 30, 32): 1B, 2A, 3B;~~

~~(265) Unnamed Ditch, Gilbert, (T.58, R.17, S.23, 24, 25, 36): 7;~~

~~(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;~~

~~(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);~~

~~(269) Whyte Creek, (T.57, R.10, S.1, 2, 11, 14, 23, 26, 27, 34): 1B, 2A, 3B;~~

~~(270) Woods Creek, (T.61, R.1E, S.1, 12, 13; T.62, R.1E, S.35, 36): 1B, 2A, 3B;~~

~~(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~~

~~(272) *All other streams in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 1B, 2Bd, 3B.~~

B. Lakes:

[For text of subitems (1) to (151), see M.R.]

(152) White Pine Lake, 16-0369-00, [WR] (T.61, R.3W, S.19, 20, 29, 30): 2B, 3B; and

(153) *Winchell Lake, 16-0354-00, [11/5/84P] (T.64, R.2, 3): 1B, 2A, 3B~~;~~.

~~(154) *All other lakes in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 1B, 2Bd, 3B; and~~

~~(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 stream reaches within each of the major watersheds in the Lake of the Woods Basin listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other listed waters in the Lake of the Woods Basin are as identified in items ~~A~~ B to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 09030001 Rainy River - Headwaters (August 9, 2016);

(2) 09030002 Vermilion River (August 9, 2016);

(3) 09030003 Rainy River - Rainy Lake (August 9, 2016);

(4) 09030005 Little Fork River (August 9, 2016);

(5) 09030006 Big Fork River (August 9, 2016);

(6) 09030007 Rapid River (August 9, 2016);

(7) 09030008 Rainy River - Lower (August 9, 2016); and

(8) 09030009 Lake of the Woods (August 9, 2016).

~~(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, 9, 10; 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;~~

~~(9) Camp E Creek, (T.60, R.9, S.7, 18; T.60, R.10, S.11, 12): 1B, 2A, 3B;~~

~~(10) Dark River, (T.60, R.19, S.19, 20, 30; T.60, R.20, 10, 11, 12, 13, 24): 1B, 2A, 3B;~~

~~(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; T.61, R.7, S.34): 1B, 2A, 3B;~~

~~(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;~~

~~(15) Gardner Brook, (T.63, 64, R.23, 24): 2C;~~

~~(16) Grassy Creek, (T.61, R.13, S.6; T.61, R.14, S.1): 1B, 2A, 3B;~~

~~(17) Harrigan Creek, (T.62, R.23, S.10): 1B, 2A, 3B;~~

~~(18) Harris Lake Creek (Harris Creek), (T.60, R.10, S.6; T.61, R.10, S.19, 30, 31): 1B, 2A, 3B;~~

~~(19) Hay Creek, (T.153, R.26, S.4, 8, 9, 17, 20): 1B, 2A, 3B;~~

~~(20) Hill Creek, (T.60, R.8, S.19, 30; T.60, R.9, S.24, 25): 1B, 2A, 3B;~~

~~(21) Indian Sioux River, Little, (T.65, R.15): 1B, 2Bd, 3B;~~

~~(22) Inga Creek, (T.60, R.9, S.2, 3; T.61, R.9, S.14, 22, 23, 27, 34, 35): 1B, 2A, 3B;~~

~~(23) *Inga Creek [11/5/84P] (T.61, R.9, S.11, 12): 1B, 2A, 3B;~~

~~(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, 29, 32): 1B, 2A, 3B;~~

(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;~~

(26) ~~Island River, (T.61, R.7, 8): 1B, 2Bd, 3C;~~

(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;~~

(28) ~~Johnson Creek, (T.60, R.18, S.6, 7, 8, 17, 20): 1B, 2A, 3B;~~

(29) ~~Kawishiwi River, outside Boundary Waters Canoe Area Wilderness, (Source to Fall Lake): 1B, 2Bd, 3C;~~

(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;~~

(31) ~~Longstorff Creek, (T.62, R.12, S.6, 7; T.63, R.12, S.31): 1B, 2A, 3B;~~

(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;~~

(33) ~~Mary Ann Creek, (T.58, R.10, S.16, 21): 1B, 2A, 3B;~~

(34) ~~Mike Kelly Creek (Kelly Creek), (T.60, R.11, S.14, 15, 23): 1B, 2A, 3B;~~

(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;~~

(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;~~

(37) ~~Moose River, St. Louis County, (T.68, R.18, 19): 1B, 2Bd, 3C;~~

(38) ~~Moose River, outside Boundary Waters Canoe Area Wilderness, (T.65, R.14): 1B, 2Bd, 3C;~~

(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;~~

(40) ~~Nip Creek, (T.59, R.11, S.3, 4; T.60, R.11, S.21, 22, 27, 28, 34): 1B, 2A, 3B;~~

(41) ~~Nira Creek, (T.61, R.11, S.22, 23, 27): 1B, 2A, 3B;~~

(42) ~~Pitt Creek, (T.159, R.32, S.4, 9, 16; T.160, R.32, S.21, 28, 33): 1B, 2A, 3B;~~

(43) ~~Portage Creek, (T.65, R.21): 2C;~~

(44) ~~Portage River, (T.65, R.14, S.24; T.65, R.13, S.19, 20, 28, 29): 1B, 2Bd, 3C;~~

(45) ~~Rainy River, (Outlet of Rainy Lake to Dam in International Falls): 1B, 2Bd, 3A;~~

(46) ~~Rainy River, (Dam in International Falls to Railroad Bridge in Baudette): 1C, 2Bd, 3A;~~

(47) ~~Rainy River, (Railroad Bridge in Baudette to Lake of the Woods): 2B, 3A;~~

(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;~~

(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;~~

(50) ~~Section 30 Creek, (T.63, R.11, S.30; T.63, R.12, S.24, 25): 1B, 2A, 3B;~~

(51) ~~Sea Gull River, (T.66N, R.4W, S.30, 31): 1C, 2Bd, 3C;~~

(52) ~~Shine Brook (Swine Creek), (T.62, R.25, S.11, 14, 15, 16): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(55) *Snake River, [11/5/84P] (T.61, R.9, S.7; T.61, R.10, S.12): 1B, 2A, 3B;~~

~~(56) Sphagnum Creek, (T.60, R.9, S.4; T.61, R.9, S.28, 29, 33): 1B, 2A, 3B;~~

~~(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;~~

~~(59) Tomlinson Creek, (T.60, R.7, S.18, 19, 31; T.60, R.8, S.24, 25, 36): 1B, 2A, 3B;~~

~~(60) Trout Brook, (T.66, R.26, S.19, 30; T.66, R.27, S.24, 25): 1B, 2A, 3B;~~

~~(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;~~

~~(62) Two Rivers, West, (T.61, R.15, S.6, 7, 8, 9, 14, 15, 16, 17): 1B, 2A, 3B;~~

~~(63) Unnamed Creek, (T.65, R.19, S.4, 5; T.66, R.19, S.33): 1B, 2A, 3B;~~

~~(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;~~

~~(65) Venning Creek, (T.60, R.23, S.1, 2, 11, 12, 13, 14; T.61, R.23, S.35): 1B, 2A, 3B;~~

~~(66) Victor Creek, (T.60, R.9, S.12, 13): 1B, 2A, 3B;~~

~~(67) Weiss Creek, (T.59, R.9, S.2, 3, 11; T.60, R.9, S.27, 34): 1B, 2A, 3B;~~

~~(68) Wenho Creek, (T.58, R.10, S.17, 20, 21, 27, 28, 34): 1B, 2A, 3B;~~

~~(69) Zippel Creek, West Branch, (T.162, R.33, 34): 2C;~~

~~(70) *All other streams in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 1B, 2Bd, 3B; and~~

~~(71) *All other streams in the Voyageurs National Park [11/5/84P]: 2B, 3B.~~

B. Lakes:

[For text of subitems (1) to (182), see M.R.]

(183) *Wisini Lake, 38-0361-00, [11/5/84P] (T.64, R.7): 1B, 2A, 3B; and

(184) Woods, Lake of the, 39-0002-00, (see Lake of the Woods)~~;~~.

~~(185) *All other lakes in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 1B, 2Bd, 3B;~~

~~(186) *All wetlands in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 2D;~~

~~(187) *All other lakes in the Voyageurs National Park [11/5/84P]: 2B, 3B; and~~

~~(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 stream reaches within each of the major watersheds in the Red River of the North Basin listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other listed waters in the

Red River of the North Basin are as identified in items ~~A~~ B to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 09020101 Bois de Sioux River (August 9, 2016);

(2) 09020102 Mustinka River (August 9, 2016);

(3) 09020103 Otter Tail River (August 9, 2016);

(4) 09020104 Upper Red River of the North (August 9, 2016);

(5) 09020106 Buffalo River (August 9, 2016);

(6) 09020107 Red River of the North - Marsh River (August 9, 2016);

(7) 09020108 Wild Rice River (August 9, 2016);

(8) 09020301 Red River of the North - Sandhill River (August 9, 2016);

(9) 09020302 Upper/Lower Red Lake (August 9, 2016);

(10) 09020303 Red Lake River (August 9, 2016);

(11) 09020304 Thief River (August 9, 2016);

(12) 09020305 Clearwater River (August 9, 2016);

(13) 09020306 Red River of the North - Grand Marais Creek (August 9, 2016);

(14) 09020309 Snake River (August 9, 2016);

(15) 09020311 Red River of the North - Tamarac River (August 9, 2016);

(16) 09020312 Two Rivers (August 9, 2016); and

(17) 09020314 Roseau River (August 9, 2016).

~~(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, 20, 29): 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;~~

~~(9) Buckboard Creek, (T.144, R.37, S.19, 30, 31; T.144, R.38, S.11, 12, 13, 24): 1B, 2A, 3B;~~

~~(10) Clearwater River, (T.148, R.35, S.5, 6, 8, 17, 20, 29, 31, 32; T.149, R.35, S.20, 29, 31, 32): 1B, 2A, 3B;~~

~~(11) County Ditch No. 6A-2, Rothsay, (T.135, R.45, S.21, 28, 33): 7 (see subitem (68));~~

~~(12) County Ditch No. 32, Sabin, (T.138, R.48, S.13, 14, 15, 16, 17, 18): 7;~~

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

~~(14) Dead Horse Creek, (T.138, R.38, S.3, 4, 7, 8, 9, 16): 1B, 2A, 3B;~~

~~(15) Deerhorn Creek, (T.136, R.44, 45, 46): 2C;~~

~~(16) Doran Slough, (T.131, 132, R.46, 47): 2C;~~

~~(17) Eighteen Mile Creek, (T.127, R.46, 47): 2C;~~

~~(18) Elbow Lake Creek (Solid Bottom Creek), (T.142, R.38, S.6; T.143, R.38, S.31, 32): 1B, 2A, 3B;~~

~~(19) Felton Creek, (T.141, R.44, S.7, 8, 17; T.141, R.45, S.7, 8, 12, 13, 14, 15, 16, 17, 18, 22; T.141, R.46, S.12, 13, 14): 1B, 2A, 3B;~~

~~(20) Five Mile Creek, (T.127, 128, R.45): 2C;~~

~~(21) Gentilly River, (T.149, 150, R.45): 2C;~~

~~(22) Hay Creek, (T.137, 138, R.44, 45, 46): 2C;~~

~~(23) Hay Creek (County Ditch No. 7 or County Ditch No. 9), (T.161, 162, R.37, 38, 39): 2C;~~

~~(24) Hill River, (T.148, 149, 150, R.39, 40, 41, 42): 2C;~~

~~(25) Holmstad Creek, (T.136, R.37, S.7; T.136, R.38, S.12, 13, 14): 1B, 2A, 3B;~~

~~(26) Hoover Creek, (T.152, 153, 154, R.29, 30): 2C;~~

~~(27) Joe River, (T.162, 163, 164, R.49, 50): 2C;~~

~~(28) Joe River, Little, (T.163, R.47, 48): 2C;~~

~~(29) Judicial Ditch No. 13, Goodridge, (T.154, R.40, S.16, 17, 18): 7;~~

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

~~(31) Lawndale Creek, (T.135, R.45, S.5, 6; T.135, R.46, S.1, 2): 1B, 2A, 3B;~~

~~(32) Lengby Creek, (T.147, R.39, S.33, 34): 1B, 2A, 3B;~~

~~(33) Long Branch Creek, (T.134, R.42, S.7): 1B, 2A, 3B;~~

~~(34) Lost River, (T.148, R.38, S.20, 21, 22, 27, 28): 1B, 2A, 3B;~~

~~(35) Maple Creek, (T.147, 148, R.44, 45, 46): 2C;~~

~~(36) Marsh Creek (Judicial Ditch No. 91), (T.144, 145, 146, R.41, 42, 43): 2C;~~

~~(37) Meadow Creek, (T.151, R.30, S.6; T.151, R.31, S.1, 2): 1B, 2A, 3B;~~

~~(38) Mud Creek, (T.144, R.37, S.13, 14, 22, 23, 24): 1B, 2A, 3B;~~

~~(39) Mud River, (T.150, R.33, S.21, 28): 1B, 2A, 3B;~~

~~(40) Mustinka River, (Old Channel), (T.127, 128, R.45, 46, 47): 2C;~~

~~(41) Mustinka River, West Branch, (see Twelve Mile Creek, West Branch);~~

~~(42) Mustinka River Ditch, (T.128, R.45, S.19; T.128, R.46, S. 13, 14, 23, 24): 2C;~~

~~(43) Nassett Creek, (T.148, R.38, S.20, 28, 29): 1B, 2A, 3B;~~

~~(44) O'Brien Creek, (T.149, R.32, S.2; T.150, R.32, S.23, 24, 26, 35): 1B, 2A, 3B;~~

~~(45) Otter Tail River, (Height of Land Lake to mouth): 1C, 2Bd, 3C;~~

~~(46) Otter Tail River Diversion, (T.133, R.42, S.19, 30; T.133, R.43, S.25): 1C, 2Bd, 3C;~~

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

~~(48) Rabbit River, South Fork, (T.130, R.45, 46): 2C;~~

~~(49) Red Lake River, (Outlet of Lower Red Lake to mouth): 1C, 2Bd, 3C;~~

~~(50) Red River of the North, (T.132, R.47, S.8 in Breckenridge to Canadian border): 1C, 2Bd, 3C;~~

~~(51) Roy Creek (Roy Lake Creek), (T.145, 146, R.39): 2C;~~

~~(52) Rush Lake Creek, (T.135, R.38, S.23, 26, 27, 28): 1B, 2A, 3B;~~

~~(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;~~

~~(54) Spring Creek (State Ditch No. 68), (T.145, 146, R.45, 46, 47): 2C;~~

~~(55) Spring Creek, (T.142, R.41, 42): 2C;~~

~~(56) Spring Creek, (T.149, R.30, S.4, 5, 9, 10): 1B, 2A, 3B;~~

~~(57) Spring Lake Creek, (T.148, R.35, S.34, 35): 1B, 2A, 3B;~~

~~(58) Stony Creek, (T.137, 138, R.45, 46): 2C;~~

~~(59) Sucker Creek, (T.138, R.40, S.18; T.138, R.41, S.13): 1B, 2A, 3B;~~

~~(60) Sucker Creek, (T.160, 161, R.39): 2C;~~

~~(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, 3C;~~

~~(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;~~

~~(63) Twelve Mile Creek (excluding Class 7 segment), (T.126, 127, R.45): 2C;~~

~~(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;~~

~~(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;~~

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

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

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

(70) ~~Two Rivers, South Branch, (T.160, 161, R.41-49): 1C, 2Bd, 3C;~~

(71) ~~Unnamed Creek, Rothsay, (T.135, R.45, S.21, 22, 23, 25, 26): 7 (see subitem (11));~~

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

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

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

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

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

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

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

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

(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;~~

(81) ~~Whisky Creek, (T.136, 137, R.44, 45, 46): 2C;~~

(82) ~~Whisky Creek, (T.133, 134, R.46, 47, 48): 2C;~~

~~(83) White Earth River, (T.142, 143, 144, R.40, 41, 42): 2C;~~

~~(84) Willow Creek, New York Mills, (T.135, R.38, S.13, 14, 15, 16, 17, 18): 7; and~~

~~(85) Wolverton Creek, (T.135, 136, 137, R.48): 2C.~~

[For text of items B to 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 stream reaches within each of the major watersheds in the Upper Mississippi River Basin from the headwaters to the confluence with the St. Croix River listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other 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 to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 07010101 Mississippi River - Headwaters (August 9, 2016);

(2) 07010102 Leech Lake River (August 9, 2016);

(3) 07010103 Mississippi River - Grand Rapids (August 9, 2016);

(4) 07010104 Mississippi River - Brainerd (August 9, 2016);

(5) 07010105 Pine River (August 9, 2016);

(6) 07010106 Crow Wing River (August 9, 2016);

(7) 07010107 Redeye River (August 9, 2016);

(8) 07010108 Long Prairie River (August 9, 2016);

(9) 07010201 Mississippi River - Sartell (August 9, 2016);

(10) 07010202 Sauk River (August 9, 2016);

(11) 07010203 Mississippi River - St. Cloud (August 9, 2016);

(12) 07010204 North Fork Crow River (August 9, 2016);

(13) 07010205 South Fork Crow River (August 9, 2016);

(14) 07010206 Mississippi River - Twin Cities (August 9, 2016); and

(15) 07010207 Rum River (August 9, 2016).

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

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

~~(3) Barbour Creek, (T.44, R.28, S.28): 1B, 2A, 3B;~~

~~(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.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, 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;~~

~~(26) Buckman Creek (excluding Class 7 segment), (T.39, 40, R.30, 31): 2C;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(31) Camp Creek, (T.43, R.28, S.4, 5): 1B, 2A, 3B;~~

~~(32) Camp Ripley Brook, (T.132, R.29, S.18, 19; T.132, R.30, S.12, 13): 1B, 2A, 3B;~~

~~(33) Cat River (Cat Creek), (T.137, R.35, S.4, 9, 10, 11, 12, 13): 1B, 2A, 3B;~~

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

~~(35) Cedar Creek, (T.138, R.31, S.23, 26, 27, 28): 1B, 2A, 3B;~~

~~(36) Chase Brook, (T.38, 39, R.27): 2C;~~

~~(37) Clearwater Creek, (T.56, 57, R.25): 2C;~~

~~(38) Cold Creek, (T.145, R.33, S.19): 1B, 2A, 3B;~~

~~(39) Cold Spring Creek, (T.123, R.30, S.14, 15): 1B, 2A, 3B;~~

~~(40) Coon Creek, (T.43, R.29, 30): 2C;~~

~~(41) Corey Brook (Cory Brook), (T.135, R.30, S.9, 15, 16, 21, 22, 27): 1B, 2A, 3B;~~

~~(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;~~

~~(43) County Ditch No. 17, St. Cloud, Bel Clare Estates, (T.124, R.29, S.13, 24, 25): 7;~~

~~(44) County Ditch No. 23, Garfield, (T.129, R.38, S.26, 27): 7;~~

~~(45) County Ditch No. 23A, Willmar, (T.119, R.34, S.29, 30, 32; T.119, R.35, S.23, 25, 26): 7;~~

~~(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;~~

~~(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;~~

~~(48) County Ditch No. 63, Near Hutchinson, West Lynn Coop Cry., (T.116, R.30, S.19, 20, 21, 28, 33): 7;~~

~~(49) County Ditch No. 132, Lakeside, Lakeside Coop Cry., (T.116, R.31, S.16, 21): 7;~~

~~(50) Crane Creek (Judicial Ditch No. 1), (excluding Class 7 segment), (T.116, 117, R.26, 27): 2C;~~

~~(51) Crane Creek, Winsted, (T.117, R.27, S.14, 20, 21, 22, 23, 24, 25): 7;~~

~~(52) *Crow River, North Fork, [11/5/84R] (From the Lake Koronis outlet to the Meeker - Wright County line): 2B, 3C;~~

~~(53) Cullen Brook, (T.136, R.28, S.18, 19, 30; T.136, R.29, S.13): 1B, 2A, 3B;~~

~~(54) Dabill Brook, (T.137, R.31, S.1, 2, 10, 11; T.138, R.31, S.35, 36): 1B, 2A, 3B;~~

~~(55) Daggett Brook, (T.43, R.29, 30): 2C;~~

~~(56) Duel Creek, (T.129, R.32, S.20): 1B, 2A, 3B;~~

~~(57) Eagle Creek, (T.120, R.29): 2C;~~

~~(58) Elk River, Little, (T.130, 131, R.30, 31): 2C;~~

~~(59) Elk River, South Branch, Little, (T.130, R.30, 31, 32): 2C;~~

~~(60) Estes Brook, (T.36, 37, 38, R.27, 28): 2C;~~

~~(61) Everton Creek, (T.149, R.30): 2C;~~

~~(62) Fairhaven Creek, (T.121, R.28, S.5; T.122, R.28, S.29, 31, 32): 1B, 2A, 3B;~~

~~(63) Farley Creek, (T.147, R.28): 2C;~~

~~(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;~~

~~(65) Fawn Creek, (T.134, R.33, S.22, 27, 33, 34): 1B, 2A, 3B;~~

~~(66) Finn Creek, (T.135, R.37, S.27, 34): 1B, 2A, 3B;~~

~~(67) Fish Creek, (T.28, R.22): 2C;~~

~~(68) Fletcher Creek, (T.42, R.31): 2C;~~

~~(69) Foley Brook, (T.141, R.25): 2C;~~

~~(70) Frederick Creek, (T.119, R.25, 26): 2C;~~

~~(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;~~

~~(74) Hanson Brook, (T.40, R.27): 2C;~~

~~(75) Hanson Brook (Threemile), (T.122, R.28, S.21, 22, 25, 26, 27, 36): 1B, 2A, 3B;~~

~~(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;~~

~~(77) Hay Creek, Crow Wing County, (T.43, 44, R.30, 31): 2C;~~

~~(78) Hay Creek, Wadena County, (T.134, R.33, S.7, 8, 9, 10, 11, 17, 18): 1B, 2A, 3B;~~

~~(79) Hay Creek (Mosquito Creek), (T.135, R.31, S.8, 9, 16, 17): 1B, 2A, 3B;~~

~~(80) Hazel Creek, (T.127, R.29, 30): 2C;~~

~~(81) Hellcamp Creek (Hellkamp Creek), (T.140, R.33, S.19; T.140, R.34, S.24): 1B, 2A, 3B;~~

~~(82) Hennepin Creek, (T.144, R.35, S.3, 10, 15, 16, 21; T.145, R.35, S.34): 1B, 2A, 3B;~~

~~(83) Hennepin Creek (excluding trout waters), (T.144, 145, 146, R.34, 35): 2C;~~

~~(84) Hoblin Creek, (T.137, R.30, S.17, 18, 19): 1B, 2A, 3B;~~

~~(85) Indian Creek, (T.141, 142, R.36, 37): 2C;~~

~~(86) Irish Creek, (T.129, R.31): 2C;~~

~~(87) Iron Creek, (T.134, 135, R.31, 32): 2C;~~

~~(88) Jewett Creek (Jewitts Creek or County Ditch No. 17), (T.119, 120, R.30, 31): 2C;~~

~~(89) Johnson Creek, (T.137, R.25): 2C;~~

~~(90) Judicial Ditch No. 1, Lakeside, Lakeside Coop Cry., (T.116, R.31, S.28, 33): 7;~~

~~(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;~~

~~(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;~~

~~(93) Kawishiwash Creek, (T.142, R.32, S.12): 1B, 2A, 3B;~~

~~(94) Kettle Creek (Kettle River), (T.138, R.35, 36, 37): 2C;~~

~~(95) Kinzer Creek, (T.123, R.30, S.27, 34): 1B, 2A, 3B;~~

~~(96) Kitchi Creek, (T.146, 147, R.29, 30): 2C;~~

~~(97) Kitten Creek, (T.137, R.34, 35): 2C;~~

~~(98) Larson Creek, (T.128, R.32, S.6): 1B, 2A, 3B;~~

~~(99) LaSalle Creek (excluding trout waters), (T.143, R.35): 2C;~~

~~(100) LaSalle Creek, (T.143, R.35, S.6; T.144, R.35, S.19, 30, 31): 1B, 2A, 3B;~~

~~(101) LaSalle River, (T.144, 145, R.35): 2C;~~

~~(102) Laura Brook, (T.141, R.26): 2C;~~

~~(103) Libby Brook, (T.50, R.23, S.5, 6; T.50, R.24, S.1, 2): 1B, 2A, 3B;~~

~~(104) Long Brook, Lower South, (T.44, R.30, S.12, 13): 1B, 2A, 3B;~~

~~(105) Long Brook, Upper South, (T.44, R.29, S.6, 7): 1B, 2A, 3B;~~

~~(106) Long Lake Creek, (T.46, R.25, S.10, 15): 1B, 2A, 3B;~~

~~(107) Luxemburg Creek, (T.123, R.28, S.16, 17, 18, 19, 20, 21, 22, 30): 1B, 2A, 3B;~~

~~(108) Matuska's Creek, (T.54, R.26, S.35, 36): 1B, 2A, 3B;~~

~~(109) Meadow Creek, (T.128, R.30): 2C;~~

~~(110) Meyers Creek (Johnson Creek), (T.122, R.28, S.4; T.123, R.28, S.22, 27, 33, 34): 1B, 2A, 3B;~~

~~(111) Michaud Brook, (T.140, R.25, S.7, 17, 18): 1B, 2A, 3B;~~

~~(112) Mike Drew Brook, (T.38, 39, R.26, 27): 2C;~~

~~(113) Mink Creek, Big, (T.41, 42, R.29, 30): 2C;~~

~~(114) Mink Creek, Little, (T.40, 41, R.29, 30, 31): 2C;~~

~~(115) *Mississippi River, [11/5/84R] (From Lake Itasca to Fort Ripley, at the common boundary of Crow Wing and Morrison Counties): 2B, 3C;~~

~~(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, 3C;~~

~~(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, 3C;~~

~~(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, 3C;~~

~~(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, 3C;~~

~~(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, 3C;~~

~~(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;~~

~~(122) Muckey Creek (Wallingford Creek), (T.139, R.33, S.1, 2, 10, 11, 12): 1B, 2A, 3B;~~

~~(123) Necktie River (T.145, R.32, S.6, 7, 8, 9, 16; T.145, R.33, S.1): 1B, 2A, 3B;~~

~~(124) Nelson Hay Creek, (T.130, R.31, S.1, 2): 1B, 2A, 3B;~~

~~(125) Northby Creek, (T.140, R.27): 2C;~~

~~(126) Norway Brook, (T.139, R.30): 2C;~~

~~(127) O'Brien Creek, (T.56, 57, R.22): 2C;~~

~~(128) O'Neill Brook, (T.38, R.26): 2C;~~

~~(129) Oak Ridge Creek (Oak Creek), (T.133, 134, R.36): 2C;~~

~~(130) Olson Brook, (T.136, R.30, S.12, 13, 14): 1B, 2A, 3B;~~

~~(131) Peterson Creek, (T.134, R.30, S.29 32): 1B, 2A, 3B;~~

~~(132) Pickerel Creek, (T.56, R.22, S.7, 18; T.56, R.23, S.13): 1B, 2A, 3B;~~

~~(133) Pigeon River, (T.147, R.27): 2C;~~

~~(134) Pike Creek (excluding Class 7 segment), (T.129, R.30): 2C;~~

~~(135) Pike Creek, Flensburg, (T.129, R.30, S.17, 18, 19, 20): 7;~~

~~(136) Pillager Creek, (T.133, 134, R.30): 2C;~~

~~(137) Pine River, South Fork, (T.138, R.31, S.14, 23): 1B, 2A, 3B;~~

~~(138) Pioneer Creek, (T.118, R.24): 2C;~~

~~(139) Pokegama Creek, (T.54, R.26, S.26, 27, 28): 1B, 2A, 3B;~~

~~(140) Pokegama Creek, Little, (T.54, R.26, S.26, 27, 34, 35): 1B, 2A, 3B;~~

~~(141) Pokety (Pickedee Creek), (T.144, R.32, S.29, 30; T.144, R.33, S.24, 25): 1B, 2A, 3B;~~

~~(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;~~

~~(143) Prairie Brook, (T.36, R.27): 2C;~~

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

~~(145) Rice Creek, (T.30, 31, 32, R.22, 23, 24): 1C, 2Bd, 3C;~~

~~(146) Rice Creek, Sherburne County, (T.35, R.29): 2C;~~

~~(147) Robinson Hill Creek, (T.123, R.28, S.4, 9, 10, 15; T.124, R.28, S.31, 32, 33): 1B, 2A, 3B;~~

~~(148) Rock Creek, Little, (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, 27, 33, 34): 1B, 2A, 3B;~~

~~(149) Rogers Brook, (T.134, R.30, S.29, 32): 1B, 2A, 3B;~~

~~(150) Rosholt Creek, (T.55, R.23, S.22, 23, 24): 1B, 2A, 3B;~~

~~(151) Round Creek, (T.43, R.31, S.14, 15): 1B, 2A, 3B;~~

~~(152) Round Prairie Creek (Trout Creek), (T.127, R.33, S.4; T.128, R.33, S.20, 29, 32, 33): 1B, 2A, 3B;~~

~~(153) *Rum River, [11/5/84P] (From the Ogechie Lake spillway to the northernmost confluence with Lake Onamia): 2B, 3B;~~

~~(154) *Rum River, [11/5/84R] (From the State Highway 27 bridge in Onamia to Madison and Rice Streets in Anoka): 2B, 3C;~~

~~(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;~~

~~(156) Sand Creek, (T.55, R.23, S.15, 22, 27, 28, 29, 32, 33): 1B, 2A, 3B;~~

~~(157) Sauk Creek, Little, (T.127, R.34, S.1; T.128, R.34, S.36): 1B, 2A, 3B;~~

~~(158) Schoolcraft Creek, (T.142, R.34, S.5, 7, 8, 17): 1B, 2A, 3B;~~

~~(159) Seven Mile Creek, (T.133, 134, R.30, 31): 2C;~~

~~(160) Sisseebakwet Creek, (T.54, R.26, S.19, 29, 30): 1B, 2A, 3B;~~

~~(161) Six Mile Brook, (T.144, R.26, 27): 2C;~~

~~(162) Skimmerhorn Creek (Skimerhorn Creek), (T.149, R.30): 2C;~~

~~(163) Skunk Creek, (T.144, 145, R.34): 2C;~~

~~(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;~~

~~(165) Smart's Creek, (T.126, R.28, S.17, 18, 20): 1B, 2A, 3B;~~

~~(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;~~

~~(167) Smith Creek, Unnamed Tributary, (T.53, R.26, S.11, 12): 1B, 2A, 3B;~~

~~(168) Smith Creek, Unnamed Tributary, (T.54, R.26, S.35, 36): 1B, 2A, 3B;~~

~~(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;~~

~~(170) Snowball Creek, (T.56, R.23): 2C;~~

~~(171) Split Hand Creek, (T.53, R.24, 25): 2C;~~

~~(172) Spring Brook, Stearns County, (T.121, R.28, S.7; T.121, R.29, S.12): 1B, 2A, 3B;~~

~~(173) Spring Brook, Crow Wing County, (T.138, R.28, S.27, 34): 1B, 2A, 3B;~~

~~(174) Spring Brook (Spring Branch), Cass County, (T.139, R.26, S.3, 10, 11, 14): 1B, 2A, 3B;~~

~~(175) Spring Brook, Lower, (T.57, R.25, S.6; T.58, R.25, S.31): 1B, 2A, 3B;~~

~~(176) Spring Creek, (T.55, R.23, S.25, 26, 27): 1B, 2A, 3B;~~

~~(177) Spruce Creek, (T.130, R.36, S.3, 4, 9, 10; T.131, R.36, S.28, 29, 31, 32, 33, 34): 1B, 2A, 3B;~~

~~(178) Stag Brook, (T.121, 122, R.31): 2C;~~

~~(179) Stall Creek, (T.143, R.33, S.12, 13, 14): 1B, 2A, 3B;~~

~~(180) Stanchfield Branch, Lower, Braham, (T.37, R.23, S.3, 10, 15, 22): 7;~~

~~(181) Stocking Creek, (T.138, R.34, 35): 2C;~~

~~(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;~~

~~(183) Stony Brook (Stoney Brook), Foley, (T.36, R.29, S.2, 9, 10, 11, 16; T.37, R.29, S.35, 36): 7;~~

~~(184) Stony Creek (Wabedo Creek), (T.140, R.28): 2C;~~

~~(185) Stony Point Brook, (T.147, R.28, S.22, 27, 34): 2C;~~

~~(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;~~

~~(187) Straight Lake Creek, (T.140, R.36, S.6; T.140, R.37, S.1, 2): 1B, 2A, 3B;~~

~~(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;~~

~~(189) Sucker Creek (Gould Creek), (T.144, R.36, S.27, 28, 29, 30, 32, 33): 1B, 2A, 3B;~~

~~(190) Sucker Creek, Meeker County, (T.118, R.30, S.4, 5, 6, 7): 1B, 2A, 3B;~~

~~(191) Swamp Creek, Big, (T.137, 138, 139, R.32, 33): 2C;~~

~~(192) Swamp Creek, Little, (T.136, 137, R.33): 2C;~~

~~(193) Swan Creek, (T.134, 135, R.32): 2C;~~

~~(194) Swan Creek, Little, (T.135, R.32): 2C;~~

~~(195) Swift River, (T.142, R.27): 2C;~~

~~(196) Taylor Creek, (T.128, R.31): 2C;~~

~~(197) Ted Brook Creek, (T.130, R.31): 2C;~~

~~(198) Thiel Creek (Teal), (T.121, R.28, S.5, 6, 8): 1B, 2A, 3B;~~

~~(199) Tibbits Brook, (T.33, 34, R.26, 27): 2C;~~

~~(200) Tibbetts Creek (Tibbetts Brook), (T.39, 40, R.27, 28): 2C;~~

~~(201) Trout Brook, St. Paul, (T.29, R.22, S.18, 19): 7;~~

~~(202) Tower Creek, (T.135, R.32): 2C;~~

~~(203) Two Rivers, South Branch, Albany, (T.125, R.31, S.21, 22, 23): 7;~~

~~(204) Two Rivers Springs, (T.51, R.23, S.19; T.51, R.24, S.24, 25, 26): 1B, 2A, 3B;~~

~~(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;~~

~~(206) Unnamed Creek, Cass County, (T.137, R.31, S.4, 5): 1B, 2A, 3B;~~

~~(207) Unnamed Creek, Cass County, (T.139, R.26, S.3, 10): 1B, 2A, 3B;~~

~~(208) Unnamed Creek, Calumet, (T.56, R.23, S.21): 7;~~

~~(209) Unnamed Creek, Montrose, Hiller Mobile Home Court, (T.119, R.26, S.22, 26, 27, 35): 7;~~

~~(210) Unnamed Creek, Rogers, (T.120, R.23, S.15, 16, 22, 23): 7;~~

~~(211) Unnamed Creek, Grove City, (T.120, R.32, S.34, 35, 36): 7;~~

~~(212) Unnamed Creek, Albertville, (T.121, R.23, S.30; T.121, R.24, S.25, 36): 7;~~

~~(213) Unnamed Creek, Eden Valley, Ruhland Feeds, (T.121, R.31, S.2; T.122, R.31, S.35): 7;~~

~~(214) Unnamed Creek, Lake Henry, (T.123, R.33, S.11, 14): 7;~~

~~(215) Unnamed Creek, Miltona, (T.129, R.36, S.6; T.130, R.36, S.30, 31): 7;~~

~~(216) Unnamed Ditch, Braham, (T.37, R.23, S.2, 3): 7;~~

~~(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;~~

~~(218) Unnamed Ditch, McGregor, (T.48, R.23, S.31, 32): 7;~~

~~(219) Unnamed Ditch, Nashwauk, (T.56, R.22, S.4, 5; T.57, R.22, S.32): 7;~~

~~(220) Unnamed Ditch, Taconite, (T.56, R.24, S.22 SW1/4): 7;~~

~~(221) Unnamed Ditch, Glencoe, Green Giant, (T.115, R.28, S.21, 22, 27, 28): 7;~~

~~(222) Unnamed Ditch, Glencoe, Green Giant, (T.115, R.28, S.14, 23): 7;~~

~~(223) Unnamed Ditch, Winsted, Green Giant, (T.117, R.27, S.10, 11): 7;~~

~~(224) Unnamed Ditch, Montrose, Hiller Mobile Home Court, (T.119, R.26, S.34, 35): 7;~~

~~(225) Unnamed Ditch, Kandiyohi, (T.119, R.34, S.10, 15, 21, 22, 28, 29): 7;~~

~~(226) Unnamed Ditch, Rogers, (T.120, R.23, S.15): 7;~~

~~(227) Unnamed Ditch, Belgrade, (T.123, R.34, S.19, 30): 7;~~

~~(228) Unnamed Ditch, Flensburg, (T.129, R.30, S.30; T.129, R.31, S.25): 7;~~

~~(229) Unnamed Ditch, Miltona, (T.130, R.36, S.30; T.130, R.37, S.25, 36): 7;~~

~~(230) Unnamed Stream, Winsted, (T.117, R.27, S.11, 12): 7;~~

~~(231) Unnamed Stream, Flensburg, (T.129, R.30, S.19, 30): 7;~~

~~(232) Vandell Brook (Vondell Brook), (T.37, 38, R.26): 2C;~~

~~(233) Van Sickle Brook, (T.138, R.26, S.14, 15, 23, 24): 1B, 2A, 3B;~~

~~(234) Wallingford Brook (Wallingford Creek), (T.139, R.33, S.1, 2, 11; T.140, R.33, S.25, 36): 1B, 2A, 3B;~~

~~(235) Warba Creek, (T.54, R.23, S.13, 14, 15, 21, 22, 23, 24): 1B, 2A, 3B;~~

~~(236) Welcome Creek, (T.56, 57, R.22): 2C;~~

~~(237) Whitley's Creek (Whiteley Creek), (T.45, R.30, S.16, 17, 20, 21): 1B, 2A, 3B;~~

~~(238) Whitney Brook, (T.39, R.26, 27): 2C;~~

~~(239) Willow Creek, Otter Tail County, (T.133, R.38, S.2, 11; T.134, R.38, S.26, 35): 1B, 2A, 3B;~~

~~(240) Willow Creek, Stearns and Meeker Counties, (T.121, R.29, S.10, 11, 14, 23): 1B, 2A, 3B;~~

~~(241) Willow River, North Fork, (T.142, R.25): 2C;~~

~~(242) Willow River, South Fork, (T.142, R.25): 2C;~~

~~(243) Wilson Creek, (T.137, R.30): 2C; and~~

~~(244) Wolf Creek, (T.42, R.30): 2C.~~

[For text of items B to D, see M.R.]

Subp. 5. **Minnesota River Basin.** The water use classifications for the stream reaches within each of the major watersheds in the Minnesota River Basin listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other listed waters in the Minnesota River Basin are as identified in items ~~A~~ B to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 07020001 Minnesota River - Headwaters (August 9, 2016);

(2) 07020002 Pomme de Terre River (August 9, 2016);

(3) 07020003 Lac qui Parle River (August 9, 2016);

(4) 07020004 Minnesota River - Yellow Medicine River (August 9, 2016);

(5) 07020005 Chippewa River (August 9, 2016);

(6) 07020006 Redwood River (August 9, 2016);

(7) 07020007 Minnesota River - Mankato (August 9, 2016);

(8) 07020008 Cottonwood River (August 9, 2016);

(9) 07020009 Blue Earth River (August 9, 2016);

(10) 07020010 Watonwan River (August 9, 2016);

(11) 07020011 Le Sueur River (August 9, 2016); and

(12) 07020012 Lower Minnesota River (August 9, 2016).

~~(1) Altermatts Creek (County Ditch No. 39), Comfrey, (T.108, R.33, S.17, 19, 20, 30; T.108, R.34, S.24, 25, 35, 36): 7;~~

~~(2) Assumption Creek, (T.115, R.23, S.2; T.116, R.23, S.34, 35): 1B, 2A, 3B;~~

~~(3) Badger Creek, (T.101, 102, R.28): 2C;~~

~~(4) Beaver Creek, East Fork (County Ditch No. 63), Olivia, Olivia Canning Company, (T.115, R.34, S.1, 2, 3, 4, 5, 6; T.115, R.35, S.1, 12, 13, 14, 23, 24, 25, 26; T.116, R.34, S.16, 20, 21, 28, 29, 30, 32, 33, 34, 35): 7;~~

~~(5) Blue Earth River, East Fork, (Brush Creek to mouth): 2C, 3C;~~

~~(6) Blue Earth River, West Fork, (Iowa border to mouth): 2C, 3C;~~

~~(7) Boiling Spring Creek (excluding Class 7 segment), (T.113, 114, R.37, 38): 2C;~~

~~(8) Boiling Springs Creek (County Ditch No. 1B), Echo, (T.113, R.38, S.5, 8; T.114, R.37, S.19, 30; T.114, R.38, S.25, 26, 27, 32, 33, 34): 7;~~

~~(9) Boot Creek (excluding Class 7 segment), (T.105, 106, R.22, 23): 2C;~~

~~(10) Boot Creek, New Richland, (T.105, R.22, S.6, 7; T.105, R.23, S.12, 13, 24): 7;~~

~~(11) Brafees Creek, (T.116, 117, R.40): 2C;~~

~~(12) Brush Creek, (Iowa border to mouth): 2C, 3C;~~

~~(13) Bull Run Creek, Little, (T.106, R.24, 25): 2C;~~

~~(14) Butterfield Creek, (T.106, 107, R.31, 32, 33): 2C;~~

~~(15) Canby Creek, (T.114, R.45, S.17, 18; T.114, R.46, S.13, 14, 21, 22, 23): 1B, 2A, 3B;~~

~~(16) Canby Creek (excluding trout waters), (South Dakota border to mouth): 2C, 3C;~~

~~(17) Cedar Run Creek, (T.103, 104, R.32, 33): 2C;~~

~~(18) Cherry Creek, Cleveland, (T.110, R.25, S.7, 8, 16, 17; T.110, R.26, S.12): 7;~~

~~(19) Chetomba Creek (excluding Class 7 segment), (T.116, 117, R.36, 37, 38): 2C;~~

~~(20) Chetomba Creek, Prinsburg, (T.116, R.36, S.6, 7, 18, 19; T.116, R.37, S.8, 9, 14, 15, 16, 23, 24; T.117, R.36, S.8, 9, 16, 17, 21, 28, 29, 30, 31, 32): 7;~~

~~(21) Chippewa River (see also County Ditch No. 60);~~

~~(22) Cobb Creek, Freeborn, (T.104, R.23, S.7, 8, 17; T.104, R.24, S.11, 12): 7;~~

~~(23) Cobb Creek Ditch, Freeborn, (T.103, R.23, S.2; T.104, R.23, S.14, 15, 16, 23, 26, 35): 7;~~

~~(24) Cobb River (Cobb River, Big), (T.103, 104, 105, 106, 107, R.23, 24, 25, 26, 27): 2C;~~

~~(25) Cobb River, Little (County Ditch No. 8), (T.105, 106, R.23, 24, 25, 26): 2C;~~

~~(26) Cottonwood Creek (excluding trout waters), (T.120, 121, 122, R.41, 42): 2C;~~

~~(27) Cottonwood Creek, (T.119, R.41, S.4; T.120, R.41, S.21, 28, 33): 1B, 2A, 3B;~~

~~(28) County Ditch No. 1, Echo, (T.113, R.38, S.8, 9): 7;~~

~~(29) County Ditch No. 4, Arco, (T.110, R.44, S.5; T.111, R.44, S.32, 33): 7;~~

~~(30) County Ditch No. 4, Norwood, (T.115, R.25, S.30; T.115, R.26, S.13, 14, 24, 25): 7;~~

~~(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;~~

~~(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;~~

~~(33) County Ditch No. 7, Lowry, (T.126, R.39, S.25, 26): 7;~~

~~(34) County Ditch No. 8 (see Cobb River, Little);~~

~~(35) County Ditch No. 9 (see Hazel Creek);~~

~~(36) County Ditch No. 12 (County Ditch No. 45), Waseca, (T.107, R.23, S.22, 23): 7;~~

~~(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;~~

~~(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);~~

~~(40) County Ditch No. 22, Montgomery, Green Giant Company, (T.111, R.23, S.4, 9, 10; T.112, R.23, S.33): 7;~~

~~(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;~~

~~(42) County Ditch No. 28, Marietta, (T.118, R.46, S.22, 23, 26): 7;~~

~~(43) County Ditch No. 38, Storden, (T.107, R.37, S.28, 29): 7;~~

~~(44) County Ditch No. 40A, Lafayette, (T.111, R.29, S.8, 14, 15, 16, 17, 23, 24): 7;~~

~~(45) County Ditch No. 42, Winthrop, (T.112, R.29, S.6, 7): 7;~~

~~(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;~~

~~(47) County Ditch No. 45, Renville, Southern Minnesota Beet Sugar Coop, (T.114, R.36, S.5, 6; 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;~~

~~(49) County Ditch No. 46, Willmar, (T.119, R.35, S.19, 20, 29): 7;~~

~~(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;~~

~~(51) County Ditch No. 54, Montgomery, (T.112, R.23, S.26, 33, 34, 35): 7;~~

~~(52) County Ditch No. 55 (see Rush River, North Branch);~~

~~(53) County Ditch No. 60 (Chippewa River), Millerville, Millerville Coop Cry., (T.130, R.39, S.14, 22, 23, 27, 28, 32, 33): 7;~~

~~(54) County Ditch No. 61, Kerkhoven, (T.120, R.37, S.21, 22): 7;~~

~~(55) County Ditch No. 63, Hanska, (T.108, R.30, S.11, 12, 14, 17, 18, 19, 20, 21, 22, 23, 27, 28): 7;~~

~~(56) County Ditch No. 66, Bird Island, (T.115, R.34, S.15, 16, 17, 18, 22, 23): 7;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(60) Crow Creek, (T.112, R.35): 2C;~~

~~(61) Dry Creek, (T.108, 109, R.36): 2C;~~

~~(62) Dry Weather Creek, (T.117, 118, R.39, 40, 41): 2C;~~

~~(63) Dry Wood Creek, (T.122, 123, R.42, 43): 2C;~~

~~(64) Eagle Creek, East Branch, (T.115, R.21, S.18): 1B, 2A, 3B;~~

~~(65) Eagle Creek, Main Branch, (T.115, R.21, S.7, 18; T.115, R.22, S.13): 1B, 2A, 3B;~~

~~(66) Echo Creek, (T.114, R.37): 2C;~~

~~(67) Eight Mile Creek (Judicial Ditch No. 7 or Eightmile Creek), (T.111, 112, 113, R.31): 2C;~~

~~(68) Elm Creek, North Fork, (T.104, R.34): 2C;~~

~~(69) Elm Creek, South Fork, (T.103, R.34): 2C;~~

~~(70) Emily Creek, (T.118, 119, R.43): 2C;~~

~~(71) Fish Creek, (T.123, 124, R.47, 48, 49): 2C;~~

~~(72) Five Mile Creek, (T.120, R.44): 2C;~~

~~(73) Florida Creek, (South Dakota border to mouth): 2C, 3C;~~

~~(74) Foster Creek (County Ditch No. 1) (excluding Class 7 segment), (T.102, 103, R.24): 2C;~~

~~(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;~~

~~(76) Hassel Creek, (T.122, 123, R.38, 39): 2C;~~

(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;~~

(78) ~~Hazel Creek (County Ditch No. 9), (T.115, R.39, 40, 41, 42): 2C;~~

(79) ~~High Island Ditch No. 5, Arlington, (T.113, R.27, S.16, 17, 21, 22, 27): 7;~~

(80) ~~Hindeman Creek (Spring Creek), (T.111, R.32, S.19, 20; T.111, R.33, S.24): 1B, 2A, 3B;~~

(81) ~~Iosco Creek, (T.108, R.23): 2C;~~

(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;~~

(83) ~~Judicial Ditch No. 1, Delavan, (T.104, R.27, S.23, 25, 26, 36): 7;~~

(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, 20, 21 NW1/4; T.117, R.44, S.12): 7;~~

(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;~~

(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);~~

(89) ~~Judicial Ditch No. 10, (see Wood Lake Creek);~~

(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;~~

~~(91) Judicial Ditch No. 12, Tyler, (T.109, R.43, S.9, 15, 16, 17, 18): 7;~~

~~(92) Judicial Ditch No. 29, Arco, (T.111, R.44, S.21, 28, 33): 7;~~

~~(93) Judicial Ditch No. 29 (Spring Creek), 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;~~

~~(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;~~

~~(96) Judicial Ditch No. 49 (Providence Creek), Amboy, (T.105, R.27, S.18, 19; T.105, R.28, S.13): 7;~~

~~(97) Kennaley's Creek, (T.27, R.23, S.18): 1B, 2A, 3B;~~

~~(98) Lac qui Parle River, (Lake Hendricks outlet to Minnesota River): 2C, 3C;~~

~~(99) Lac qui Parle River, West Fork, (South Dakota border to mouth): 2C, 3C;~~

~~(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;~~

~~(101) Lazarus Creek, (South Dakota border to Canby Creek): 2C, 3C;~~

~~(102) Lazarus Creek (Canby Creek), (T.115, R.45, S.14 to mouth): 2B, 3C;~~

~~(103) Le Sueur River, Little, (T.106, R.22): 2C;~~

~~(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;~~

~~(105) Long Lake Creek, (T.132, R.41, S.9): 1B, 2A, 3B;~~

~~(106) Middle Creek (County Ditch No. 92), (T.113, 114, R.36): 2C;~~

~~(107) Mink Creek (Judicial Ditch No. 60), (T.104, R.30, 31): 2C;~~

~~(108) Minneopa Creek, Lake Crystal, (T.108, R.28, S.26, 27, 32, 33, 34): 7;~~

~~(109) Minnesota River, (Big Stone Lake outlet to the Lac qui Parle dam): 1C, 2Bd, 3C;~~

~~(110) *Minnesota River, [11/5/84R] (Lac qui Parle dam to the dam in Granite Falls S.34, T.116, R.39): 1C, 2Bd, 3C;~~

~~(111) *Minnesota River, [11/5/84R] (from the dam in Granite Falls S.34, T.116, R.39 to Redwood County State-Aid Highway 11 bridge): 2B, 3C;~~

~~(112) Minnesota River, (River Mile 22 to mouth): 2C, 3C;~~

~~(113) Minnesota River, Little, (South Dakota border crossing to Big Stone Lake): 2C, 3C;~~

~~(114) Morgan Creek (Judicial Ditch No. 10) (excluding Class 7 segment), (T.109, R.29, 30): 2C;~~

~~(115) Mud Creek, (T.114, R.43, 44, 45): 2C;~~

~~(116) Mud Creek, (T.123, R.36, S.28, 29): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(119) Palmer Creek (County Ditch No. 68), (T.116, 117, 118, R.39): 2C;~~

~~(120) Paul's Creek, (T.110, R.26, S.14, 15): 1B, 2A, 3B;~~

~~(121) Pelican Creek, (T.130, R.41, 42): 2C;~~

~~(122) Pell Creek, Walnut Grove, (T.109, R.38, S.25, 26, 27, 28): 7;~~

~~(123) Perch Creek, (T.104, 105, 106, R.29, 30): 2C;~~

~~(124) Ramsey Creek, (T.112, R.36, S.1; T.113, R.36, S.35, 36): 1B, 2A, 3B;~~

~~(125) Redwood River, (T.110, R.42, S.5, 8, 17; T.111, R.42, S.32): 1B, 2A, 3B;~~

~~(126) Rice Creek, See County Ditch No. 12;~~

~~(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;~~

~~(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;~~

~~(129) Saint James Creek (excluding Class 7 segment), (T.105, 106, R.31, 32, 33): 2C;~~

~~(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;~~

~~(131) Seven Mile Creek, (T.109, R.27, S.2, 3, 4, 10, 11, 12): 1B, 2A, 3B;~~

~~(132) Shakopee Creek, (T.119, 120, R.36, 37, 38, 39, 40): 2C;~~

~~(133) Silver Creek (County Ditch No. 3), (T.108, R.23, 24): 2C;~~

~~(134) Smith Creek, (T.113, R.35, 36): 2C;~~

~~(135) South Creek, (T.102, 103, R.28, 29, 30): 2C, 3C;~~

~~(136) Spring Branch Creek, (T.106, R.29, 30): 2C;~~

~~(137) Spring Creek (Judicial Ditch No. 29) (excluding trout waters) (see also Hindeman Creek and Judicial Ditch No. 29), (T.110, 111, R.33, 34): 2C;~~

~~(138) Spring Creek (County Ditch No. 10A), (T.117, 118, R.39, 40): 2C;~~

~~(139) Stony Run, (T.121, 122, R.45, 46): 2C;~~

~~(140) Stony Run Creek (Judicial Ditch No. 21), (T.116, R.40): 2C;~~

~~(141) Three Mile Creek (Threemile Creek), (T.112, R.33): 2C;~~

~~(142) Timms Creek (County Ditch No. 35A), (T.114, 115, R.36): 2C;~~

~~(143) Unnamed #1, (T.27, R.23, S.18; T.27, R.24, S.13): 1B, 2A, 3B;~~

~~(144) Unnamed #4, (T.27, R.24, S.24): 1B, 2A, 3B;~~

~~(145) Unnamed #7, (T.27, R.24, S.26): 1B, 2A, 3B;~~

~~(146) Unnamed Creek, (T.108, R.28, S.1, 2): 1B, 2A, 3B;~~

~~(147) Unnamed Creek, (T.108, R.28, S.5): 1B, 2A, 3B;~~

~~(148) Unnamed Creek, (T.110, R.26, S.10, 11): 1B, 2A, 3B;~~

~~(149) Unnamed Creek, (T.108, R.28, S.6; T.109, R.29, S.25, 36): 1B, 2A, 3B;~~

~~(150) Unnamed Creek, Green Isle, (T.114, R.26, S.2, 3, 4, 8, 9, 17): 7;~~

~~(151) Unnamed Creek, Lake Town Township, (T.115, R.24, S.3, 10, 11; T.116, R.24, S.27, 34): 7;~~

~~(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;~~

~~(153) Unnamed Creek, Murdock, (T.120, R.38, S.1, 2; T.121, R.38, S.35): 7;~~

~~(154) Unnamed Ditch, Burnsville Freeway Sanitary Landfill, (T.27, R.24, S.28, 33): 7;~~

~~(155) Unnamed Ditch, Bricelyn, Owatonna Canning Company, (T.101, R.25, S.10): 7;~~

~~(156) Unnamed Ditch, Truman, (T.104, R.30, S.2, 11; T.105, R.30, S.25, 26, 35): 7;~~

~~(157) Unnamed Ditch (County Ditch No. 47), New Richland, (T.105, R.22, S.17, 18, 19; T.105, R.23, S.24): 7;~~

~~(158) Unnamed Ditch, Lewisville, (T.105, R.30, S.3; T.106, R.30, S.14, 23, 26, 34, 35): 7;~~

~~(159) Unnamed Ditch, Waldorf, (T.106, R.24, S.34): 7;~~

~~(160) Unnamed Ditch (County Ditch No. 45), Waseca, (T.107, R.23, S.14, 23): 7;~~

~~(161) Unnamed Ditch, Jeffers, (T.107, R.36, S.21): 7;~~

~~(162) Unnamed Ditch, Storden, (T.107, R.37, S.19, 30): 7;~~

~~(163) Unnamed Ditch, Eagle Lake, (T.108, R.25, S.18, 19; T.108, R.26, S.13): 7;~~

~~(164) Unnamed Ditch, Walnut Grove, (T.109, R.38, S.28): 7;~~

~~(165) Unnamed Ditch, Tracy, (T.109, R.39, S. 7, 18; T.109, R.40, S.13): 7;~~

~~(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;~~

~~(167) Unnamed Ditch, Lafayette, (T.111, R.29, S.6, 7, 8; T.111, R.30, S.12): 7;~~

~~(168) Unnamed Ditch, Wabasso, (T.111, R.37, S.13, 24): 7;~~

~~(169) Unnamed Ditch, Montgomery, (T.112, R.23, S.33): 7;~~

~~(170) Unnamed Ditch, Winthrop, (T.112, R.29, S.4, 5, 6): 7;~~

~~(171) Unnamed Ditch, Arlington, (T.113, R.27, S.21): 7;~~

~~(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;~~

~~(173) Unnamed Ditch, Green Isle, (T.114, R.26, S. 19; T.114, R.27, S.11, 12, 13, 14, 24): 7;~~

~~(174) Unnamed Ditch, New Auburn, (T.114, R.28, S.20): 7;~~

~~(175) Unnamed Ditch, Porter, (T.114, R.44, S.21, 28): 7;~~

~~(176) Unnamed Ditch, Bongards, Bongards Creameries, (T.115, R.25, S.9, 16): 7;~~

~~(177) Unnamed Ditch, Clarkfield, (T.115, R.41, S.16): 7;~~

~~(178) Unnamed Ditch, Clarkfield, (T.115, R.41, S.16, 21): 7;~~

~~(179) Unnamed Ditch (County Ditch No. 15), Madison, (T.118, R.44, S.27, 28, 34, 35): 7;~~

~~(180) Unnamed Ditch, Pennock, (T.119, R.36, S.2, 3, 4, 9, 10): 7;~~

~~(181) Unnamed Ditch, DeGraff, (T.121, R.38, S.19, 29, 30): 7;~~

~~(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;~~

~~(183) Unnamed Ditch, Alberta, (T.124, R.43, S.3, 4): 7;~~

~~(184) Unnamed Ditch, Farwell, Farwell Coop Cry. Assn., (T.126, R.39, S.6): 7;~~

~~(185) Unnamed Ditch, Lowry, (T.126, R.39, S.26, 35): 7;~~

~~(186) Unnamed Ditch, Brandon, (T.129, R.39, S.21, 22): 7;~~

~~(187) Unnamed Ditch, Evansville, (T.129, R.40, S.10, 11): 7;~~

~~(188) Unnamed Dry Run, Near Minneopa, Blue Earth - Nicollet Electric, (T.108, R.27, S.16): 7;~~

~~(189) Unnamed Dry Run, Mankato, Southview Heights Coop Association, (T.108, R.26, S.19, 30; T.108, R.27, S.24): 7;~~

~~(190) Unnamed Stream, Mankato, Midwest Electric Products, (T.109, R.26, S.20, 21, 28): 7;~~

~~(191) Unnamed Stream, Savage, (T.115, R.21, S.8, 9): 7;~~

~~(192) Wabasha Creek, (T.112, R.34): 2C;~~

~~(193) Whetstone River, (South Dakota border to mouth): 2C, 3C;~~

~~(194) Old Whetstone River Channel, Ortonville, Big Stone Canning Company, (T.121, R.46, S.16, 21): 7;~~

~~(195) Willow Creek, (T.104, 105, R.31, 32): 2C;~~

~~(196) Wood Lake Creek, (Judicial Ditch No. 10), (T.113, 114, 115, R.38, 39): 2C;~~

~~(197) Yellow Bank River, North Fork, (South Dakota border to mouth): 2C, 3C;~~

~~(198) Yellow Bank River, South Fork, (South Dakota border to mouth): 2C, 3C; and~~

~~(199) Yellow Medicine River, North Fork, (South Dakota border to mouth): 2C, 3C.~~

[For text of items B to D, see M.R.]

Subp. 6. **Saint Croix River Basin.** The water use classifications for the stream reaches within each of the major watersheds in the Saint Croix River Basin listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other listed waters in the Saint Croix River Basin are as identified in items ~~A~~ B to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 07030001 Upper St. Croix River (August 9, 2016);

(2) 07030003 Kettle River (August 9, 2016);

(3) 07030004 Snake River (August 9, 2016); and

(4) 07030005 Lower St. Croix River (August 9, 2016).

~~(1) Bang's Brook, (T.41, R.17, S.15, 20, 21, 22, 29): 1B, 2A, 3B;~~

~~(2) Barnes Spring, (T.41, R.18, S.1, 12): 1B, 2A, 3B;~~

~~(3) Bear Creek, (T.43, R.23, 24): 2C;~~

~~(4) Beaver Creek, (T.35, R.20, S.7, 8, 17; T.35, R.21, S.3, 4, 10, 12, 13, 14, 15; T.36, R.21, S.33, 34): 1B, 2A, 3B;~~

~~(5) Bergman Brook, (T.42, 43, R.23, 24): 2C;~~

~~(6) Bjork Creek, (T.42, R.16, S.2, 9, 10, 11): 1B, 2A, 3B;~~

~~(7) Brown's Creek, (T.30, R.20, S.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;~~

~~(10) Crooked Creek, West Fork, (T.41, R.18, S.11, 12; T.42, R.18, S.3, 4, 9, 10, 16; T.43, R.18, S.27, 34): 1B, 2A, 3B;~~

~~(11) Crystal Creek, (T.41, R.16, S.9, 10, 15): 1B, 2A, 3B;~~

~~(12) Grindstone River, (T.42, R.21, S.20, 21, 28, 29): 1B, 2A, 3B;~~

~~(13) Groundhouse River, West Fork, (T.39, 40, R.26): 2C;~~

~~(14) Hay Creek, (T.40, R.18, S.6, 7, 8, 18, 19; T.41, R.18, S.10, 15, 20, 21, 22, 29, 32, 33): 1B, 2A, 3B;~~

~~(15) Hay Creek, (T.42, 43, 44, R.15, 16): 1B, 2Bd, 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, 3C;~~

~~(18) *Kettle River, [11/5/84P] (From 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 to its confluence with the Saint Croix River): 2B, 3B;~~

~~(19) King Creek, (T.47, R.18, S.18, 19; T.47, R.19, S.1, 12, 13): 1B, 2A, 3B;~~

~~(20) Larson Creek, (T.44, R.17, 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, 3C;~~

~~(26) Moosehorn River (Moose River), (T.48, R.18, S.3, 9, 10, 14, 15, 16, 23, 26, 34, 35): 1B, 2A, 3B;~~

~~(27) Old Mill Stream, (T.31, R.19, S.6; T.31, R.20, S.1; T.32, R.20, S.36): 1B, 2A, 3B;~~

~~(28) Pelkey Creek, (T.41, R.20, S.33, 34, 35): 1B, 2A, 3B;~~

~~(29) Rock Creek, (T.37, 38, R.20, 21): 1B, 2Bd, 3C;~~

~~(30) Rush Creek, (T.37, R.20, 21): 1B, 2Bd, 3C;~~

~~(31) *Saint Croix River, [11/5/84R] (Wisconsin border crossing to Taylors Falls): 1B, 2Bd, 3C;~~

~~(32) *Saint Croix River, [11/5/84R] (Taylors Falls to mouth): 1C, 2Bd, 3C;~~

~~(33) Sand River (Sand Creek), (T.43, R.18, S.4, 5, 7, 8, 18, 19; 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, 3C;~~

~~(36) Tamarack River, Lower, (Hay Creek to mouth): 1B, 2Bd, 3C;~~

~~(37) Tamarack River, Upper (Spruce River), (T.41, 42, R.15, 16): 1B, 2Bd, 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;~~

~~(41) Unnamed Ditch, Chisago City, (T.34, R.20, S.19, 29, 30, 32): 7;~~

~~(42) Unnamed Ditch, Almelund, Almelund Coop Cry., (T.35, R.20, S.25): 7;~~

~~(43) Unnamed Ditch, Moose Lake, (T.46, R.19, S.30): 7;~~

~~(44) Unnamed Dry Run, Wahkon, (T.41, R.25, S.3; T.42, R.25, S.29, 32, 33, 34): 7;~~

~~(45) Unnamed Stream (Falls Creek), (T.32, R.19, S.6, 7; T.32, R.20, S.1, 12): 1B, 2A, 3B;~~

~~(46) Unnamed Stream (Gilbertson), (T.32, R.19, S.19): 1B, 2A, 3B;~~

~~(47) Unnamed Stream, Shafer, (T.34, R.19, S.32, 33, 34): 7;~~

~~(48) Unnamed Stream (Willow Brook), (T.31, R.19, S.19): 1B, 2A, 3B;~~

~~(49) Valley Creek (Valley Branch), (T.28, R.20, S.9, 10, 14, 15, 16, 17): 1B, 2A, 3B;~~

~~(50) Wilbur Brook, (T.41, R.17, S.29, 30; T.41, R.18, S.23, 25, 26): 1B, 2A, 3B; and~~

~~(51) Wolf Creek, (T.42, R.18, S.4, 9, 16; T.43, R.18, S.32, 33): 1B, 2A, 3B.~~

[For text of items B to 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 stream reaches within each of the major watersheds in the Lower Mississippi River Basin from the confluence with the Saint Croix River to the Iowa border listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other 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 to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 07040001 Mississippi River - Lake Pepin (August 9, 2016);

(2) 07040002 Cannon River (August 9, 2016);

(3) 07040003 Mississippi River - Winona (August 9, 2016);

(4) 07040004 Zumbro River (August 9, 2016);

(5) 07040006 Mississippi River - La Crescent (August 9, 2016);

(6) 07040008 Root River (August 9, 2016);

(7) 07060001 Mississippi River - Reno (August 9, 2016); and

(8) 07060002 Upper Iowa River (August 9, 2016).

~~(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;~~

~~(4) Badger Creek, (T.103, R.6, S.9, 16, 21, 22, 27, 28, 34): 1B, 2A, 3B;~~

~~(5) Ballpark Creek, (T.102, R.4, S.19, 30; T.102, R.5, S.24): 1B, 2A, 3B;~~

~~(6) Bear Creek, (T.107, R.9, S.13, 14, 15, 16, 22): 1B, 2A, 3B;~~

~~(7) Bear Creek, North, Spring Grove (T.101, R.7, S.26, 27, 35): 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;~~

~~(10) Beaver Creek, (T.102, R.6, S.5; T.103, R.6, S.18, 19, 29, 30, 31, 32): 1B, 2A, 3B;~~

~~(11) Beaver Creek, East, (T.102, R.6, S.5, 6, 8, 17): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(15) Bee Creek, (T.101, R.6, S.29, 32, 33): 1B, 2A, 3B;~~

~~(16) Big Springs Creek, (T.104, R.9, S.21, 22, 26, 27): 1B, 2A, 3B;~~

~~(17) Borson Spring, (T.105, R.8, R.29, 32, 33): 1B, 2A, 3B;~~

~~(18) Brush Valley Creek (excluding trout waters), (T.104, R.5): 2C;~~

~~(19) Brush Valley Creek, (T.104, R.5, S.23, 24, 26): 1B, 2A, 3B;~~

~~(20) Bullard Creek, (T.112, R.14, S.1, 2, 3, 10; T.113, R.14, S.36): 1B, 2A, 3B;~~

~~(21) Burns Valley Creek, East Branch, (T.106, R.7, S.3, 10, 15): 1B, 2A, 3B;~~

~~(22) Burns Valley Creek, West Branch, (T.106, R.7, S.3, 4, 9, 16; T.107, R.7, S.34): 1B, 2A, 3B;~~

(23) ~~Burns Valley Creek, Main Branch, (T.106, R.7, S.2; T.107, R.7, S.35): 1B, 2A, 3B;~~

(24) ~~Butterfield Creek, (T.103, R.4, S.6, 7, 8, 18): 1B, 2A, 3B;~~

(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;~~

(26) ~~Camp Hayward Creek, (T.104, R.8, S.31, 32): 1B, 2A, 3B;~~

(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);~~

(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, 3C;~~

(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;~~

(31) ~~Carters Creek (Curtis Creek), Wykoff, (T.103, R.12, S.4, 9, 15, 16, 22): 7;~~

(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 (M-9-10-10-2), (T.102, R.8, S.32, 33): 1B, 2A, 3B;~~

(34) ~~Chub Creek, North Branch, (T.112, 113, R.19): 2C;~~

(35) ~~Clear Creek, (T.111, R.14, S.3, 10, 15): 1B, 2A, 3B;~~

(36) ~~Clear Creek, (T.102, R.4): 2C;~~

(37) ~~Cold Creek (Cold Spring Brook) (excluding trout waters), (T.110, 111, R.14): 2C;~~

~~(38) Cold Spring Brook (Cold Creek), (T.110, R.13, S.30, 31; T.110, R.14, S.25, 36): 1B, 2A, 3B;~~

~~(39) Coolridge Creek, (T.105, R.9, S.23, 26): 1B, 2A, 3B;~~

~~(40) Corey Creek, (T.105, R.6, S.18, 19; T.105, R.7, S.24, 25, 26, 27, 34): 1B, 2A, 3B;~~

~~(41) County Ditch No. 15, Kilkenny, (T.110, R.23, S.22, 23): 7;~~

~~(42) Crane Creek, (T.107, 108, R.20, 21, 22): 2C;~~

~~(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;~~

~~(44) Crooked Creek, North Fork, (T.102, R.5, S.17, 20, 21, 22, 23, 26): 1B, 2A, 3B;~~

~~(45) Crooked Creek, South Fork, (T.102, R.5, S.26, 28): 1B, 2A, 3B;~~

~~(46) Crystal Creek, (T.102, R.11, S.35, 36): 1B, 2A, 3B;~~

~~(47) Crystal Creek, (T.103, R.5, S.6, 7, 18, 19; T.103, R.6, S.1, 12): 1B, 2A, 3B;~~

~~(48) Dakota Creek (excluding trout waters), (T.105, R.5): 2C;~~

~~(49) Dakota Creek, (T.105, R.4, S.7; T.105, R.5, S.1, 2, 3, 11, 12): 1B, 2A, 3B;~~

~~(50) Daley Creek, (T.103, R.7, S.4, 5, 8; T.104, R.7, S.33): 1B, 2A, 3B;~~

~~(51) Diamond Creek, (T.103, R.8, S.18, 19; T.103, R.9, S.10, 11, 13, 14, 24): 1B, 2A, 3B;~~

~~(52) Dry Creek, (T.108, R.12, 13): 2C;~~

~~(53) Duschee Creek, (T.102, R.10, S.1; T.103, R.10, S.23, 24, 25, 26, 36): 1B, 2A, 3B;~~

~~(54) Dutch Creek, (T.112, R.20, 21): 2C;~~

~~(55) Eitzen Creek, (T.101, R.5, S.22, 23): 1B, 2A, 3B;~~

~~(56) Etna Creek, (T.102, R.13, S.25, 36): 1B, 2A, 3B;~~

~~(57) Ferguson Creek, (T.105, R.8, S.18; T.105, R.9, S.12, 13): 1B, 2A, 3B;~~

~~(58) Ferndale Creek, (T.104, R.7, S.29, 30, 31): 1B, 2A, 3B;~~

~~(59) Forestville Creek (see North Branch Creek);~~

~~(60) Frego Creek, (T.101, R.9, S.14, 15, 22, 23): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(63) Gilmore Creek, (T.106, R.7, S.6; T.107, R.7, S.20, 29, 30, 31, 32): 1B, 2A, 3B;~~

~~(64) Girl Scout Camp Creek, (T.103, R.7, S.29, 30): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(68) Hamilton Creek, (T.103, R.13, NW 1/4 S.6; T.103, R.14, NE 1/4 S.1): 1B, 2A, 3B;~~

~~(69) Hammond Creek, (T.109, R.13, S.28, 29): 1B, 2A, 3B;~~

~~(70) Harkcom Creek, (T.108, R.15, 16): 2C;~~

~~(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;~~

~~(73) Homer Creek, (T.106, 107, R.6): 2C;~~

~~(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;~~

~~(75) Indian Creek, West, (T.109, R.11, S.6, 7, 8, 16, 17, 21): 1B, 2A, 3B;~~

~~(76) Indian Spring Creek, (T.103, R.5): 2C;~~

~~(77) Iowa River, Little, (T.101, 102, R.14): 2C;~~

~~(78) Jordan Creek, Little (Carson Creek), (T.104, R.12, S.21, 22, 26, 27, 28): 1B, 2A, 3B;~~

~~(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;~~

~~(80) Kedron Creek, (T.104, R.13, S.36): 1B, 2A, 3B;~~

~~(81) King Creek, (T.111, R.11, 12): 2C;~~

~~(82) Kinney Creek, (T.105, R.13, S.1, 12, 13; T.106, R.13, S.36): 1B, 2A, 3B;~~

~~(83) Lanesboro Park Pond, (T.103, R.10, S.13): 1B, 2A, 3B;~~

~~(84) LeRoy Trout Pond, (T.101, R.14, S.36): 1B, 2A, 3B;~~

~~(85) Logan Creek (Logan Branch), (T.107, R.11, S.3): 1B, 2A, 3B;~~

~~(86) Long Creek (excluding trout waters), (T.108, 109, R.12): 2C;~~

~~(87) Long Creek, (T.109, R.12, S.3, 10, 15, 22, 27, 28): 1B, 2A, 3B;~~

~~(88) Lost Creek (Bear Creek), (T.104, R.11, S.18; T.104, R.12, S.8, 9, 10, 15, 16): 1B, 2A, 3B;~~

~~(89) Lynch Creek, (T.104, R.11, S.2, 11, 14): 1B, 2A, 3B;~~

~~(90) MacKenzie Creek, (T.108, 109, R.21): 2C;~~

~~(91) Mahoney Creek, (T.103, R.10): 2C;~~

~~(92) Mahoods Creek, (T.103, R.12, S.20): 1B, 2A, 3B;~~

~~(93) Maple Creek, (T.102, R.8, S.3, 4; T.103, R.8, S.27, 28, 33, 34): 1B, 2A, 3B;~~

~~(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;~~

~~(95) Middle Creek, (T.109, R.11, S.18; T.109, R.12, S.2, 3, 11, 13, 14): 1B, 2A, 3B;~~

~~(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;~~

~~(97) Miller Creek, (T.111, R.12, S.7, 8, 9, 18; T.111, R.13, S.13, 24): 1B, 2A, 3B;~~

~~(98) Money Creek, (T.105, R.7, S.3, 4, 6, 7, 8, 9, 16, 17): 1B, 2A, 3B;~~

~~(99) Mound Prairie Creek, (T.104, R.5): 2C;~~

~~(100) Mud Creek (Judicial Ditch No. 6), (T.108, 109, R.20, 21): 2C;~~

~~(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;~~

~~(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);~~

~~(104) New 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;~~

~~(106) Partridge Creek, (T.101, R.10, S.4; T.102, R.10, S.33): 1B, 2A, 3B;~~

~~(107) Peterson Creek, (T.106, R.8, S.7, 8): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(110) Pine Creek (excluding Class 7 segment), (T.101, R.10): 2C, 3C;~~

~~(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;~~

~~(112) Pine Creek, Harmony, (T.101, R.9, S.31; T.101, R.10, S.24, 25, 36): 7;~~

~~(113) Pine Creek, South Fork, (T.105, R.5, S.19; T.105, R.6, S.24): 1B, 2A, 3B;~~

~~(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;~~

~~(115) Pine Creek, Dakota County, (excluding trout waters), (T.113, R.18): 2C;~~

~~(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;~~

~~(117) Pleasant Valley Creek (excluding trout waters), (T.106, 107, R.6, 7): 2C;~~

~~(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;~~

~~(119) Plum Creek, (T.108, R.15): 2C;~~

~~(120) Prairie Creek, (T.110, 111, 112, R.18, 19, 20): 2C;~~

~~(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;~~

~~(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;~~

~~(123) Riceford Creek, Mabel, (T.101, R.8, S.24, 25, 26): 7;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(129) Rose Valley Creek, (T.105, R.5, S.22, 27, 34, 35): 1B, 2A, 3B;~~

~~(130) Rupprecht Creek (Rollingstone Creek), (T.107, R.9, S.13, 24, 25, 26, 35): 1B, 2A, 3B;~~

~~(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;~~

~~(132) Salem Creek, (T.106, R.15, 16): 2C;~~

~~(133) Schueler Creek, (T.104, R.8, S.1, 2, 3): 1B, 2A, 3B;~~

~~(134) Second Creek (Handshaw Coulee), (T.111, R.12, S.15): 1B, 2A, 3B;~~

~~(135) Shady Creek, (T.104, R.11, S.19, 30): 1B, 2A, 3B;~~

~~(136) Shattuck Creek (See Nepstad Creek);~~

~~(137) Shingle Creek, (T.109, 110, R.17): 2C;~~

~~(138) Silver Creek (excluding trout waters), (T.104, 105, R.6): 2C;~~

~~(139) Silver Creek, (T.104, R.6, S.1, 2, 11, 12, 14; T.105, R.6, S.34, 35): 1B, 2A, 3B;~~

~~(140) Silver Spring Creek, (T.108, 109, R.13): 2C;~~

~~(141) Snake Creek (excluding trout waters), (T.109, R.10): 2C;~~

~~(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;~~

~~(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;~~

~~(145) Spring Brook, (T.111, R.20, S.2, 3, 4): 1B, 2A, 3B;~~

~~(146) Spring Creek, (T.110, R.12, S.7, 17, 18, 20, 21, 27, 28, 29): 1B, 2A, 3B;~~

~~(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;~~

~~(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;~~

~~(149) Stockton Valley Creek, (T.106, R.8, S.2, 3, 10, 11, 14, 23; T.107, R.8, S.34): 1B, 2A, 3B;~~

~~(150) Storer Creek, (T.104, R.5, S.17, 18, 19, 30): 1B, 2A, 3B;~~

~~(151) Straight Creek, (T.107, R.9, S.2, 11, 12): 1B, 2A, 3B;~~

~~(152) Sugar Creek (Sugarloaf Creek), (T.112, R.13): 2C;~~

~~(153) Sullivan Creek (excluding trout waters), (T.103, R.5): 2C;~~

~~(154) Sullivan Creek, (T.103, R.5, S.12, 13, 14, 23, 24, 25, 26): 1B, 2A, 3B;~~

~~(155) Swede Bottom Creek, (T.103, R.6, S.10): 1B, 2A, 3B;~~

~~(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;~~

~~(157) Torkelson Creek, (T.104, R.10, S.25, 36): 1B, 2A, 3B;~~

~~(158) Trout Brook, Wabasha County, (T.110, R.11, S.5, 8): 1B, 2A, 3B;~~

~~(159) Trout Brook, Dakota County, (T.112, R.17, S.1; T.113, R.17, S.26, 27, 35, 36): 1B, 2A, 3B;~~

~~(160) Trout Brook (Hay Creek Tributary), (T.113, R.15, S.35, 36): 1B, 2A, 3B;~~

~~(161) Trout Brook (see also Mazeppa Creek);~~

~~(162) Trout Brook (Mazeppa Creek), Goodhue, (T.110, R.15, S.3, 4; T.111, R.15, S.28, 33, 34): 7;~~

~~(163) Trout Creek, Little (see Pickwick Creek, Little);~~

~~(164) Trout Creek, Big (see Pickwick Creek);~~

~~(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;~~

~~(166) Trout Run Creek (Trout Run) (excluding trout waters), (T.105, R.10): 2C;~~

~~(167) Trout Run-Whitewater Park, (T.107, R.10, S.29): 1B, 2A, 3B;~~

~~(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;~~

~~(169) Unnamed Creek, Houston County, (T.101, R.4, S.21): 1B, 2A, 3B;~~

~~(170) Unnamed Creek, Spring Grove, (T.101, R.7, S.14, 22, 23, 27): 7;~~

~~(171) Unnamed Creek, Houston County, (T.102, R.4, S.18, 19, 20, 29, 30): 1B, 2A, 3B;~~

~~(172) Unnamed Creek, Canton, (T.101, R.9, S.20): 7;~~

~~(173) Unnamed Creek, Byron, (T.107, R.15, S.17, 20, 29): 7;~~

~~(174) Unnamed Creek (Helbig), (T.110, R.11, S.28, 33): 1B, 2A, 3B;~~

~~(175) Unnamed Creek (M-9-10-5-3), (T.101, R.7, S.6; T.101, R.8, S.1, 2): 1B, 2A, 3B;~~

~~(176) Unnamed Creek (Whitewater Tributary), (T.108, R.10, S.35, 36): 1B, 2A, 3B;~~

~~(177) Unnamed Creek, (T.105, R.7, S.19, 29, 30; T.105, R.8, S.24): 1B, 2A, 3B;~~

~~(178) Unnamed Creek (Miller Valley), (T.106, R.5, S.21, 22, 27, 28): 1B, 2A, 3B;~~

~~(179) Unnamed Creek (Deering Valley), (T.108, R.8, S.20, 28, 29): 1B, 2A, 3B;~~

~~(180) Unnamed Creek (M-9-10-5-4), (T.101, R.8, S.12, 13): 1B, 2A, 3B;~~

~~(181) Unnamed Creek (T.104, R.8, S.19, 30): 1B, 2A, 3B;~~

~~(182) Unnamed Creek, Plainview, (T.108, R.11, S.16, 17, 20, 21, 22, 27, 34): 7;~~

~~(183) Unnamed Creek, West Concord, (T.108, R.17, S.17, 20, 21): 7;~~

~~(184) Unnamed Creek, Hayfield, (T.105, R.17, S.3, 4): 7;~~

~~(185) Unnamed Creek (Wells Creek Trib. #9), (T.111, R.14, S.8, 17): 1B, 2A, 3B;~~

~~(186) Unnamed Ditch, Claremont, (T.107, R.18, S.27, 34): 7;~~

~~(187) Unnamed Ditch, Owatonna, (T.108, R.20, S.33): 7;~~

~~(188) Unnamed Ditch, Lonsdale, (T.112, R.22, S.25, 35, 36): 7;~~

~~(189) Unnamed Ditch, Hampton, (T.113, R.18, S.5, 6; T.114, R.18, S.31): 7;~~

~~(190) Unnamed Dry Run, Altura, (T.107, R.9, S.7, 18): 7;~~

~~(191) Unnamed Dry Run, Owatonna, Owatonna Canning Company, (T.107, R.20, S.6; T.107, R.21, S.1): 7;~~

~~(192) Unnamed Dry Run, Owatonna, Owatonna Canning Company, (T.107, R.20, S.6; T.107, R.21, S.1): 7;~~

~~(193) Unnamed Stream, Dodge Center, Owatonna Canning Company, (T.107, R.17, S.27, 34): 7;~~

~~(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;~~

~~(195) Vesta Creek, (T.102, R.8, S.10, 11, 14, 15, 23): 1B, 2A, 3B;~~

~~(196) Wapsipinicon River, (T.101, R.15): 2C, 3C;~~

~~(197) Waterloo Creek, (T.101, R.6, 7): 1B, 2Bd, 3C;~~

~~(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;~~

~~(199) West Albany Creek (see Albany Creek, West);~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(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;~~

~~(204) Whitewater River, North Fork, Elgin, (T.108, R.12, S.25, 26, 27): 7;~~

~~(205) Wildcat Creek (excluding trout waters), (T.103, R.4): 2C;~~

~~(206) Wildcat Creek, (T.103, R.4, S.26, 27, 28, 29, 32, 33, 34, 35): 1B, 2A, 3B;~~

~~(207) Willow Creek, (T.101, R.11, S.1, 12; T.102, R.11, S.1, 12, 13, 24, 25, 36): 1B, 2A, 3B;~~

~~(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~~

~~(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 stream reaches within each of the major watersheds in the Cedar-Des Moines Rivers

Basin listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other listed waters in the Cedar-Des Moines Rivers Basin are as identified in items ~~A~~ B to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 07080102 Upper Wapsipinicon River (August 9, 2016);

(2) 07080201 Cedar River (August 9, 2016);

(3) 07080202 Shell Rock River (August 9, 2016);

(4) 07080203 Winnebago River (August 9, 2016);

(5) 07100001 Des Moines River - Headwaters (August 9, 2016);

(6) 07100002 Lower Des Moines River (August 9, 2016); and

(7) 07100003 East Fork Des Moines River (August 9, 2016).

~~(1) Bancroft Creek (County Ditch No. 63), (T.103, 104, R.21): 2C;~~

~~(2) Cedar River, Little, (Source to Iowa border): 2C, 3C;~~

~~(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;~~

~~(5) County Ditch No. 48, Conger, (T.102, R.22, S.19, 20; T.102, R.23, S.24, 25, 26, 35): 7;~~

~~(6) County Ditch No. 53 (see Soldier Creek);~~

~~(7) Deer Creek (excluding Class 7 segment), (T.101, R.19, 20): 2C, 3C;~~

~~(8) Deer Creek (County Ditch No. 71), Myrtle, (T.101, R.19, S.18; T.101, R.20, S.13): 7;~~

~~(9) Dobbins Creek, (T.103, R.16, 17): 2C;~~

~~(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;~~

~~(11) Heron Lake Outlet, (T.104, 105, R.37): 2C;~~

~~(12) Jack Creek, Wilmont, (T.104, R.41, S.25, 26, 30, 31, 32, 33, 34, 35, 36): 7;~~

~~(13) Lime Creek, (T.101, R.22, 23): 2C, 3C;~~

~~(14) Murphy Creek, (T.103, R.18): 2C;~~

~~(15) Okabena Creek (excluding Class 7 segment), (T.102, 103, R.37, 38, 40): 2C;~~

~~(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;~~

~~(17) Orchard Creek, (T.102, R.18, 19): 2C;~~

~~(18) Roberts Creek, (T.103, 104, R.16, 17, 18): 2C;~~

~~(19) Rose Creek, (T.102, 103, R.16, 17, 18): 2C;~~

~~(20) Scheldorf Creek, (T.106, R.36, S.19, 30, 31; T.106, R.37, S.13, 24, 25): 1B, 2A, 3B;~~

~~(21) Soldier Creek (Unnamed Stream and County Ditch No. 53), (T.101, R.32, 33): 2C, 3C;~~

~~(22) Turtle Creek, (T.103, R.18, 19, 20): 2C;~~

~~(23) Unnamed Creek, Emmons, (T.101, R.22, S.31): 7;~~

~~(24) Unnamed Creek, Brownsdale, (T.103, R.17, S.4, 9): 7;~~

~~(25) Unnamed Creek, Blooming Prairie, (T.104, R.18, S.5, 8, 9, 16; T.105, R.18, S.31): 7;~~

~~(26) Unnamed Creek, Blooming Prairie, (T.105, R.19, S.25): 7;~~

~~(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;~~

~~(30) Unnamed Ditch, Blooming Prairie, (T.105, R.19, S.25): 7;~~

~~(31) Unnamed Stream (see Soldier Creek);~~

~~(32) Wolf Creek, (T.103, R.16, 17, 18): 2C;~~

~~(33) Woodbury Creek, (T.101, 102, R.18, 19): 2C; and~~

~~(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 stream reaches within each of the major watersheds in the Missouri River Basin listed in item A are found in tables entitled "Beneficial Use Designations for Stream Reaches" published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other listed waters in the Missouri River Basin are as identified in items ~~A~~ B to D. See parts 7050.0425 and

7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency's Environmental Data Access (http://www.pca.state.mn.us/quick-links/eda-surface-water-data).

A. Streams (by eight-digit hydrologic unit code):

(1) 10170202 Upper Big Sioux River (August 9, 2016);

(2) 10170203 Lower Big Sioux River (August 9, 2016);

(3) 10170204 Rock River (August 9, 2016); and

(4) 10230003 Little Sioux River (August 9, 2016).

~~(1) Ash Creek, (T.101, R.45): 2C;~~

~~(2) Beaver Creek, (T.102, 103, 104, R.45, 46, 47): 2C, 3C;~~

~~(3) Flandreau Creek (excluding Class 7 segment), (T.107, 108, R.46, 47): 2C, 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);~~

~~(6) Kanaranzi Creek, (Source to Iowa border): 2C, 3C;~~

~~(7) Medary Creek, (Source to South Dakota border): 2C, 3C;~~

~~(8) Mound Creek, (T.103, 104, R.45): 2C;~~

~~(9) Mud Creek, (T.101, 102, R.45, 46): 2C, 3C;~~

~~(10) Pipestone Creek, (Source to South Dakota border): 2C, 3C;~~

~~(11) Rock River (excluding Class 7 segment), (Source to Iowa border): 2C, 3C;~~

~~(12) Rock River, Holland, (T.107, R.44, S.18, 19, 20, 29; T.107, R.45, S.12, 13): 7;~~

~~(13) Rock River, Little, (source to Iowa border): 2C, 3C;~~

~~(14) Sater's Creek (Unnamed Creek), Luverne, Agri-Energy, (T.102, R.45, S.9, 14, 15, 16): 7;~~

~~(15) Sioux River, Little, (Source to Iowa border): 2C, 3C;~~

~~(16) Sioux River, West Fork Little, (Source to Iowa border): 2C, 3C;~~

~~(17) Skunk Creek (Judicial Ditch No. 13), (T.101, 102, R.37, 38, 39): 2C;~~

~~(18) Split Rock Creek, (Split Rock Lake outlet to South Dakota border): 2C, 3C;~~

~~(19) Unnamed Creek, Jasper, (T.104, R.46, S.6): 7;~~

~~(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;~~

~~(21) Unnamed Creek, Hatfield, (T.106, R.45, S.34, 35, 36): 7;~~

~~(22) Unnamed Ditch, Luverne, Agri-Energy, (T.102, R.45, S.10, 15): 7;~~

~~(23) Unnamed Ditch, Steen, (T.101, R.45, S.31, 32): 7;~~

~~(24) Unnamed Ditch, Hills, (T.101, R.46, S.28, 33): 7; and~~

~~(25) Unnamed Ditch, Lake Benton, (T.109, R.45, S.17, 19, 20): 7.~~

[For text of items B to D, see M.R.]

7052.0100 WATER QUALITY STANDARDS.

[For text of subps 1 to 4, see M.R.]

Subp. 5. **Water quality standards applicable to Class 2B~~, 2C,~~ and 2D waters.**

Substance	Units	Aquatic Life Chronic Standard	Aquatic Life Maximum Standard	Aquatic Life Final Acute Value	Human Health Chronic Standard	Wildlife Chronic Standard	Applicable Chronic Standard
Arsenic, total	ug/l	148	340	680	53†		53
Benzene	ug/l	114†	4487†	8974†	237		114
Cadmium, total (TH)	ug/l	subp 6	subp 6	subp 6			subp 6
Chlordane	pg/l				225		225
Chlorobenzene	ug/l	10†	423†	846†	2916		10
Chromium III, total (TH)	ug/l	subp 6	subp 6	subp 6			subp 6
Chromium VI, total	ug/l	11	16	32			11
Copper, total (TH)	ug/l	subp 6	subp 6	subp 6			subp 6
Cyanide, free	ug/l	5.2	22	44	30240		5.2
DDT	pg/l				142	11	11
Dieldrin	pg/l	56000	240000	480000	6.5		6.5
2,4-Dimethylphenol	ug/l	21	137	274	7182		21
2,4-Dinitrophenol	ug/l	71	379	758	1982		71
Endrin	ug/l	0.036	0.086	0.17	0.016†		0.016
Hexachlorobenzene	pg/l				419		419
Hexachloroethane	ug/l				6.2		6.2

Lindane	ug/l		0.95	1.9	0.46		0.46
Mercury, total	ug/l	0.91	1.7	3.4	0.00153	0.0013	0.0013
Methylene Chloride	ug/l	1561†	9600†	19200†	1994		1561
Nickel, total (TH)	ug/l	subp 6	subp 6	subp 6			subp 6
Parathion	ug/l	0.013	0.065	0.13			.013
PCBs (class)	pg/l				25.2	122	25.2
Pentachlorophenol (pH)	ug/l	subp 6	subp 6	subp 6	5.5†		subp 6
Selenium, total	ug/l	5.0	20†	40†			5.0
2,3,7,8-TCDD	pg/l				0.0080	0.0031	0.0031
Toluene	ug/l	253†	1352†	2703†	45679		253
Toxaphene	pg/l				62		62
Trichloroethylene	ug/l				330		330
Zinc, total (TH)	ug/l	subp 6	subp 6	subp 6			subp 6

†this standard or FAV was derived under chapter 7050.

Subp. 6. **Water quality standards that vary with water quality characteristics.**

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

C. Standards that vary with pH applicable to Class 2B~~, 2C,~~ and 2D waters in the Lake Superior Basin are listed in this subpart. Exp. is the base e exponential function.

		Example standards at pH of:				
Pentachlorophenol	Formula, results in ug/l	6.5	7.0	7.5	8.0	8.5

Chronic standard	exp.(1.005[pH]-5.134) not to exceed 5.5 ug/l	4.0	5.5	5.5	5.5	5.5
Maximum standard	exp.(1.005[pH]-4.869)	5.3	8.7	14	24	39
Final acute value	exp.(1.005[pH]-4.175)	11	17	29	48	79

7052.0110 METHODOLOGIES FOR DEVELOPMENT OF STANDARDS AND CRITERIA, AND BIOACCUMULATION FACTORS.

[For text of subps 1 and 2, see M.R.]

Subp. 3. **Bioaccumulation factors.** Bioaccumulation factors (BAFs) for calculating human health and wildlife standards were developed and BAFs for calculating criteria must be developed using the methodology provided by Code of Federal Regulations, title 40, part 132, Appendix B, entitled "Great Lakes Water Quality Methodology for Deriving Bioaccumulation Factors," as amended through March 12, 1997, which is adopted and incorporated by reference in part 7052.0015, item B, except that for human health standards and criteria, the baseline BAF is multiplied by the following lipid fractions which apply to fish in both trophic levels 3 (TL_3) and 4 (TL_4), except as noted in item C:

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

C. 0.015 for TL_4 and 0.020 for TL_3 for Class 2B, 2Bd, ~~2C,~~ and 2D waters.

[For text of subps 4 and 5, see M.R.]

REPEALER. Minnesota Rules, part 7050.0222, subpart 5, is repealed.

7050.0140 USE CLASSIFICATIONS FOR WATERS OF THE STATE.

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 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.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 913; 32 SR 1699*

Published Electronically: *April 1, 2008*

7050.0400 BENEFICIAL USE CLASSIFICATIONS FOR SURFACE WATERS; SCOPE.

Parts 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 7050.0140.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914; 12 SR 1810; 32 SR 1699*

Published Electronically: *April 1, 2008*

7050.0470 CLASSIFICATIONS FOR SURFACE WATERS IN MAJOR 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 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.5, S.19, 20, 29, 30, 31; T.59, R.6, S.36): 1B, 2A, 3B;

(3) Amity Creek, (T.50, R.13, S.5, 6; T.50, R.14, S.1; T.51, R.13, S.31, 32; T.51, R.14, S.26, 27, 28, 35, 36): 1B, 2A, 3B;

(4) Amity Creek, East Branch (T.51, R.13, S.30, 31; T.51, R.14, S.13, 14, 15, 22, 24, 25, 36): 1B, 2A, 3B;

(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;

(7) Artichoke Creek, (T.52, R.17, S.7, 17, 18): 1B, 2A, 3B;

(8) Assinika Creek, (T.63, R.1E, S.1; T.63, R.2E, S.7, 8, 16, 17, 21; T.64, R.1E, S.36; T.64, R.2E, S.31): 1B, 2A, 3B;

(9) Bally Creek, (T.61, R.1W, S.3, 4, 5, 6, 7, 8, 9, 10, 11; T.61, R.2W, S.12): 1B, 2A, 3B;

(10) Baptism River, East Branch, (T.57, R.6, S.6; T.57, R.7, S.1, 2, 3, 9, 10, 11, 12, 16, 17, 20; T.58, R.6, S.30, 31; T.58, R.7, S.13, 17, 19, 20, 21, 22, 23, 24, 25, 26, 29, 30, 36; T.58, R.8, S.22, 23, 24, 25, 26): 1B, 2A, 3B;

(11) Baptism River, Main Branch, (T.56, R.7, S.3, 4, 5, 9, 10, 14, 15; T.57, R.7, S.20, 27, 28, 29, 33, 34): 1B, 2A, 3B;

(12) Baptism River, West Branch, (T.57, R.7, S.7, 17, 18, 20; T.57, R.8, S.1, 2, 12; T.58, R.8, S.2, 3, 4, 9, 10, 11, 15, 16, 20, 21, 22, 28, 33, 34, 35, 36; T.59, R.8, S. 34, 35): 1B, 2A, 3B;

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

(14) Barker Creek, (T. 60, R.3W, S.5, 6, 7, 8; T.60, R.4W, 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;

(20) Beaver River, West Branch, (T.55, R.8, S.7, 17, 18; T.55, R.9, S.2, 3, 4, 10, 11, 12, 13, 14): 1B, 2A, 3B;

(21) Berry Creek (Breda), (T.55, R.12, S.6, 7; T.55, R.13, S.12, 13; T.56, R.11, S.6; T.56, R.12, S.1, 11, 12, 14, 15, 16, 21, 28, 29, 31, 32; T.57, R.11, S.10, 15, 16, 21, 28, 29, 31, 32): 1B, 2A, 3B;

(22) Blackhoof River, (T. 47, R.16, S.29, 30; T.47, R.17, S.6, 7, 9, 10, 14, 15, 16, 17, 18, 19, 20, 22, 25, 26, 27, 28; T.48, R.17, S.30, 31): 1B, 2A, 3B;

(23) Blesner Creek, (T.58, R.6, S.20, 29, 30, 31): 1B, 2A, 3B;

(24) Blind Temperance Creek, (T.60, R.4W, S.19, 29, 30, 32; T.60, R.5W, S.24, 25, 36): 1B, 2A, 3B;

(25) Bluff Creek, (T.63, R.1W, S.13, 23, 24, 25): 1B, 2A, 3B;

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

(27) Breda Creek (see Berry Creek);

(28) Brule River, (T.62, R.2E, S.1, 2; T.62, R.3E, S.4, 5, 6, 9, 10, 15, 16, 22, 27, 34; T.63, R.2E, S.21, 22, 23, 25, 26, 27, 28, 33, 35, 36; T.63, R.3E, S.30, 31, 32): 1B, 2A, 3B;

(29) Brule River (excluding trout waters and waters within Boundary Waters Canoe Area Wilderness), (T.63, 64, R.1W, 1E, 2E): 1B, 2Bd, 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;

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

(33) *Burnt Creek, [11/5/84P] (T.62, R.4W, S.8, 9): 1B, 2A, 3B;

(34) Burnt Creek, (T.62, R.4W, S.16, 17, 20): 1B, 2A, 3B;

(35) Cabin Creek, (T.59, R.6W, S.19, 20; T.59, R.7, S.24): 1B, 2A, 3B;

(36) Captain Jacobson Creek, (T.52, R.12, S.1, 2, 3; T.53, R.12, S.33, 34, 35): 1B, 2A, 3B;

(37) Carey Creek, (T.53, R.14, S.28, 33): 1B, 2A, 3B;

(38) Caribou Creek, (T.60, R.3W, S.2, 3, 10): 1B, 2A, 3B;

(39) Caribou River, (T.58, R.6, S.1, 2, 11, 13, 14, 15, 22, 23, 24, 25, 26, 36; T.59, R.6, S.23, 24, 25, 26, 35, 36): 1B, 2A, 3B;

(40) Carlson Creek, (T.52, R.12, S.19; R.13, S.14, 15, 23, 24): 1B, 2A, 3B;

(41) Carlson Creek (Stony Brook), (T.62, R.4E, S.3, 4, 9, 10; T.63, R.4E, S.31, 32, 33, 34): 1B, 2A, 3B;

(42) Cascade River, (T.60, R.2W, S.1; T.61, R.1W, S.19, 20, 21, 30, 31; T.61, R.2W, S.1, 12, 13, 14, 24, 25, 26, 35, 36; T.62, R.2W, S.10, 11, 14, 15, 16, 22, 23, 24, 25, 36): 1B, 2A, 3B;

(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;

(45) Castle Danger Creek (Campers), (T.54, R.9, S.30, 31, 32): 1B, 2A, 3B;

(46) Cedar Creek, Lake County, (T.56, R.8, S.13, 14, 23, 24, 26): 1B, 2A, 3B;

(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;

(48) Cemetery Creek, (T.51, R.17, S.4, 5, 9): 1B, 2A, 3B;

(49) Chellberg Creek (Chalberg Creek), (T.51, R.16, S.7; T.51, R.17, S.1, 2, 3, 10, 12): 1B, 2A, 3B;

(50) Chester Creek, (T.50, R.14, S.7, 8, 9, 14, 15, 16, 23): 1B, 2A, 3B;

(51) Chester Creek, East Branch, (T.50, R.14, S.4, 5, 9, 15, 16): 1B, 2A, 3B;

(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;

(53) Clear Creek, Carlton County, (T.46, R.17, S.9, 10, 11, 12, 16, 17, 20, 29): 1B, 2A, 3B;

(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;

(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;

(56) Cloudy Spring Creek, (T.57, R.9, S.5, 6, 7, 18; T.57, R.10, S.12, 13, 24): 1B, 2A, 3B;

(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;

(58) Coolidge Creek, (T.55, R.14, S.19, 29, 30; T.55, R.15, S.25, 26, 35, 36): 1B, 2A, 3B;

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

(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;

(61) Crow Creek, (T.53, R.10, S.1, 2; T.54, R.10, S.15, 22, 23, 26, 35): 1B, 2A, 3B;

(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;

(63) Crystal Creek, (T.48, R.16, S.6; T.48, R.17, S.1): 1B, 2A, 3B;

(64) Cutface Creek (Good Harbor Creek), (T.61, R.1W, S.27, 28, 29, 34): 1B, 2A, 3B;

(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;

(66) Deer Creek, (T.47, R.16, S.19, 20, 28, 29; T.47, R.17, S.11, 12, 13, 24): 1B, 2A, 3B;

(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;

(68) Devil Track River, (T.61, R.1E, S.2, 3, 10, 11, 12, 13; T.62, R.1E, S.26, 31, 32, 33, 34, 35): 1B, 2A, 3B;

(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;

(70) Dragon Creek, (T.57, R.6, S.8, 9, 16, 17, 21): 1B, 2A, 3B;

(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;

(72) Dutchess Slough Creek (Dutch Slough), (T.50, R.17, S.4, 9, 10, 13, 14, 15, 24): 1B, 2A, 3B;

(73) Egge Creek, (T.57, R.7, S.2, 3, 4, 11): 1B, 2A, 3B;

(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;

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

(76) Elm Creek, (T.49, R.16, S.1, 2; T.50, R.16, S.35): 1B, 2A, 3B;

(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;

(78) Farquhar Creek, (T.62, R.4E, S.2, 11; T.63, R.4E, S.34, 35): 1B, 2A, 3B;

(79) *Fiddle Creek, [11/5/84P] (T.64, R.1W, S.34): 1B, 2A, 3B;

(80) Fiddle Creek, (T.63, R.1W, S.2, 3, 10, 15; T.64, R.1W, S.35): 1B, 2A, 3B;

(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, 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;

(83) Fox Farm Creek, (T.62, R.1E, S.19, 30): 1B, 2A, 3B;

(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;

(85) Fry Creek, (T.62, R.2W, S.25; T.62, 1W, S.30, 31): 1B, 2A, 3B;

(86) Gauthier Creek, (T.62, R.3E, S.16, 20, 21, 22, 27): 1B, 2A, 3B;

(87) Gill Creek, (T.48, R.16, S.2): 1B, 2A, 3B;

(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;

(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;

(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;

(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;

(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;

(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;

(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;

(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;

(96) Hollow Rock Creek, (T.63, R.5E, S.9, 10, 11, 14, 15, 16, 23, 24, 25): 1B, 2A, 3B;

(97) Honeymoon Creek (Spring Creek), (T.61, R.4W, S.28, 31, 32, 33): 1B, 2A, 3B;

(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;

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

(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;

(101) Humphrey Creek, (T.54, R.14, S.23, 26, 27, 33, 34): 1B, 2A, 3B;

(102) Hunter Creek (Hunters Creek), (T.46, R.18, S.2, 11, 12, 13; T.47, R.18, S.34, 35): 1B, 2A, 3B;

(103) Indian Camp Creek, (T.60, R.2W, S.3, 10, 11; T.61, R2W, S.34): 1B, 2A, 3B;

(104) Indian Creek, (T.55, R.12, S.3; T.56, R.12, S.14, 22, 23, 27, 34): 1B, 2A, 3B;

(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;

(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;

(107) Johnson Creek, (T.50, R.17, S.3, 10, 11, 14; T.51, R.17, S.34): 1B, 2A, 3B;

(108) Johnson Creek, (T.55, R.12, S.35, 36): 1B, 2A, 3B;

(109) Jonvick Creek, (T.60, R.2W, S.7, 19; T.60, R.3W, S.12, 13, 14, 24): 1B, 2A, 3B;

(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;

(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;

(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;

(113) Kehtel Creek, (T.51, R.15, S.8, 17, 18, 19, 20): 1B, 2A, 3B;

(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;

(115) Kingsbury Creek, (T.49, R.15, S.4, 9, 10, 11, 13, 14; T.50, R.15, S.33, 34): 1B, 2A, 3B;

(116) Kinney Creek, (T.57, R.10, S.15, 21, 22, 28, 33): 1B, 2A, 3B;

(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, 32; T.52, R.12, S.24, 25, 36): 1B, 2A, 3B;

(118) Knife River, Little, (T.52, R.12, S.16, 17, 21, 22, 23, 26, 27, 28, 35, 36): 1B, 2A, 3B;

(119) Knife River, Little, East Branch, (T.53, R.11, S.17, 20, 21, 22, 27, 33, 34): 1B, 2A, 3B;

(120) Knife River, Little, West Branch, (T.52, R.11, S.6; T.53, R.11, S.31; T.53, R.12, S.13, 14, 23, 24, 25, 26, 36): 1B, 2A, 3B;

(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;

(122) Koski Creek, (T.61, R.4W, S.5, 8; T.62, R.4W, S.31, 32): 1B, 2A, 3B;

(123) Lavi Creek, (T.52, R.15, S.21, 28): 1B, 2A, 3B;

(124) Leskinen Creek, (T.57, R.7, S.15, 21, 22, 28): 1B, 2A, 3B;

(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;

(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;

(127) Lullaby Creek, (T.63, R.1E, S.4, 5, 8, 9): 1B, 2A, 3B;

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

(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;

(130) Manitou River, Little, (T.57, R.6, S.2; T.58, R.6, S.34, 35): 1B, 2A, 3B;

(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;

(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;

(133) Marais River, Little, (T.57, R.6, S.5, 8, 16, 17, 21): 1B, 2A, 3B;

(134) Mark Creek, (T.61, R.2W, S.1, 2, 3, 4, 5, 6, 9): 1B, 2A, 3B;

(135) Marshall Creek, (T.52, R.15, S.10, 15): 1B, 2A, 3B;

(136) Martin Creek, (T.58, R.6, S.2, 3, 11): 1B, 2A, 3B;

(137) McCarthy Creek, (T.53, R.11, S.18; T.53, R.12, S.12, 13): 1B, 2A, 3B;

(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;

(139) Mile Post Forty-Three Creek (Fortythree Creek, East and West Branch), (T.56, R.8, S.2, 3, 10, 11, 13, 14, 15): 1B, 2A, 3B;

(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;

(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;

(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;

(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;

(144) Mississippi Creek, Little, (T.62, R.2W, S.20, 21, 26, 29, 32, 33, 34, 35): 1B, 2A, 3B;

(145) Mistletoe Creek, (T.60, R.3W, S.3, 4; T.61, R.2W, S.7, 18; T.61, R.3W, S.11, 13, 14, 15, 23, 24, 25, 26, 34, 35): 1B, 2A, 3B;

(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;

(147) Mons Creek, (T.62, R.3E, S.4; T.63, R.3E, S.28, 29, 33): 1B, 2A, 3B;

(148) Moose Creek, (T.59, R.6, S.31, 32, 33, 34): 1B, 2A, 3B;

(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;

(150) Mud Creek, St. Louis County, (T.54, R.12, S.20, 21, 22, 29, 30): 1B, 2A, 3B;

(151) Mud Creek, Cook County, (T.62, R.1E, S.8, 9, 16, 17, 21, 22): 1B, 2A, 3B;

(152) Mud Creek, Little, (T.57, R.11, S.11, 12, 14, 22, 23): 1B, 2A, 3B;

(153) Murmur Creek, (T.61, R.2W, S.15, 20, 21, 22, 29, 30): 1B, 2A, 3B;

(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;

(155) Myhr Creek, (T.62, R.3E, S.23, 24, 26): 1B, 2A, 3B;

(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;

(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;

(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;

(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;

(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;

(161) Net River, Little, (T.46, R.16, S.3, 10, 15, 22, 26, 27, 34): 1B, 2A, 3B;

(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;

(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;

(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;

(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;

(166) Otter Creek, Big (Otter Creek), (T.48, R.16, S.7; T.48, R.17, S.3, 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;

(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;

(168) Palisade Creek, (T.56, R.7, S.16, 17, 18, 19, 20, 21, 22; T.56, R.8, S.24): 1B, 2A, 3B;

(169) Pancake Creek, (T.54, R.22, S.20, 28, 29, 33): 1B, 2A, 3B;

(170) Pancake Creek, (T.60, R.4W, S.17, 18; T.60, R.5W, S.11, 13, 14): 1B, 2A, 3B;

(171) Pecore Creek, (T.61, R.4W, S.19, 20, 21): 1B, 2A, 3B;

(172) Peters Creek, (T.54, R.22, S.22, 23, 27, 28): 1B, 2A, 3B;

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

(174) Pike Lake Creek, (T.61, R.2W, S.10, 11, 15): 1B, 2A, 3B;

(175) Pine Mountain Creek (Falls Creek), (T.63, R.1E, S.23, 26, 27, 28, 33): 1B, 2A, 3B;

(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;

(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;

(178) *Plouff Creek [11/5/84P] (T.62, R.5W, S.23): 1B, 2A, 3B;

(179) Poplar River (Missouri Creek), (T.60, R.3W, S.3, 4, 5, 6, 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;

(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;

(181) Railroad Creek, (T.50, R.17, S.1, 11, 12, 14): 1B, 2A, 3B;

(182) Red River, (T.48, R.15, S.30; T.48, R.16, S.25, 26): 1B, 2A, 3B;

(183) Red Rock Creek, (T.63, R.5E, S.21, 22, 26, 27, 28, 35): 1B, 2A, 3B;

(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;

(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;

(186) Rock Cut Creek, (T.58, R.6, S.18, 19, 20; T.58, R.7, S.13): 1B, 2A, 3B;

(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;

(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;

(189) Rosebush Creek (Fall River), (T.61, R.1W, S.13, 23, 24, 25; T.61, R.1E, S.18): 1B, 2A, 3B;

(190) Ross Creek, (T.52, R.13, S.1, 2, 3, 4, 5; T.53, R.13, S.33): 1B, 2A, 3B;

(191) Ryan Creek, (T.55, R.14, S.14, 15, 22): 1B, 2A, 3B;

(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;

(193) Sargent Creek, (T.48, R.15, S.4, 5, 9, 10; T.49, R.15, S.28, 29, 32): 1B, 2A, 3B;

(194) Sawbill Creek, (T.62, R.4W, S.7, 18, 19, 20, 28, 29, 30; T.62, R.5W, S.25): 1B, 2A, 3B;

(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;

(196) Scanlon Creek, (T.49, R.16, S.30; T.49, R.17, S.25): 1B, 2A, 3B;

(197) Schmidt Creek, (T.51, R.12, S.17): 1B, 2A, 3B;

(198) Schoolhouse Creek, (T.58, R.7, S.35, 36): 1B, 2A, 3B;

(199) Section 16 Creek, (T.58, R.5W, S.16): 1B, 2A, 3B;

(200) Section 36 Creek, (T.46, R.16, S.1, 2, 11, 12, 13; T.47, R.16, S.36): 1B, 2A, 3B;

(201) Silver Creek, Carlton County, (T.48, R.16, S.15, 16, 17, 21, 28): 1B, 2A, 3B;

(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;

(203) Silver Creek, Big (Silver Creek), Carlton County, (T.46, R.17, S.14, 23, 24, 25, 36): 1B, 2A, 3B;

(204) Silver Creek, East Branch, (T.53, R.10, S.5, 8, 9, 16, 21): 1B, 2A, 3B;

(205) Sixmile Creek, (T.60, R.4W, S.13, 14, 15, 22, 23, 27, 28, 33): 1B, 2A, 3B;

(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;

(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;

(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;

(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;

(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;

(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;

(212) Spring Creek, Carlton County, (T.46, R.17, S.3, 4, 5, 6): 1B, 2A, 3B;

(213) Spring Creek, St. Louis County, (T.54, R.12, S.1, 2): 1B, 2A, 3B;

(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;

(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;

(216) Stewart Creek, (T.49, R.15, S.21, 22, 26, 27): 1B, 2A, 3B;

(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;

(218) Stewart River, (T.55, R.11, S.7; T.55, R.12, S.12, 13): 1B, 2A, 3B;

(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;

(220) Stickle Creek, (T.63, R.1W, S.1, 2, 11, 12, 14): 1B, 2A, 3B;

(221) Stone Creek, (T.61, R.2E, S.2, 3; T.62, R.2E, S.21, 22, 27, 34, 35): 1B, 2A, 3B;

(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;

(223) Stony Brook, Carlton County, (T.46, R.17, S.10, 11, 15, 16, 21): 1B, 2A, 3B;

(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;

(225) Stream Number 30, (T.54, R.8, S.5, 6; T.55, R.8, S.19, 30, 31): 1B, 2A, 3B;

(226) Stumble Creek, (T.59, R.5W, S.16, 21, 22, 26, 27, 28): 1B, 2A, 3B;

(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;

(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;

(229) Sucker River, Little, (T.51, R.12, S.2, 3): 1B, 2A, 3B;

(230) Sugar Loaf Creek, (T.58, R.5W, S.17, 19, 20, 29): 1B, 2A, 3B;

(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;

(232) Sundling Creek, (T.61, R.1W, S.10, 11, 14, 15, 16, 17, 18; T.61, R.2W, S.13): 1B, 2A, 3B;

(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;

(234) Swamper Creek, (T.64, R.1E, S.20, 29, 32): 1B, 2A, 3B;

(235) Swan Creek, East, (T.56, R.20, S.3, 4, 5, 10, 11): 1B, 2A, 3B;

(236) Swan Creek, Little, (T.56, R.19, S.17, 19, 20, 30; T.56, R.20, S.25, 26, 35): 1B, 2A, 3B;

(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;

(238) Swan River, West (excluding trout waters), (T.55, 56, R.20, 21): 2C;

(239) Swanson Creek, (T.61, R.4W, S.6, 7, 8; T.61, R.5W, S.1): 1B, 2A, 3B;

(240) Tait River, (T.60, R.3W, S.4; T.61, R.3W, S.28, 33): 1B, 2A, 3B;

(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;

(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;

(243) Temperance River (excluding trout waters), (T.62, R.4W): 1B, 2Bd, 3C;

(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;

(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;

(246) Thompson Creek, (T.62, R.1W, S.17, 19, 20; T.62, R.2W, S.24): 1B, 2A, 3B;

(247) Tikkanen Creek, (T.57, R.7, S.5, 6, 8, 16, 17): 1B, 2A, 3B;

(248) Timber Creek, (T.62, R.1E, S.1; T.63, R.1E, S.25, 36; T.63, R.2E, S.31): 1B, 2A, 3B;

(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;

(250) Torgenson Creek, (T.61, R.4W, S.30; T.61, R.5W, S.24, 25): 1B, 2A, 3B;

(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;

(252) Tower Creek, Lake County, (T.57, R.7, S.9): 1B, 2A, 3B;

(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;

(254) Trout Brook, (T.54, R.22, S.1): 1B, 2A, 3B;

(255) Twin Points Creek, (T.54, R.9, S.10, 11, 13, 14): 1B, 2A, 3B;

(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;

(257) Ugstad Creek, (T.51, R.15, S.21, 22, 26, 27, 28): 1B, 2A, 3B;

(258) Unnamed (Deer) Creek, (T.47, R.16, S.19, 29, 30; T.47, R.17, S.13, 14, 24): 1B, 2A, 3B;

(259) Unnamed Creek, Carlton County, (T.47, R.17, S.28, 29, 33, 34, 35): 1B, 2A, 3B;

(260) Unnamed Creek, Carlton County, (T.47, R.17, S.31, 32, 33, 34): 1B, 2A, 3B;

(261) Unnamed Creek, (T.55, R.8, S.20, 21, 29, 32, 33): 1B, 2A, 3B;

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

(263) Unnamed Creek, (S-17-6), (T.53, R.11, S.30, 31, 32; T.53, R.12, S.25): 1B, 2A, 3B;

(264) Unnamed Creek, (S-17-9), (T.53, R.11, S.5; T.54, R.11, S.20, 29, 30, 32): 1B, 2A, 3B;

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

(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;

(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);

(269) Whyte Creek, (T.57, R.10, S.1, 2, 11, 14, 23, 26, 27, 34): 1B, 2A, 3B;

(270) Woods Creek, (T.61, R.1E, S.1, 12, 13; T.62, R.1E, S.35, 36): 1B, 2A, 3B;

(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

(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 (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): 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;

(18) Breda Lake, 69-0037-00, [WR] (T.56, R.12, S.16): 2B, 3B;

(19) Briar Lake, 69-0128-00, (T.53, R.13W, S.14, 15, 23): 1B, 2A, 3B;

(20) *Brule Lake, 16-0348-00, [11/5/84P] (T.63, R.2, 3): 1B, 2A, 3B;

(21) Cabin Lake, 38-0260-00, [WR] (T.59, R.7, S.13, 14, 23, 24): 2B, 3B;

(22) Canton Mine Pit Lake, 69-1294-00, (T.58, R.16, S.2, 3): 1C, 2Bd, 3C;

(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;

(24) Carrot Lake, 16-0071-00, (T.64, R.2E, S.17): 1B, 2A, 3B;

(25) Cedar Lake, 69-0431-00, (T.58, R.15W, S.20): 1B, 2A, 3B;

(26) Chester Lake, 69-0033-00, (T.64, R.3E, S.32, 33): 1B, 2A, 3B;

(27) Christine Lake, 16-0373-00, [WR] (T.61, R.3W, S.28, 29, 32): 2B, 3B;

(28) Clearwater Lake (Clear Lake), 69-0397-00, (T.52, R.15W, S.23): 1B, 2A, 3B;

(29) *Clearwater Lake (Emby Lake), 16-0139-00, [11/5/84P] (T.65, R.1E): 1B, 2A, 3B;

(30) Colby Lake, 69-0249-00, (T.58, R.14): 1B, 2Bd, 3C;

(31) *Cone Lake, 16-0412-00, North, [11/5/84P] (T.63, 64, R.3): 1B, 2A, 3B;

(32) Corona Lake, 09-0048-00, (T.48, R.19W, S.11, 12): 1B, 2A, 3B;

(33) Corsica Mine Pit Lake, 69-1316-00, (T.58, R.16, S.18): 1C, 2Bd, 3C;

(34) Crosscut Lake, 38-0257-00, (T.59, R.7W, S.7, 18): 1B, 2A, 3B;

(35) *Crystal Lake, 16-0090-00, [11/5/84P] (T.64, R.1E, 2E): 1B, 2A, 3B;

(36) *Daniels Lake, 16-0150-00, [11/5/84P] (T.65, R.1E, 1W): 1B, 2A, 3B;

(37) *Davis Lake, 16-0435-00, [11/5/84P] (T.64, R.3): 1B, 2A, 3B;

(38) Devilfish Lake, 16-0029-00, (T.64, R.3E): 1B, 2A, 3B;

(39) Divide (Towhey) Lake, 38-0256-00, (T.59, R.7W, S.7, 8): 1B, 2A, 3B;

(40) Duke Lake, 16-0111-00, (T.63, R.1E, S.30): 1B, 2A, 3B;

(41) *Duncan Lake, 16-0232-00, [11/5/84P] (T.65, R.1): 1B, 2A, 3B;

(42) *Dunn Lake, 16-0245-00, [11/5/84P] (T.65, R.1, 2): 1B, 2A, 3B;

(43) East Lake, 38-0020-00, (T.59, R.6W, S.1, 2): 1B, 2A, 3B;

(44) *Echo Lake, 38-0028-00, [3/7/88R] (T.59, R.6, S.14, 15, 22, 23): 1B, 2A, 3B;

(45) Elbow Lake, Little, 69-1329-00, (T.57, R.18W, S.9, 10, 16): 1B, 2A, 3B;

(46) Embarrass Mine Pit (Sabin Lake or Lake Mine), 69-0429-00, (T.58, R.15W, S.5, 6): 1B, 2A, 3B;

(47) Esther Lake, 16-0023-00, (T.63, R.3E, S.6; T.64, R.3E, S.31): 1B, 2A, 3B;

(48) *Fan Lake (West Lily), 16-0084-00, [11/5/84P] (T.65, R.2E): 1B, 2Bd, 3A;

(49) Feather Lake, 16-0905-00, (T.61, R.5W, S.35): 1B, 2A, 3B;

(50) Flour Lake, 16-0147-00, (T.64, R.1E, 1W): 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, 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) *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;

(79) Mink Lake, 16-0046-00, (T.62, R.2E, S.8): 1B, 2A, 3B;

(80) Mirror Lake, 69-0234-00, (T.52, R.14W, S.19, 30): 1B, 2A, 3B;

(81) *Misquah Lake, 16-0225-00, [11/5/84P] (T.64, R.1): 1B, 2A, 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, 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;

(94) Olson Lake, 16-0158-00, (T.62, R.1W, S.9, 16): 1B, 2A, 3B;

(95) *Onega Lake (Omega Lake), 16-0353-00, [11/5/84P] (T.64, R.2, 3): 1B, 2A, 3B;

(96) *Otto Lake, Lower (South Otto), 16-0323-00, [11/5/84P] (T.64, R.2): 1B, 2A, 3B;

(97) Pancore (Lost) Lake, 16-0475-00, (T.61, R.4W, S.22, 27): 1B, 2A, 3B;

(98) Papoose Lake, 69-0024-00, [WR] (T.55, R.12, S.9): 2B, 3B;

(99) *Partridge Lake, 16-0233-00, [11/5/84P] (T.65, R.1): 1B, 2A, 3B;

(100) *Pemmican Lake, 16-0085-00, [11/5/84P] (T.65, R.2E, S.22): 1B, 2A, 3B;

(101) *Pike Lake, West, 16-0086-00, [11/5/84P] (T.65, R.2E): 1B, 2A, 3B;

(102) Pine Lake, 16-0194-00, (T.63, R.1W, S.35, 36): 1B, 2A, 3B;

(103) *Pine Lake, 16-0041-00, [11/5/84P] (T.64, 65, R.1E, 2E, 3E): 1B, 2A, 3B;

(104) Pine Mountain Lake, 16-0108-00, (T.63, R.1E, S.26, 27, 34, 35): 1B, 2A, 3B;

(105) Poplar Lake, 16-0239-00, (T.64N, R.1, 2W): 1C, 2Bd, 3C;

(106) *Ptarmigan Lake, 16-0183-00, [11/5/84P] (T.63, R.1, S.20, 29): 1B 2Bd, 3B;

(107) *Ram Lake, 16-0174-00, [11/5/84P] (T.63, R.1W, S.9, 10): 1B, 2A, 3B;

(108) Rice Lake, 16-0453-00, [WR] (T.61 R.3W, S.7; T.61, R.4W, S.2, 11, 12): 2B, 3B;

(109) *Rose Lake, 16-0230-00, [11/5/84P] (T.65, R.1): 1B, 2A, 3B;

(110) Round Island Lake, 38-0417-00 [WR] (T.59, R.8, S.12): 2B, 3B;

(111) Round Lake, 69-0048-00, [WR] (T.58, R.12, S.25, 26): 2B, 3B;

(112) St. James Mine Pit, 69-0428-00, (T.58, R.15W, S.3, 4): 1C, 2Bd, 3C;

(113) Saint Mary's Lake, 69-0651-00, (T.57, R.17, S.9, 16, 17): 1C, 2Bd, 3C;

(114) *Sawbill Lake, 16-0496-00, [11/5/84P] (T.62, 63, R.4): 1B, 2Bd, 3B;

(115) Section 8 Lake, 38-0258-00, (T.59, R.7W, S.8): 1B, 2A, 3B;

(116) Seven Beaver Lake, 69-0002-00, [WR] (T.58, R.11, 12): 2B, 3A;

(117) Shady, North, Lake, 16-0076-00, (T.64, R.2E, S.21, 22): 1B, 2A, 3B;

(118) Shoe Lake, 16-0080-00, (T.64, 2E, S.30): 1B, 2A, 3B;

(119) Sled Lake, 16-0897-00, (T.63, R.1W, S.3): 1B, 2A, 3B;

(120) *Sock Lake, 16-0335-00, [11/5/84P] (T.65, R.2W, S.26): 1B, 2A, 3B;

(121) Sonju Lake, 38-0248-00, (T.58, R.7W, S.27, 28): 1B, 2A, 3B;

(122) *South Lake, 16-0244-00, [11/5/84P] (T.65, R.1, 2): 1B, 2A, 3B;

(123) Spring Hole Lake, 69-1372-00, (T.55, R.14W, S.14): 1B, 2A, 3B;

(124) *State Lake, 16-0293-00, [11/5/84P] (T.63, 64, R.2): 1B, 2A, 3B;

(125) Steer Lake, 38-0920-00, (T.60, R.6W, S.32): 1B, 2A, 3B;

(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;

(127) Stone Lake (Skibo Lake), 69-0046-00, [WR] (T.58, R.12, S.17, 19, 20): 2B, 3B;

(128) Stone Lake (Murphy Lake or Tommila Lake), 69-0035-00, [WR] (T.56, R.12, S.13, 24): 2B, 3B;

(129) *Superior, Lake, excluding the portions identified in subitem (130) 16-0001-00, [11/5/84R] (T.49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, R.14W-7E): 1B, 2A, 3A;

(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;

(131) Swamp River (Reservoir), 16-0901-00, [WR] (T.63, R.4E, S.4; T.64, R.4E, S.33): 2B, 3B;

(132) *Swan Lake, 16-0268-00, [11/5/84P] (T.63, R.2): 1B, 2A, 3B;

(133) Talus Lake, 16-0187-00, (T.63, R.1W, S.26, 27): 1B, 2A, 3B;

(134) Thompson Lake, 16-0160-00, (T.62, R.1W, S.19, 20, 29, 30): 1B, 2A, 3B;

(135) Thrasher Lake, 16-0192-00, (T.63, R.1W, S.31): 1B, 2A, 3B;

(136) Thrush Lake, 16-0191-00, (T.63, R.1W, S.31): 1B, 2A, 3B;

(137) *Topper Lake, 16-0336-00, [11/5/84P] (T.65, R.2W, S.27): 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;

(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;

(148) *Vista Lake, 16-0224-00, [11/5/84P] (T.64, R.1): 1B, 2A, 3B;

(149) *Wanihigan Lake (Trap Lake), 16-0349-00, [11/5/84P] (T.63, 64, R.2, 3): 1B, 2A, 3B;

(150) *Wee Lake, 16-0183-00, [11/5/84P] (T.62, R.4W, S.13): 1B, 2A, 3B;

(151) *Wench Lake, 16-0398-00, [11/5/84P] (T.63, R.3W, S.7, 18): 1B, 2A, 3B;

(152) White Pine Lake, 16-0369-00, [WR] (T.61, R.3W, S.19, 20, 29, 30): 2B, 3B;

(153) *Winchell Lake, 16-0354-00, [11/5/84P] (T.64, R.2, 3): 1B, 2A, 3B;

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

(155) *All wetlands in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 2D.

C. Calcareous Fens: None currently listed.

D. Scientific and Natural Areas: *Black Lake Bog [3/7/88P] Waters within the Black Lake Bog Scientific and Natural Area, Pine County, (T.45, R.15, S.18, 19, 30; T.45, R.16, S.13, 24, 25): 2B, 3B, except wetlands which are 2D.

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 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, 9, 10; 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;

(9) Camp E Creek, (T.60, R.9, S.7, 18; T.60, R.10, S.11, 12): 1B, 2A, 3B;

(10) Dark River, (T.60, R.19, S.19, 20, 30; T.60, R.20, 10, 11, 12, 13, 24): 1B, 2A, 3B;

(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; T.61, R.7, S.34): 1B, 2A, 3B;

(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;

(15) Gardner Brook, (T.63, 64, R.23, 24): 2C;

(16) Grassy Creek, (T.61, R.13, S.6; T.61, R.14, S.1): 1B, 2A, 3B;

(17) Harrigan Creek, (T.62, R.23, S.10): 1B, 2A, 3B;

(18) Harris Lake Creek (Harris Creek), (T.60, R.10, S.6; T.61, R.10, S.19, 30, 31): 1B, 2A, 3B;

(19) Hay Creek, (T.153, R.26, S.4, 8, 9, 17, 20): 1B, 2A, 3B;

(20) Hill Creek, (T.60, R.8, S.19, 30; T.60, R.9, S.24, 25): 1B, 2A, 3B;

(21) Indian Sioux River, Little, (T.65, R.15): 1B, 2Bd, 3B;

(22) Inga Creek, (T.60, R.9, S.2, 3; T.61, R.9, S.14, 22, 23, 27, 34, 35): 1B, 2A, 3B;

(23) *Inga Creek [11/5/84P] (T.61, R.9, S.11, 12): 1B, 2A, 3B;

(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, 29, 32): 1B, 2A, 3B;

(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;

(26) Island River, (T.61, R.7, 8): 1B, 2Bd, 3C;

(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;

(28) Johnson Creek, (T.60, R.18, S.6, 7, 8, 17, 20): 1B, 2A, 3B;

(29) Kawishiwi River, outside Boundary Waters Canoe Area Wilderness, (Source to Fall Lake): 1B, 2Bd, 3C;

(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;

(31) Longstorff Creek, (T.62, R.12, S.6, 7; T.63, R.12, S.31): 1B, 2A, 3B;

(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;

(33) Mary Ann Creek, (T.58, R.10, S.16, 21): 1B, 2A, 3B;

(34) Mike Kelly Creek (Kelly Creek), (T.60, R.11, S.14, 15, 23): 1B, 2A, 3B;

(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;

(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;

(37) Moose River, St. Louis County, (T.68, R.18, 19): 1B, 2Bd, 3C;

(38) Moose River, outside Boundary Waters Canoe Area Wilderness, (T.65, R.14): 1B, 2Bd, 3C;

(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;

(40) Nip Creek, (T.59, R.11, S.3, 4; T.60, R.11, S.21, 22, 27, 28, 34): 1B, 2A, 3B;

(41) Nira Creek, (T.61, R.11, S.22, 23, 27): 1B, 2A, 3B;

(42) Pitt Creek, (T.159, R.32, S.4, 9, 16; T.160, R.32, S.21, 28, 33): 1B, 2A, 3B;

(43) Portage Creek, (T.65, R.21): 2C;

(44) Portage River, (T.65, R.14, S.24; T.65, R.13, S.19, 20, 28, 29): 1B, 2Bd, 3C;

(45) Rainy River, (Outlet of Rainy Lake to Dam in International Falls): 1B, 2Bd, 3A;

(46) Rainy River, (Dam in International Falls to Railroad Bridge in Baudette): 1C, 2Bd, 3A;

(47) Rainy River, (Railroad Bridge in Baudette to Lake of the Woods): 2B, 3A;

(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;

(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;

(50) Section 30 Creek, (T.63, R.11, S.30; T.63, R.12, S.24, 25): 1B, 2A, 3B;

(51) Sea Gull River, (T.66N, R.4W, S.30, 31): 1C, 2Bd, 3C;

(52) Shine Brook (Swine Creek), (T.62, R.25, S.11, 14, 15, 16): 1B, 2A, 3B;

(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;

(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;

(55) *Snake River, [11/5/84P] (T.61, R.9, S.7; T.61, R.10, S.12): 1B, 2A, 3B;

(56) Sphagnum Creek, (T.60, R.9, S.4; T.61, R.9, S.28, 29, 33): 1B, 2A, 3B;

(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;

(59) Tomlinson Creek, (T.60, R.7, S.18, 19, 31; T.60, R.8, S.24, 25, 36): 1B, 2A, 3B;

(60) Trout Brook, (T.66, R.26, S.19, 30; T.66, R.27, S.24, 25): 1B, 2A, 3B;

(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;

(62) Two Rivers, West, (T.61, R.15, S.6, 7, 8, 9, 14, 15, 16, 17): 1B, 2A, 3B;

(63) Unnamed Creek, (T.65, R.19, S.4, 5; T.66, R.19, S.33): 1B, 2A, 3B;

(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;

(65) Venning Creek, (T.60, R.23, S.1, 2, 11, 12, 13, 14; T.61, R.23, S.35): 1B, 2A, 3B;

(66) Victor Creek, (T.60, R.9, S.12, 13): 1B, 2A, 3B;

(67) Weiss Creek, (T.59, R.9, S.2, 3, 11; T.60, R.9, S.27, 34): 1B, 2A, 3B;

(68) Wenho Creek, (T.58, R.10, S.17, 20, 21, 27, 28, 34): 1B, 2A, 3B;

(69) Zippel Creek, West Branch, (T.162, R.33, 34): 2C;

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

(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, 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, 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, 3C;

(49) Farm Lake, 38-0779-00, (T.62, 63, R.11): 1C, 2Bd, 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;

(54) *Fern Lake, West, 16-0718-00, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;

(55) *Finger Lake, 69-0348-00, [11/5/84P] (T.67, R.14): 1B, 2A, 3B;

(56) *Fishdance Lake, 38-0343-00, [11/5/84P] (T.63, R.7): 1B, 2A, 3B;

(57) *Found Lake, 38-0620-00, [11/5/84P] (T.64, R.9W, S.10, 15): 1B, 2A, 3B;

(58) *Fraser Lake, 38-0372-00, [11/5/84P] (T.64, R.7): 1B, 2A, 3B;

(59) *French Lake, 16-0755-00, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;

(60) *Frost Lake, 16-0571-00, [11/5/84P] (T.64, R.4): 1B, 2A, 3B;

(61) *Gabimichigami Lake, 16-0811-00, [11/5/84P] (T.64, 65, R.5, 6): 1B, 2A, 3B;

(62) *Ge-Be-On-Equat Lake, 69-0350-00, [11/5/84P] (T.67, R.14): 1B, 2A, 3B;

(63) *Gijikiki Lake (Cedar Lake), 38-0209-00, [11/5/84P] (T.65, 66, R.6): 1B, 2A, 3B;

(64) *Gillis Lake, 16-0753-00, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;

(65) Glacier Pond No. 1, 38-0712-00, (T.63, R. 10W, S.11): 1B, 2A, 3B;

(66) Glacier Pond No. 2, 38-0712-02, (T.63, R.10W, S.11): 1B, 2A, 3B;

(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;

(69) *Gun Lake, 69-0487-00, [11/5/84P] (T.67, 68, R.15): 1B, 2A, 3B;

(70) *Gunflint Lake, 16-0356-00, [3/7/88R] (T.65, R.2, 3, 4): 1B, 2A, 3B;

(71) Gunflint Lake, Little, 16-0330-00, (T.65, R.2): 1B, 2Bd, 3C;

(72) Gypsy Lake, 38-0665-00, (T.60, R.10W, S.6, 7): 1B, 2A, 3B;

(73) Hanson Lake, 69-0189-00, (T.64, R.13W, S.36): 1B, 2A, 3B;

(74) *Hanson Lake, 38-0206-00, [11/5/84P] (T.65, 66, R.6): 1B, 2A, 3B;

(75) High Lake, 69-0071-00, (T.63, R.12W, S.3, 4, 5; T.64, R.12W, S.33, 34): 1B, 2A, 3B;

(76) Hogback (Twin or Canal) Lake, 38-0057-01 and 38-0057-02, (T.60, R.6W, S.31): 1B, 2A, 3B;

(77) *Holt Lake, 38-0178-00, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;

(78) *Howard Lake, 16-0789-00, [11/5/84P] (T.65, R.5): 1B, 2A, 3B;

(79) *Hustler Lake, 69-0343-00, [11/5/84P] (T.66, 67, R.14): 1B, 2A, 3B;

(80) *Ima Lake (Slate Lake), 38-0400-00, [11/5/84P] (T.64, R.7, 8): 1B, 2A, 3B;

(81) Indian Lake, 38-0440-00, (T.60, R.8W, S.35): 1B, 2A, 3B;

(82) *Jacob (Louis) Lake, 69-0077-00, [11/5/84P] (T.64, R.12W, S.11, 12): 1B, 2A, 3B;

(83) James (Jammer) Lake, 69-0734-00, (T.60, R.18W, S.27): 1B, 2A, 3B;

(84) Jasper Lake, 38-0641-00, (T.63, 64, R.9, 10): 1C, 2Bd, 3C;

(85) *Jasper Lake, 16-0768-00, [11/5/84P] (T.65, R.5): 1B, 2A, 3B;

(86) *Johnson Lake, 69-0691-00, [3/7/88R] (T.67, 68, R.17, 18): 1B, 2A, 3B;

(87) Jouppi Lake, 38-0909-00, (T.59, R.8W, S.14, 22, 23): 1B, 2A, 3B;

(88) Judd Lake, 38-0615-00, (T.63, R.9W, S.4, 5; T.64, R.9W, S.32, 33): 1B, 2A, 3B;

(89) *Kabetogama Lake, 69-0845-00, [11/5/84P] (T.69, 70, R.19, 20, 21, 22): 1B, 2Bd, 3A;

(90) *Karl Lake, 16-0461-00, [11/5/84P] (T.64, R.3, 4): 1B, 2A, 3B;

(91) *Kek Lake, Little, 38-0228-00, [11/5/84P] (T.65, R.6, 7): 1B, 2A, 3B;

(92) *Kekekabic Lake, 38-0226-00, [11/5/84P] (T.64, 65, R.6, 7): 1B, 2A, 3B;

(93) *Knife Lake, 38-0404-00, [11/5/84P] (T.65, R.6, 7, 8): 1B, 2A, 3B;

(94) *Lake of the Clouds Lake (Dutton Lake), 38-0169-00, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;

(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;

(96) Lake Vermilion, 69-0378-00, (T.61, 62, 63, R.14, 15, 16, 17, 18): 1C, 2Bd, 3C;

(97) *Larson Lake, 31-0317-00, [3/7/88R] (T.61, R.24W, S.16, 21): 1B, 2A, 3B;

(98) Little Long Lake, 69-0066-00, (T.63, R.12): 1C, 2Bd, 3C;

(99) *Long Island Lake, 16-0460-00, [11/5/84P] (T.64, R.3, 4): 1B, 2A, 3B;

(100) *Loon Lake, 16-0448-00, [3/7/88R] (T.65, R.3): 1B, 2A, 3B;

(101) *Loon Lake, 69-0470-00, [11/5/84P] (T.66, 67, R.15): 1B, 2A, 3B;

(102) *Lunar Lake (Moon Lake), 38-0168-00, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;

(103) *Lynx Lake, 69-0383-00, [11/5/84P] (T.66, R.14, 15): 1B, 2A, 3B;

(104) *Magnetic Lake, 16-0463-00, [3/7/88R] (T.65, R.3, 4): 1B, 2A, 3B;

(105) *Makwa Lake (Bear Lake), 38-0147-00, [11/5/84P] (T.64, R.6): 1B, 2A, 3B;

(106) *Marble Lake, 38-0109-00, [11/5/84P] (T.64, R.6): 1B, 2A, 3B;

(107) *Mavis Lake, 16-0528-00, [11/5/84P] (T.64, R.4W, S.4): 1B, 2A, 3B;

(108) *Mayhew Lake, 16-0337-00, [3/7/88R] (T.65, R.2): 1B, 2A, 3B;

(109) *Meditation Lake, 16-0583-00, [11/5/84P] (T.65, R.4W, S.7, 8): 1B, 2A, 3B;

(110) *Mesaba Lake, 16-0673-00, [11/5/84P] (T.63, R.5): 1B, 2A, 3B;

(111) Miner's Mine Pit, 69-1293-00, (T.63, R.12W, S.26, 27, 28): 1B, 2A, 3B;

(112) *Missing Link Lake, 16-0529-00, [11/5/84P] (T.64, R.4W, S.4): 1B, 2A, 3B;

(113) *Missionary Lake (East Three Lake), 38-0398-00, [11/5/84P] (T.64, R.7, 8): 1B, 2A, 3B;

(114) *Moose Lake, 38-0644-00, [11/5/84P] (T.64, R.9, 10): 1B, 2Bd, 3B;

(115) *Mora Lake, 16-0732-00, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;

(116) *Mukooda Lake, 69-0684-00, [11/5/84P] (T.68, R.17): 1B, 2A, 3B;

(117) *Namakan Lake, 69-0693-00, [11/5/84P] (T.69, 70, R.17, 18, 19): 1B, 2Bd, 3A;

(118) *Neglige Lake, 38-0492-00, [11/5/84P] (T.64, R.8W, S.1, 2, 11, 12): 1B, 2A, 3B;

(119) Nickel (Nichols) Lake, 31-0470-00, (T.59, R.25W, S.12): 1B, 2A, 3B;

(120) Norberg Lake, 69-1312-00, (T.61, R.14W, S.1): 1B, 2A, 3B;

(121) *North Lake, 16-0331-00, [3/7/88R] (T.65, R.2): 1B, 2A, 3B;

(122) North Lake, Little, 16-0329-00, (T.65, R.2): 1B, 2Bd, 3C;

(123) Norway Lake, 38-0688-00, (T.61, R.10W, S.3): 1B, 2A, 3B;

(124) *Ogishkemuncie Lake, 38-0180-00, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;

(125) *Ojibway Lake (Upper Twin), 38-0640-00, [3/7/88R] (T.63, R.9, 10): 1B, 2A, 3B;

(126) *Owl Lake, 16-0726-00, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;

(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;

(129) Peanut Lake, 38-0662-00, (T.60, R.10W, S.5): 1B, 2A, 3B;

(130) Pelican Lake, 69-0841-00, (T.64, 65, R.19, 20, 21): 1C, 2Bd, 3C;

(131) *Pellet Lake, 16-0592-00, [11/5/84P] (T.65, R.4, S.19, 20): 1B, 2Bd, 3B;

(132) *Peter Lake, 16-0757-00, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;

(133) Pickerel Lake, 69-0934-00, (T.60, R.21W, S.17): 1B, 2A, 3B;

(134) Portage Lake, 16-0327-00, (T.64, R. 2W, S.3, 4, 5; T.65, R.2W, S.33): 1B, 2A, 3B;

(135) *Portage Lake, 38-0524-00, [11/5/84P] (T.65, R.8): 1B, 2A, 3B;

(136) Portage Lake, Little, 16-0297-00, (T.64, R.2W, S.3): 1B, 2A, 3B;

(137) *Powell Lake, 16-0756-00, [11/5/84P] (T.64, 65, R.5): 1B, 2A, 3B;

(138) *Rabbit Lake, 38-0214-00, [11/5/84P] (T.66, R.6): 1B, 2A, 3B;

(139) *Rainy Lake, 69-0694-00, [11/5/84P] (T.70, 71, R.18, 19, 20, 21, 22, 23): 1B, 2Bd, 3A;

(140) *Raven Lake (Lynx Lake), 38-0113-00, [11/5/84P] (T.64, R.6): 1B, 2A, 3B;

(141) *Red Rock Lake, 16-0793-00, [11/5/84P] (T.65, 66, R.5): 1B, 2A, 3B;

(142) Regenbogan Lake, 69-0081-00, (T.64, R.12W, S.18): 1B, 2A, 3B;

(143) *Rog Lake, 16-0765-00, [11/5/84P] (T.65, R.5W, S.16, 17): 1B, 2A, 3B;

(144) *Ruby Lake, Big, 16-0333-00, [11/5/84P] (T.66, R.14): 1B, 2A, 3B;

(145) *Saganaga Lake, 16-0633-00, [11/5/84P] (T.66, 67, R.4, 5): 1B, 2A, 3B;

(146) *Saganaga Lake, Little, 16-0890-00, [11/5/84P] (T.64, R.5, 6): 1B, 2A, 3B;

(147) *Sand Point Lake, 69-0617-00, [11/5/84P] (T.67, 68, 69, R.16, 17): 1B, 2A, 3A;

(148) Scarp (Cliff) Lake, 38-0058-00, (T.60, R.6W, S.31, 32): 1B, 2A, 3B;

(149) *Sea Gull Lake, 16-0629-00, [11/5/84P] (T.65, 66, R.4, 5): 1B, 2A, 3B;

(150) *Sema Lake (Coon Lake), 38-0386-00, [11/5/84P] (T.65, R.7): 1B, 2A, 3B;

(151) Shoo-fly Lake, 38-0422-00, (T.59, R.8W, S.1; T.60, R.8W, S.36): 1B, 2A, 3B;

(152) *Skull Lake, 38-0624-00, [11/5/84P] (T.64, R.9W, S.14): 1B, 2A, 3B;

(153) *Snowbank Lake, 38-0529-00, [11/5/84P] (T.63, 64, R.8, 9): 1B, 2A, 3B;

(154) *Spoon Lake (Fames Lake), 38-0388-00, [11/5/84P] (T.65, R.7): 1B, 2A, 3B;

(155) *Spring Lake, 69-0761-00, [3/7/88R] (T.68, R.18): 1B, 2A, 3B;

(156) Steamhaul Lake, 38-0570-00, (T.60, R.9W, S.23): 1B, 2A, 3B;

(157) *Strup Lake, 38-0360-00, [11/5/84P] (T.64, R.7): 1B, 2A, 3B;

(158) *Sumpet Lake, 38-0283-00, [11/5/84P] (T.61, R.7): 1B, 2Bd, 3B;

(159) Surber Lake, 16-0343-00, (T.65, R.2W, S.34): 1B, 2A, 3B;

(160) *Takucmich Lake, 69-0369-00, [11/5/84P] (T.67, 68, R.14): 1B, 2A, 3B;

(161) *Tarry Lake, 16-0731-00, [11/5/84P] (T.64, R.5): 1B, 2A, 3B;

(162) *Thomas Lake, 38-0351-00, [11/5/84P] (T.63, 64, R.7): 1B, 2A, 3B;

(163) *Thumb Lake, 69-0352-00, [11/5/84P] (T.67, R.14): 1B, 2A, 3B;

(164) Tofte Lake, 38-0724-00, (T.63, R.10W, S.2, 3, 10, 11; T.64, R.10W, S.35): 1B, 2A, 3B;

(165) *Topaz Lake (Star Lake), 38-0172-00, [11/5/84P] (T.65, R.6): 1B, 2A, 3B;

(166) *Town Lake, 16-0458-00, [11/5/84P] (T.63, 64, R.3, 4): 1B, 2A, 3B;

(167) Trappers Lake, 38-0431-00, (T.60, R.8W, S.27, 34): 1B, 2A, 3B;

(168) Trip Lake, 16-0451-00, (T.65, R.3W, S.32): 1B, 2A, 3B;

(169) *Trout Lake, Big, 69-0498-00, [11/5/84P] (T.63, 64, R.15, 16): 1B, 2A, 3B;

(170) *Trout Lake, Little (Pocket Lake), 69-0682-00, [11/5/84P] (T.68, R.17): 1B, 2A, 3B;

(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;

(172) *Tucker Lake (Trucker Lake), 16-0417-00, [11/5/84P] (T.64, R.3): 1B, 2Bd, 3B;

(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;

(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);

(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;

(182) *Wine Lake, 16-0686-00, [11/5/84P] (T.63, R.5): 1B, 2A, 3B;

(183) *Wisini Lake, 38-0361-00, [11/5/84P] (T.64, R.7): 1B, 2A, 3B;

(184) Woods, Lake of the, 39-0002-00, (see Lake of the Woods);

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

(186) *All wetlands in the Boundary Waters Canoe Area Wilderness [11/5/84P]: 2D;

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

(188) *All other wetlands in the Voyageurs National Park [11/5/84P]: 2D.

C. Calcareous Fens: None currently listed.

D. Scientific and Natural Areas: *Purvis Lake-Ober, [11/5/84P] Waters within the Purvis Lake-Ober Foundation Scientific and Natural Area, Saint Louis County, (T.62, R.13): 2B, 3B, except wetlands which are 2D.

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 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, 20, 29): 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;

(9) Buckboard Creek, (T.144, R.37, S.19, 30, 31; T.144, R.38, S.11, 12, 13, 24): 1B, 2A, 3B;

(10) Clearwater River, (T.148, R.35, S.5, 6, 8, 17, 20, 29, 31, 32; T.149, R.35, S.20, 29, 31, 32): 1B, 2A, 3B;

(11) County Ditch No. 6A-2, Rothsay, (T.135, R.45, S.21, 28, 33): 7 (see subitem (68));

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

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

(14) Dead Horse Creek, (T.138, R.38, S.3, 4, 7, 8, 9, 16): 1B, 2A, 3B;

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

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

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

(18) Elbow Lake Creek (Solid Bottom Creek), (T.142, R.38, S.6; T.143, R.38, S.31, 32): 1B, 2A, 3B;

(19) Felton Creek, (T.141, R.44, S.7, 8, 17; T.141, R.45, S.7, 8, 12, 13, 14, 15, 16, 17, 18, 22; T.141, R.46, S.12, 13, 14): 1B, 2A, 3B;

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

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

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

(23) Hay Creek (County Ditch No. 7 or County Ditch No. 9), (T.161, 162, R.37, 38, 39): 2C;

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

(25) Holmstad Creek, (T.136, R.37, S.7; T.136, R.38, S.12, 13, 14): 1B, 2A, 3B;

(26) Hoover Creek, (T.152, 153, 154, R.29, 30): 2C;

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

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

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

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

(31) Lawndale Creek, (T.135, R.45, S.5, 6; T.135, R.46, S.1, 2): 1B, 2A, 3B;

(32) Lengby Creek, (T.147, R.39, S.33, 34): 1B, 2A, 3B;

(33) Long Branch Creek, (T.134, R.42, S.7): 1B, 2A, 3B;

(34) Lost River, (T.148, R.38, S.20, 21, 22, 27, 28): 1B, 2A, 3B;

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

(36) Marsh Creek (Judicial Ditch No. 91), (T.144, 145, 146, R.41, 42, 43): 2C;

(37) Meadow Creek, (T.151, R.30, S.6; T.151, R.31, S.1, 2): 1B, 2A, 3B;

(38) Mud Creek, (T.144, R.37, S.13, 14, 22, 23, 24): 1B, 2A, 3B;

(39) Mud River, (T.150, R.33, S.21, 28): 1B, 2A, 3B;

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

(41) Mustinka River, West Branch, (see Twelve Mile Creek, West Branch);

(42) Mustinka River Ditch, (T.128, R.45, S.19; T.128, R.46, S. 13, 14, 23, 24): 2C;

(43) Nassett Creek, (T.148, R.38, S.20, 28, 29): 1B, 2A, 3B;

(44) O'Brien Creek, (T.149, R.32, S.2; T.150, R.32, S.23, 24, 26, 35): 1B, 2A, 3B;

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

(46) Otter Tail River Diversion, (T.133, R.42, S.19, 30; T.133, R.43, S.25): 1C, 2Bd, 3C;

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

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

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

(50) Red River of the North, (T.132, R.47, S.8 in Breckenridge to Canadian border): 1C, 2Bd, 3C;

(51) Roy Creek (Roy Lake Creek), (T.145, 146, R.39): 2C;

(52) Rush Lake Creek, (T.135, R.38, S.23, 26, 27, 28): 1B, 2A, 3B;

(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;

(54) Spring Creek (State Ditch No. 68), (T.145, 146, R.45, 46, 47): 2C;

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

(56) Spring Creek, (T.149, R.30, S.4, 5, 9, 10): 1B, 2A, 3B;

(57) Spring Lake Creek, (T.148, R.35, S.34, 35): 1B, 2A, 3B;

(58) Stony Creek, (T.137, 138, R.45, 46): 2C;

(59) Sucker Creek, (T.138, R.40, S.18; T.138, R.41, S.13): 1B, 2A, 3B;

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

(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, 3C;

(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;

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

(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;

(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;

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

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

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

(70) Two Rivers, South Branch, (T.160, 161, R.41-49): 1C, 2Bd, 3C;

(71) Unnamed Creek, Rothsay, (T.135, R.45, S.21, 22, 23, 25, 26): 7 (see subitem (11));

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

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

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

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

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

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

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

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

(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;

(81) Whisky Creek, (T.136, 137, R.44, 45, 46): 2C;

(82) Whisky Creek, (T.133, 134, R.46, 47, 48): 2C;

(83) White Earth River, (T.142, 143, 144, R.40, 41, 42): 2C;

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

(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;

(4) Lake Bronson, 35-0003-00, (T.160, 161, R.46): 1C, 2Bd, 3C;

(5) Twin Lake, East, 03-0362-00, (T.138, R.41): 1B, 2A, 3B;

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

(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.

C. Calcareous Fens:

(1) *Agassiz-Olson WMA fen, 17, Norman [4/18/94R] (T.146, R.45, S.22): 2D;

(2) *Anna Gronseth Prairie fen, 47, Wilkin [4/18/94R] (T.134, R.45, S.15): 2D;

(3) *Anna Gronseth Prairie fen, 49, Wilkin [4/18/94R] (T.134, R.45, S.10): 2D;

(4) *Anna Gronseth Prairie fen, 52, Wilkin [4/18/94R] (T.134, R.45, S.4): 2D;

(5) *Barnesville Moraine fen, 44, Clay [4/18/94R] (T.137, R.44, S.18): 2D;

(6) *Barnesville WMA fen, 10, Clay [3/7/88R] (T.137, R.45, S.1): 2D;

(7) *Barnesville WMA fen, 43, Clay [4/18/94R] (T.137, R.44, S.18): 2D;

(8) *Chicog Prairie fen, 39, Polk [4/18/94R] (T.148, R.45, S.28): 2D;

(9) *Chicog Prairie fen, 40, Polk [3/7/88R] (T.148, R.45, S.33): 2D;

(10) *Chicog Prairie fen, 41, Polk [3/7/88R] (T.148, R.45, S.20, 29): 2D;

(11) *Chicog Prairie fen, 42, Polk [3/7/88R] (T.148, R.45, S.33): 2D;

(12) *Clearbrook fen, 61, Clearwater [3/7/88R] (T.149, R.37, S.17): 2D;

(13) *Faith Prairie fen, 15, Norman [4/18/94R] (T.144, R.43, S.26): 2D;

(14) *Faith Prairie fen, 16, Norman [4/18/94R] (T.144, R.43, S.35): 2D;

(15) *Faith Prairie fen, 27, Norman [3/7/88R] (T.144, R.43, S.25): 2D;

(16) *Felton Prairie fen, 28, Clay [3/7/88R] (T.142, R.46, S.36): 2D;

(17) *Felton Prairie fen, 36, Clay [3/7/88R] (T.141, R.46, S.13): 2D;

(18) *Felton Prairie fen, 48, Clay [4/18/94R] (T.142, R.45, S.31): 2D;

(19) *Felton Prairie fen, 53, Clay [4/18/94R] (T.141, R.46, S.24): 2D;

(20) *Green Meadow fen, 14, Norman [4/18/94R] (T.145, R.45, S.35, 36): 2D;

(21) *Haugtvedt WPA North Unit, 54, Clay [4/18/94R] (T.137, R.44, S.28, 29): 2D;

(22) *Kittleson Creek Mire fen, 55, Polk [4/18/94R] (T.147, R.44, S.6, 7): 2D;

(23) *Rothsay Prairie fen, 46, Wilkin [4/18/94R] (T.136, R.45, S.33): 2D;

(24) *Rothsay Prairie fen, 50, Wilkin [4/18/94R] (T.135, R.45, S.15, 16): 2D;

(25) *Rothsay Prairie fen, 51, Wilkin [4/18/94R] (T.135, R.45, S.9): 2D;

(26) *Sanders East fen, 65, Pennington [4/18/94R] (T.153, R.44, S.7): 2D;

(27) *Sanders East fen, 74, Pennington [4/18/94R] (T.153, R.44, S.7): 2D;

(28) *Sanders fen, 64, Pennington [4/18/94R] (T.153, R.44, S.18, 19): 2D;

(29) *Spring Creek WMA NHR fen, 34, Becker [3/7/88R] (T.142, R.42, S.13): 2D;

(30) *Spring Prairie fen, 37, Clay [3/7/88R] (T.140, R.46, S.11): 2D;

(31) *Tamarac River fen, 71, Marshall [4/18/94R] (T.157, R.46, S.2): 2D;

(32) *Tympanuchus Prairie fen, 26, Polk [3/7/88R] (T.149, R.45, S.17): 2D;

(33) *Tympanuchus Prairie fen, 38, Polk [3/7/88R] (T.149, R.45, S.16): 2D;

(34) *Viking fen, 68, Marshall [4/18/94R] (T.155, R.45, S.18): 2D;

(35) *Viking fen, 70, Marshall [4/18/94R] (T.155, R.45, S.20): 2D;

(36) *Viking Strip fen, 69, Marshall [4/18/94R] (T.154, R.45, S.4): 2D; and

(37) *Waubun WMA fen, 11, Mahnomen [3/7/88R] (T.143, R.42, S.25): 2D.

D. Scientific and Natural Areas:

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

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

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 to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

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

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

(3) Barbour Creek, (T.44, R.28, S.28): 1B, 2A, 3B;

(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.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, 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;

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

(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;

(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;

(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;

(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;

(31) Camp Creek, (T.43, R.28, S.4, 5): 1B, 2A, 3B;

(32) Camp Ripley Brook, (T.132, R.29, S.18, 19; T.132, R.30, S.12, 13): 1B, 2A, 3B;

(33) Cat River (Cat Creek), (T.137, R.35, S.4, 9, 10, 11, 12, 13): 1B, 2A, 3B;

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

(35) Cedar Creek, (T.138, R.31, S.23, 26, 27, 28): 1B, 2A, 3B;

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

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

(38) Cold Creek, (T.145, R.33, S.19): 1B, 2A, 3B;

(39) Cold Spring Creek, (T.123, R.30, S.14, 15): 1B, 2A, 3B;

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

(41) Corey Brook (Cory Brook), (T.135, R.30, S.9, 15, 16, 21, 22, 27): 1B, 2A, 3B;

(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;

(43) County Ditch No. 17, St. Cloud, Bel Clare Estates, (T.124, R.29, S.13, 24, 25): 7;

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

(45) County Ditch No. 23A, Willmar, (T.119, R.34, S.29, 30, 32; T.119, R.35, S.23, 25, 26): 7;

(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;

(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;

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

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

(50) Crane Creek (Judicial Ditch No. 1), (excluding Class 7 segment), (T.116, 117, R.26, 27): 2C;

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

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

(53) Cullen Brook, (T.136, R.28, S.18, 19, 30; T.136, R.29, S.13): 1B, 2A, 3B;

(54) Dabill Brook, (T.137, R.31, S.1, 2, 10, 11; T.138, R.31, S.35, 36): 1B, 2A, 3B;

(55) Daggett Brook, (T.43, R.29, 30): 2C;

(56) Duel Creek, (T.129, R.32, S.20): 1B, 2A, 3B;

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

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

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

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

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

(62) Fairhaven Creek, (T.121, R.28, S.5; T.122, R.28, S.29, 31, 32): 1B, 2A, 3B;

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

(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;

(65) Fawn Creek, (T.134, R.33, S.22, 27, 33, 34): 1B, 2A, 3B;

(66) Finn Creek, (T.135, R.37, S.27, 34): 1B, 2A, 3B;

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

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

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

(70) Frederick Creek, (T.119, R.25, 26): 2C;

(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;

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

(75) Hanson Brook (Threemile), (T.122, R.28, S.21, 22, 25, 26, 27, 36): 1B, 2A, 3B;

(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;

(77) Hay Creek, Crow Wing County, (T.43, 44, R.30, 31): 2C;

(78) Hay Creek, Wadena County, (T.134, R.33, S.7, 8, 9, 10, 11, 17, 18): 1B, 2A, 3B;

(79) Hay Creek (Mosquito Creek), (T.135, R.31, S.8, 9, 16, 17): 1B, 2A, 3B;

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

(81) Hellcamp Creek (Hellkamp Creek), (T.140, R.33, S.19; T.140, R.34, S.24): 1B, 2A, 3B;

(82) Hennepin Creek, (T.144, R.35, S.3, 10, 15, 16, 21; T.145, R.35, S.34): 1B, 2A, 3B;

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

(84) Hoblin Creek, (T.137, R.30, S.17, 18, 19): 1B, 2A, 3B;

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

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

(87) Iron Creek, (T.134, 135, R.31, 32): 2C;

(88) Jewett Creek (Jewitts Creek or County Ditch No. 17), (T.119, 120, R.30, 31): 2C;

(89) Johnson Creek, (T.137, R.25): 2C;

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

(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;

(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;

(93) Kawishiwash Creek, (T.142, R.32, S.12): 1B, 2A, 3B;

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

(95) Kinzer Creek, (T.123, R.30, S.27, 34): 1B, 2A, 3B;

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

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

(98) Larson Creek, (T.128, R.32, S.6): 1B, 2A, 3B;

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

(100) LaSalle Creek, (T.143, R.35, S.6; T.144, R.35, S.19, 30, 31): 1B, 2A, 3B;

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

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

(103) Libby Brook, (T.50, R.23, S.5, 6; T.50, R.24, S.1, 2): 1B, 2A, 3B;

(104) Long Brook, Lower South, (T.44, R.30, S.12, 13): 1B, 2A, 3B;

(105) Long Brook, Upper South, (T.44, R.29, S.6, 7): 1B, 2A, 3B;

(106) Long Lake Creek, (T.46, R.25, S.10, 15): 1B, 2A, 3B;

(107) Luxemburg Creek, (T.123, R.28, S.16, 17, 18, 19, 20, 21, 22, 30): 1B, 2A, 3B;

(108) Matuska's Creek, (T.54, R.26, S.35, 36): 1B, 2A, 3B;

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

(110) Meyers Creek (Johnson Creek), (T.122, R.28, S.4; T.123, R.28, S.22, 27, 33, 34): 1B, 2A, 3B;

(111) Michaud Brook, (T.140, R.25, S.7, 17, 18): 1B, 2A, 3B;

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

(113) Mink Creek, Big, (T.41, 42, R.29, 30): 2C;

(114) Mink Creek, Little, (T.40, 41, R.29, 30, 31): 2C;

(115) *Mississippi River, [11/5/84R] (From Lake Itasca to Fort Ripley, at the common boundary of Crow Wing and Morrison Counties): 2B, 3C;

(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, 3C;

(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, 3C;

(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, 3C;

(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, 3C;

(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, 3C;

(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;

(122) Muckey Creek (Wallingford Creek), (T.139, R.33, S.1, 2, 10, 11, 12): 1B, 2A, 3B;

(123) Necktie River (T.145, R.32, S.6, 7, 8, 9, 16; T.145, R.33, S.1): 1B, 2A, 3B;

(124) Nelson Hay Creek, (T.130, R.31, S.1, 2): 1B, 2A, 3B;

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

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

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

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

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

(130) Olson Brook, (T.136, R.30, S.12, 13, 14): 1B, 2A, 3B;

(131) Peterson Creek, (T.134, R.30, S.29 32): 1B, 2A, 3B;

(132) Pickerel Creek, (T.56, R.22, S.7, 18; T.56, R.23, S.13): 1B, 2A, 3B;

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

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

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

(136) Pillager Creek, (T.133, 134, R.30): 2C;

(137) Pine River, South Fork, (T.138, R.31, S.14, 23): 1B, 2A, 3B;

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

(139) Pokegama Creek, (T.54, R.26, S.26, 27, 28): 1B, 2A, 3B;

(140) Pokegama Creek, Little, (T.54, R.26, S.26, 27, 34, 35): 1B, 2A, 3B;

(141) Pokety (Pickedee Creek), (T.144, R.32, S.29, 30; T.144, R.33, S.24, 25): 1B, 2A, 3B;

(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;

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

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

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

(146) Rice Creek, Sherburne County, (T.35, R.29): 2C;

(147) Robinson Hill Creek, (T.123, R.28, S.4, 9, 10, 15; T.124, R.28, S.31, 32, 33): 1B, 2A, 3B;

(148) Rock Creek, Little, (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, 27, 33, 34): 1B, 2A, 3B;

(149) Rogers Brook, (T.134, R.30, S.29, 32): 1B, 2A, 3B;

(150) Rosholt Creek, (T.55, R.23, S.22, 23, 24): 1B, 2A, 3B;

(151) Round Creek, (T.43, R.31, S.14, 15): 1B, 2A, 3B;

(152) Round Prairie Creek (Trout Creek), (T.127, R.33, S.4; T.128, R.33, S.20, 29, 32, 33): 1B, 2A, 3B;

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

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

(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;

(156) Sand Creek, (T.55, R.23, S.15, 22, 27, 28, 29, 32, 33): 1B, 2A, 3B;

(157) Sauk Creek, Little, (T.127, R.34, S.1; T.128, R.34, S.36): 1B, 2A, 3B;

(158) Schoolcraft Creek, (T.142, R.34, S.5, 7, 8, 17): 1B, 2A, 3B;

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

(160) Sisseebakwet Creek, (T.54, R.26, S.19, 29, 30): 1B, 2A, 3B;

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

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

(163) Skunk Creek, (T.144, 145, R.34): 2C;

(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;

(165) Smart's Creek, (T.126, R.28, S.17, 18, 20): 1B, 2A, 3B;

(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;

(167) Smith Creek, Unnamed Tributary, (T.53, R.26, S.11, 12): 1B, 2A, 3B;

(168) Smith Creek, Unnamed Tributary, (T.54, R.26, S.35, 36): 1B, 2A, 3B;

(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;

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

(171) Split Hand Creek, (T.53, R.24, 25): 2C;

(172) Spring Brook, Stearns County, (T.121, R.28, S.7; T.121, R.29, S.12): 1B, 2A, 3B;

(173) Spring Brook, Crow Wing County, (T.138, R.28, S.27, 34): 1B, 2A, 3B;

(174) Spring Brook (Spring Branch), Cass County, (T.139, R.26, S.3, 10, 11, 14): 1B, 2A, 3B;

(175) Spring Brook, Lower, (T.57, R.25, S.6; T.58, R.25, S.31): 1B, 2A, 3B;

(176) Spring Creek, (T.55, R.23, S.25, 26, 27): 1B, 2A, 3B;

(177) Spruce Creek, (T.130, R.36, S.3, 4, 9, 10; T.131, R.36, S.28, 29, 31, 32, 33, 34): 1B, 2A, 3B;

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

(179) Stall Creek, (T.143, R.33, S.12, 13, 14): 1B, 2A, 3B;

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

(181) Stocking Creek, (T.138, R.34, 35): 2C;

(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;

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

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

(185) Stony Point Brook, (T.147, R.28, S.22, 27, 34): 2C;

(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;

(187) Straight Lake Creek, (T.140, R.36, S.6; T.140, R.37, S.1, 2): 1B, 2A, 3B;

(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;

(189) Sucker Creek (Gould Creek), (T.144, R.36, S.27, 28, 29, 30, 32, 33): 1B, 2A, 3B;

(190) Sucker Creek, Meeker County, (T.118, R.30, S.4, 5, 6, 7): 1B, 2A, 3B;

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

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

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

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

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

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

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

(198) Thiel Creek (Teal), (T.121, R.28, S.5, 6, 8): 1B, 2A, 3B;

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

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

(201) Trout Brook, St. Paul, (T.29, R.22, S.18, 19): 7;

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

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

(204) Two Rivers Springs, (T.51, R.23, S.19; T.51, R.24, S.24, 25, 26): 1B, 2A, 3B;

(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;

(206) Unnamed Creek, Cass County, (T.137, R.31, S.4, 5): 1B, 2A, 3B;

(207) Unnamed Creek, Cass County, (T.139, R.26, S.3, 10): 1B, 2A, 3B;

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

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

(210) Unnamed Creek, Rogers, (T.120, R.23, S.15, 16, 22, 23): 7;

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

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

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

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

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

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

(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;

(218) Unnamed Ditch, McGregor, (T.48, R.23, S.31, 32): 7;

(219) Unnamed Ditch, Nashwauk, (T.56, R.22, S.4, 5; T.57, R.22, S.32): 7;

(220) Unnamed Ditch, Taconite, (T.56, R.24, S.22 SW1/4): 7;

(221) Unnamed Ditch, Glencoe, Green Giant, (T.115, R.28, S.21, 22, 27, 28): 7;

(222) Unnamed Ditch, Glencoe, Green Giant, (T.115, R.28, S.14, 23): 7;

(223) Unnamed Ditch, Winsted, Green Giant, (T.117, R.27, S.10, 11): 7;

(224) Unnamed Ditch, Montrose, Hiller Mobile Home Court, (T.119, R.26, S.34, 35): 7;

(225) Unnamed Ditch, Kandiyohi, (T.119, R.34, S.10, 15, 21, 22, 28, 29): 7;

(226) Unnamed Ditch, Rogers, (T.120, R.23, S.15): 7;

(227) Unnamed Ditch, Belgrade, (T.123, R.34, S.19, 30): 7;

(228) Unnamed Ditch, Flensburg, (T.129, R.30, S.30; T.129, R.31, S.25): 7;

(229) Unnamed Ditch, Miltona, (T.130, R.36, S.30; T.130, R.37, S.25, 36): 7;

(230) Unnamed Stream, Winsted, (T.117, R.27, S.11, 12): 7;

(231) Unnamed Stream, Flensburg, (T.129, R.30, S.19, 30): 7;

(232) Vandell Brook (Vondell Brook), (T.37, 38, R.26): 2C;

(233) Van Sickle Brook, (T.138, R.26, S.14, 15, 23, 24): 1B, 2A, 3B;

(234) Wallingford Brook (Wallingford Creek), (T.139, R.33, S.1, 2, 11; T.140, R.33, S.25, 36): 1B, 2A, 3B;

(235) Warba Creek, (T.54, R.23, S.13, 14, 15, 21, 22, 23, 24): 1B, 2A, 3B;

(236) Welcome Creek, (T.56, 57, R.22): 2C;

(237) Whitley's Creek (Whiteley Creek), (T.45, R.30, S.16, 17, 20, 21): 1B, 2A, 3B;

(238) Whitney Brook, (T.39, R.26, 27): 2C;

(239) Willow Creek, Otter Tail County, (T.133, R.38, S.2, 11; T.134, R.38, S.26, 35): 1B, 2A, 3B;

(240) Willow Creek, Stearns and Meeker Counties, (T.121, R.29, S.10, 11, 14, 23): 1B, 2A, 3B;

(241) Willow River, North Fork, (T.142, R.25): 2C;

(242) Willow River, South Fork, (T.142, R.25): 2C;

(243) Wilson Creek, (T.137, R.30): 2C; and

(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, 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, 3C;

(12) Charley Lake, 62-0062-00, (T.30, R.23): 1C, 2Bd, 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, 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, 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, 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, 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;

(52) Unnamed Swamp, Flensburg, (T.129, R.31, S.25): 7;

(53) Unnamed Slough, Miltona, (T.130, R.37, S.26, 35, 36): 7;

(54) Unnamed Swamp, Staples, (T.133, R.33, S.1): 7;

(55) Unnamed Swamp, Taconite, (T.56, R.24, S.22): 7;

(56) Vadnais Lake, 62-0038-00, (T.30, R.22): 1C, 2Bd, 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, 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.

C. Calcareous Fens: None currently listed.

D. Scientific and Natural Areas:

(1) *Itasca Wilderness Sanctuary, [11/5/84P] Waters within the Itasca Wilderness Sanctuary, Clearwater County, (T.143, R.36): 2B, 3B, except wetlands which are 2D;

(2) *Iron Springs Bog, [11/5/84P] Waters within the Iron Springs Bog Scientific and Natural Area, Clearwater County, (T.144, R.36): 2B, 3B, except wetlands which are 2D;

(3) *Pennington Bog, [11/5/84P] Waters within the Pennington Bog Scientific and Natural Area, Beltrami County, (T.146, R.30): 2B, 3B, except wetlands which are 2D; and

(4) *Wolsfeld Woods, [11/5/84P] Waters within the Wolsfeld Woods Scientific and Natural Area, Hennepin County, (T.118, R.23): 2B, 3B, except wetlands which are 2D.

Subp. 5. **Minnesota River Basin.** The water use classifications for the listed waters in the Minnesota River Basin are as identified in items A to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

(1) Altermatts Creek (County Ditch No. 39), Comfrey, (T.108, R.33, S.17, 19, 20, 30; T.108, R.34, S.24, 25, 35, 36): 7;

(2) Assumption Creek, (T.115, R.23, S.2; T.116, R.23, S.34, 35): 1B, 2A, 3B;

(3) Badger Creek, (T.101, 102, R.28): 2C;

(4) Beaver Creek, East Fork (County Ditch No. 63), Olivia, Olivia Canning Company, (T.115, R.34, S.1, 2, 3, 4, 5, 6; T.115, R.35, S.1, 12, 13, 14, 23, 24, 25, 26; T.116, R.34, S.16, 20, 21, 28, 29, 30, 32, 33, 34, 35): 7;

(5) Blue Earth River, East Fork, (Brush Creek to mouth): 2C, 3C;

(6) Blue Earth River, West Fork, (Iowa border to mouth): 2C, 3C;

(7) Boiling Spring Creek (excluding Class 7 segment), (T.113, 114, R.37, 38): 2C;

(8) Boiling Springs Creek (County Ditch No. 1B), Echo, (T.113, R.38, S.5, 8; T.114, R.37, S.19, 30; T.114, R.38, S.25, 26, 27, 32, 33, 34): 7;

(9) Boot Creek (excluding Class 7 segment), (T.105, 106, R.22, 23): 2C;

(10) Boot Creek, New Richland, (T.105, R.22, S.6, 7; T.105, R.23, S.12, 13, 24): 7;

(11) Brafees Creek, (T.116, 117, R.40): 2C;

(12) Brush Creek, (Iowa border to mouth): 2C, 3C;

(13) Bull Run Creek, Little, (T.106, R.24, 25): 2C;

(14) Butterfield Creek, (T.106, 107, R.31, 32, 33): 2C;

(15) Canby Creek, (T.114, R.45, S.17, 18; T.114, R.46, S.13, 14, 21, 22, 23): 1B, 2A, 3B;

(16) Canby Creek (excluding trout waters), (South Dakota border to mouth): 2C, 3C;

(17) Cedar Run Creek, (T.103, 104, R.32, 33): 2C;

(18) Cherry Creek, Cleveland, (T.110, R.25, S.7, 8, 16, 17; T.110, R.26, S.12): 7;

(19) Chetomba Creek (excluding Class 7 segment), (T.116, 117, R.36, 37, 38): 2C;

(20) Chetomba Creek, Prinsburg, (T.116, R.36, S.6, 7, 18, 19; T.116, R.37, S.8, 9, 14, 15, 16, 23, 24; T.117, R.36, S.8, 9, 16, 17, 21, 28, 29, 30, 31, 32): 7;

(21) Chippewa River (see also County Ditch No. 60);

(22) Cobb Creek, Freeborn, (T.104, R.23, S.7, 8, 17; T.104, R.24, S.11, 12): 7;

(23) Cobb Creek Ditch, Freeborn, (T.103, R.23, S.2; T.104, R.23, S.14, 15, 16, 23, 26, 35): 7;

(24) Cobb River (Cobb River, Big), (T.103, 104, 105, 106, 107, R.23, 24, 25, 26, 27): 2C;

(25) Cobb River, Little (County Ditch No. 8), (T.105, 106, R.23, 24, 25, 26): 2C;

(26) Cottonwood Creek (excluding trout waters), (T.120, 121, 122, R.41, 42): 2C;

(27) Cottonwood Creek, (T.119, R.41, S.4; T.120, R.41, S.21, 28, 33): 1B, 2A, 3B;

(28) County Ditch No. 1, Echo, (T.113, R.38, S.8, 9): 7;

(29) County Ditch No. 4, Arco, (T.110, R.44, S.5; T.111, R.44, S.32, 33): 7;

(30) County Ditch No. 4, Norwood, (T.115, R.25, S.30; T.115, R.26, S.13, 14, 24, 25): 7;

(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;

(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;

(33) County Ditch No. 7, Lowry, (T.126, R.39, S.25, 26): 7;

(34) County Ditch No. 8 (see Cobb River, Little);

(35) County Ditch No. 9 (see Hazel Creek);

(36) County Ditch No. 12 (County Ditch No. 45), Waseca, (T.107, R.23, S.22, 23): 7;

(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;

(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);

(40) County Ditch No. 22, Montgomery, Green Giant Company, (T.111, R.23, S.4, 9, 10; T.112, R.23, S.33): 7;

(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;

(42) County Ditch No. 28, Marietta, (T.118, R.46, S.22, 23, 26): 7;

(43) County Ditch No. 38, Storden, (T.107, R.37, S.28, 29): 7;

(44) County Ditch No. 40A, Lafayette, (T.111, R.29, S.8, 14, 15, 16, 17, 23, 24): 7;

(45) County Ditch No. 42, Winthrop, (T.112, R.29, S.6, 7): 7;

(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;

(47) County Ditch No. 45, Renville, Southern Minnesota Beet Sugar Coop, (T.114, R.36, S.5, 6; 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;

(49) County Ditch No. 46, Willmar, (T.119, R.35, S.19, 20, 29): 7;

(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;

(51) County Ditch No. 54, Montgomery, (T.112, R.23, S.26, 33, 34, 35): 7;

(52) County Ditch No. 55 (see Rush River, North Branch);

(53) County Ditch No. 60 (Chippewa River), Millerville, Millerville Coop Cry., (T.130, R.39, S.14, 22, 23, 27, 28, 32, 33): 7;

(54) County Ditch No. 61, Kerkhoven, (T.120, R.37, S.21, 22): 7;

(55) County Ditch No. 63, Hanska, (T.108, R.30, S.11, 12, 14, 17, 18, 19, 20, 21, 22, 23, 27, 28): 7;

(56) County Ditch No. 66, Bird Island, (T.115, R.34, S.15, 16, 17, 18, 22, 23): 7;

(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;

(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;

(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;

(60) Crow Creek, (T.112, R.35): 2C;

(61) Dry Creek, (T.108, 109, R.36): 2C;

(62) Dry Weather Creek, (T.117, 118, R.39, 40, 41): 2C;

(63) Dry Wood Creek, (T.122, 123, R.42, 43): 2C;

(64) Eagle Creek, East Branch, (T.115, R.21, S.18): 1B, 2A, 3B;

(65) Eagle Creek, Main Branch, (T.115, R.21, S.7, 18; T.115, R.22, S.13): 1B, 2A, 3B;

(66) Echo Creek, (T.114, R.37): 2C;

(67) Eight Mile Creek (Judicial Ditch No. 7 or Eightmile Creek), (T.111, 112, 113, R.31): 2C;

(68) Elm Creek, North Fork, (T.104, R.34): 2C;

(69) Elm Creek, South Fork, (T.103, R.34): 2C;

(70) Emily Creek, (T.118, 119, R.43): 2C;

(71) Fish Creek, (T.123, 124, R.47, 48, 49): 2C;

(72) Five Mile Creek, (T.120, R.44): 2C;

(73) Florida Creek, (South Dakota border to mouth): 2C, 3C;

(74) Foster Creek (County Ditch No. 1) (excluding Class 7 segment), (T.102, 103, R.24): 2C;

(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;

(76) Hassel Creek, (T.122, 123, R.38, 39): 2C;

(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;

(78) Hazel Creek (County Ditch No. 9), (T.115, R.39, 40, 41, 42): 2C;

(79) High Island Ditch No. 5, Arlington, (T.113, R.27, S.16, 17, 21, 22, 27): 7;

(80) Hindeman Creek (Spring Creek), (T.111, R.32, S.19, 20; T.111, R.33, S.24): 1B, 2A, 3B;

(81) Iosco Creek, (T.108, R.23): 2C;

(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;

(83) Judicial Ditch No. 1, Delavan, (T.104, R.27, S.23, 25, 26, 36): 7;

(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, 20, 21 NW1/4; T.117, R.44, S.12): 7;

(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;

(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);

(89) Judicial Ditch No. 10, (see Wood Lake Creek);

(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;

(91) Judicial Ditch No. 12, Tyler, (T.109, R.43, S.9, 15, 16, 17, 18): 7;

(92) Judicial Ditch No. 29, Arco, (T.111, R.44, S.21, 28, 33): 7;

(93) Judicial Ditch No. 29 (Spring Creek), 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;

(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;

(96) Judicial Ditch No. 49 (Providence Creek), Amboy, (T.105, R.27, S.18, 19; T.105, R.28, S.13): 7;

(97) Kennaley's Creek, (T.27, R.23, S.18): 1B, 2A, 3B;

(98) Lac qui Parle River, (Lake Hendricks outlet to Minnesota River): 2C, 3C;

(99) Lac qui Parle River, West Fork, (South Dakota border to mouth): 2C, 3C;

(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;

(101) Lazarus Creek, (South Dakota border to Canby Creek): 2C, 3C;

(102) Lazarus Creek (Canby Creek), (T.115, R.45, S.14 to mouth): 2B, 3C;

(103) Le Sueur River, Little, (T.106, R.22): 2C;

(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;

(105) Long Lake Creek, (T.132, R.41, S.9): 1B, 2A, 3B;

(106) Middle Creek (County Ditch No. 92), (T.113, 114, R.36): 2C;

(107) Mink Creek (Judicial Ditch No. 60), (T.104, R.30, 31): 2C;

(108) Minneopa Creek, Lake Crystal, (T.108, R.28, S.26, 27, 32, 33, 34): 7;

(109) Minnesota River, (Big Stone Lake outlet to the Lac qui Parle dam): 1C, 2Bd, 3C;

(110) *Minnesota River, [11/5/84R] (Lac qui Parle dam to the dam in Granite Falls S.34, T.116, R.39): 1C, 2Bd, 3C;

(111) *Minnesota River, [11/5/84R] (from the dam in Granite Falls S.34, T.116, R.39 to Redwood County State-Aid Highway 11 bridge): 2B, 3C;

(112) Minnesota River, (River Mile 22 to mouth): 2C, 3C;

(113) Minnesota River, Little, (South Dakota border crossing to Big Stone Lake): 2C, 3C;

(114) Morgan Creek (Judicial Ditch No. 10) (excluding Class 7 segment), (T.109, R.29, 30): 2C;

(115) Mud Creek, (T.114, R.43, 44, 45): 2C;

(116) Mud Creek, (T.123, R.36, S.28, 29): 1B, 2A, 3B;

(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;

(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;

(119) Palmer Creek (County Ditch No. 68), (T.116, 117, 118, R.39): 2C;

(120) Paul's Creek, (T.110, R.26, S.14, 15): 1B, 2A, 3B;

(121) Pelican Creek, (T.130, R.41, 42): 2C;

(122) Pell Creek, Walnut Grove, (T.109, R.38, S.25, 26, 27, 28): 7;

(123) Perch Creek, (T.104, 105, 106, R.29, 30): 2C;

(124) Ramsey Creek, (T.112, R.36, S.1; T.113, R.36, S.35, 36): 1B, 2A, 3B;

(125) Redwood River, (T.110, R.42, S.5, 8, 17; T.111, R.42, S.32): 1B, 2A, 3B;

(126) Rice Creek, See County Ditch No. 12;

(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;

(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;

(129) Saint James Creek (excluding Class 7 segment), (T.105, 106, R.31, 32, 33): 2C;

(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;

(131) Seven Mile Creek, (T.109, R.27, S.2, 3, 4, 10, 11, 12): 1B, 2A, 3B;

(132) Shakopee Creek, (T.119, 120, R.36, 37, 38, 39, 40): 2C;

(133) Silver Creek (County Ditch No. 3), (T.108, R.23, 24): 2C;

(134) Smith Creek, (T.113, R.35, 36): 2C;

(135) South Creek, (T.102, 103, R.28, 29, 30): 2C, 3C;

(136) Spring Branch Creek, (T.106, R.29, 30): 2C;

(137) Spring Creek (Judicial Ditch No. 29) (excluding trout waters) (see also Hindeman Creek and Judicial Ditch No. 29), (T.110, 111, R.33, 34): 2C;

(138) Spring Creek (County Ditch No. 10A), (T.117, 118, R.39, 40): 2C;

(139) Stony Run, (T.121, 122, R.45, 46): 2C;

(140) Stony Run Creek (Judicial Ditch No. 21), (T.116, R.40): 2C;

(141) Three Mile Creek (Threemile Creek), (T.112, R.33): 2C;

(142) Timms Creek (County Ditch No. 35A), (T.114, 115, R.36): 2C;

(143) Unnamed #1, (T.27, R.23, S.18; T.27, R.24, S.13): 1B, 2A, 3B;

(144) Unnamed #4, (T.27, R.24, S.24): 1B, 2A, 3B;

(145) Unnamed #7, (T.27, R.24, S.26): 1B, 2A, 3B;

(146) Unnamed Creek, (T.108, R.28, S.1, 2): 1B, 2A, 3B;

(147) Unnamed Creek, (T.108, R.28, S.5): 1B, 2A, 3B;

(148) Unnamed Creek, (T.110, R.26, S.10, 11): 1B, 2A, 3B;

(149) Unnamed Creek, (T.108, R.28, S.6; T.109, R.29, S.25, 36): 1B, 2A, 3B;

(150) Unnamed Creek, Green Isle, (T.114, R.26, S.2, 3, 4, 8, 9, 17): 7;

(151) Unnamed Creek, Lake Town Township, (T.115, R.24, S.3, 10, 11; T.116, R.24, S.27, 34): 7;

(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;

(153) Unnamed Creek, Murdock, (T.120, R.38, S.1, 2; T.121, R.38, S.35): 7;

(154) Unnamed Ditch, Burnsville Freeway Sanitary Landfill, (T.27, R.24, S.28, 33): 7;

(155) Unnamed Ditch, Bricelyn, Owatonna Canning Company, (T.101, R.25, S.10): 7;

(156) Unnamed Ditch, Truman, (T.104, R.30, S.2, 11; T.105, R.30, S.25, 26, 35): 7;

(157) Unnamed Ditch (County Ditch No. 47), New Richland, (T.105, R.22, S.17, 18, 19; T.105, R.23, S.24): 7;

(158) Unnamed Ditch, Lewisville, (T.105, R.30, S.3; T.106, R.30, S.14, 23, 26, 34, 35): 7;

(159) Unnamed Ditch, Waldorf, (T.106, R.24, S.34): 7;

(160) Unnamed Ditch (County Ditch No. 45), Waseca, (T.107, R.23, S.14, 23): 7;

(161) Unnamed Ditch, Jeffers, (T.107, R.36, S.21): 7;

(162) Unnamed Ditch, Storden, (T.107, R.37, S.19, 30): 7;

(163) Unnamed Ditch, Eagle Lake, (T.108, R.25, S.18, 19; T.108, R.26, S.13): 7;

(164) Unnamed Ditch, Walnut Grove, (T.109, R.38, S.28): 7;

(165) Unnamed Ditch, Tracy, (T.109, R.39, S. 7, 18; T.109, R.40, S.13): 7;

(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;

(167) Unnamed Ditch, Lafayette, (T.111, R.29, S.6, 7, 8; T.111, R.30, S.12): 7;

(168) Unnamed Ditch, Wabasso, (T.111, R.37, S.13, 24): 7;

(169) Unnamed Ditch, Montgomery, (T.112, R.23, S.33): 7;

(170) Unnamed Ditch, Winthrop, (T.112, R.29, S.4, 5, 6): 7;

(171) Unnamed Ditch, Arlington, (T.113, R.27, S.21): 7;

(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;

(173) Unnamed Ditch, Green Isle, (T.114, R.26, S. 19; T.114, R.27, S.11, 12, 13, 14, 24): 7;

(174) Unnamed Ditch, New Auburn, (T.114, R.28, S.20): 7;

(175) Unnamed Ditch, Porter, (T.114, R.44, S.21, 28): 7;

(176) Unnamed Ditch, Bongards, Bongards Creameries, (T.115, R.25, S.9, 16): 7;

(177) Unnamed Ditch, Clarkfield, (T.115, R.41, S.16): 7;

(178) Unnamed Ditch, Clarkfield, (T.115, R.41, S.16, 21): 7;

(179) Unnamed Ditch (County Ditch No. 15), Madison, (T.118, R.44, S.27, 28, 34, 35): 7;

(180) Unnamed Ditch, Pennock, (T.119, R.36, S.2, 3, 4, 9, 10): 7;

(181) Unnamed Ditch, DeGraff, (T.121, R.38, S.19, 29, 30): 7;

(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;

(183) Unnamed Ditch, Alberta, (T.124, R.43, S.3, 4): 7;

(184) Unnamed Ditch, Farwell, Farwell Coop Cry. Assn., (T.126, R.39, S.6): 7;

(185) Unnamed Ditch, Lowry, (T.126, R.39, S.26, 35): 7;

(186) Unnamed Ditch, Brandon, (T.129, R.39, S.21, 22): 7;

(187) Unnamed Ditch, Evansville, (T.129, R.40, S.10, 11): 7;

(188) Unnamed Dry Run, Near Minneopa, Blue Earth - Nicollet Electric, (T.108, R.27, S.16): 7;

(189) Unnamed Dry Run, Mankato, Southview Heights Coop Association, (T.108, R.26, S.19, 30; T.108, R.27, S.24): 7;

(190) Unnamed Stream, Mankato, Midwest Electric Products, (T.109, R.26, S.20, 21, 28): 7;

(191) Unnamed Stream, Savage, (T.115, R.21, S.8, 9): 7;

(192) Wabasha Creek, (T.112, R.34): 2C;

(193) Whetstone River, (South Dakota border to mouth): 2C, 3C;

(194) Old Whetstone River Channel, Ortonville, Big Stone Canning Company, (T.121, R.46, S.16, 21): 7;

(195) Willow Creek, (T.104, 105, R.31, 32): 2C;

(196) Wood Lake Creek, (Judicial Ditch No. 10), (T.113, 114, 115, R.38, 39): 2C;

(197) Yellow Bank River, North Fork, (South Dakota border to mouth): 2C, 3C;

(198) Yellow Bank River, South Fork, (South Dakota border to mouth): 2C, 3C; and

(199) Yellow Medicine River, North Fork, (South Dakota border to mouth): 2C, 3C.

B. Lakes:

(1) Amber Lake, 46-0034-00, (T.102, R.30): 1C, 2Bd, 3C;

(2) Bardwell Lake, 46-0023-00, (T.102, R.30): 1C, 2Bd, 3C;

(3) Budd Lake, 46-0030-00, (T.102, R.30): 1C, 2Bd, 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, 3C;

(6) Hall Lake, 46-0031-00, (T.102, R.30): 1C, 2Bd, 3C;

(7) Mud Lake, 46-0035-00, (T.102, R.30): 1C, 2Bd, 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, 3C;

(10) Sisseton Lake, 46-0025-00, (T.102, R.30): 1C, 2Bd, 3C;

(11) Unnamed Marsh, Barry, (T.124, R.47, S.8): 7;

(12) Unnamed Slough, Kensington, (T.127, R.40, S.34): 7;

(13) Unnamed Slough, Brandon, (T.129, R.39, S.21, 22): 7;

(14) Unnamed Swamp, Minnesota Lake, (T.104, R.25, S.3, 4): 7;

(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, 3C.

C. Calcareous Fens:

(1) *Blackdog Preserve fen, 63, Dakota [3/7/88R] (T.27, R.24, S.27, 34): 2D;

(2) *Blue Mounds fen, 1, Pope [4/18/94R] (T.124, R.39, S.14, 15): 2D;

(3) *Fort Ridgely fen, 21, Nicollet [3/7/88R] (T.111, R.32, S.6): 2D;

(4) *Fort Snelling State Park fen, 25, Dakota [3/7/88R] (T.27, R.23, S.4): 2D;

(5) *Lake Johanna fen, 4, Pope [4/18/94R] (T.123, R.36, S.29): 2D;

(6) *Le Sueur fen, 32, Nicollet [3/7/88R] (T.111, R.26, S.16): 2D;

(7) *Nicols Meadow fen, 24, Dakota [3/7/88R] (T.27, R.23, S.18): 2D;

(8) *Ordway Prairie fen, 35, Pope [3/7/88R] (T.123, R.36, S.30): 2D;

(9) *Ottawa Bluffs fen, 56, Le Sueur [4/18/94R] (T.110, R.26, S.3): 2D;

(10) *Ottawa WMA fen, 7, Le Sueur [3/7/88R] (T.110, R.26, S.11): 2D;

(11) *Ottawa WMA fen, 60, Le Sueur, [3/7/88R] (T.110, R.26, S.14): 2D;

(12) *Perch Creek WMA fen, 33, Martin [3/7/88R] (T.104, R.30, S.7): 2D;

(13) *Savage fen, 22, Scott [3/7/88R] (T.115, R.21, S.17): 2D;

(14) *Savage fen, 66, Scott [3/7/88R] (T.115, R.21, S.16, 17): 2D;

(15) *Savage fen, 67, Scott [3/7/88R] (T.115, R.21, S.17): 2D;

(16) *Seminary fen, 75, Carver [4/18/94R] (T.116, R.23, S.35): 2D;

(17) *Sioux Nation WMA NHR fen, 29, Yellow Medicine [3/7/88R] (T.114, R.46, S.17): 2D;

(18) *Swedes Forest fen, 8, Redwood [4/18/94R] (T.114, R.37, S.19, 20): 2D;

(19) *Swedes Forest fen, 9, Redwood [4/18/94R] (T.114, R.37, S.22, 27): 2D; and

(20) *Yellow Medicine fen, 30, Yellow Medicine [4/18/94R] (T.115, R.46, S.18): 2D.

D. Scientific and Natural Areas: *Blackdog Preserve, [3/7/88P] Waters within the Blackdog Preserve Scientific and Natural Area, Dakota County (T.27, R.24, S.27, 34): 2B, 3B, except wetlands which are 2D.

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 to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.

A. Streams:

(1) Bang's Brook, (T.41, R.17, S.15, 20, 21, 22, 29): 1B, 2A, 3B;

(2) Barnes Spring, (T.41, R.18, S.1, 12): 1B, 2A, 3B;

(3) Bear Creek, (T.43, R.23, 24): 2C;

(4) Beaver Creek, (T.35, R.20, S.7, 8, 17; T.35, R.21, S.3, 4, 10, 12, 13, 14, 15; T.36, R.21, S.33, 34): 1B, 2A, 3B;

(5) Bergman Brook, (T.42, 43, R.23, 24): 2C;

(6) Bjork Creek, (T.42, R.16, S.2, 9, 10, 11): 1B, 2A, 3B;

(7) Brown's Creek, (T.30, R.20, S.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;

(10) Crooked Creek, West Fork, (T.41, R.18, S.11, 12; T.42, R.18, S.3, 4, 9, 10, 16; T.43, R.18, S.27, 34): 1B, 2A, 3B;

(11) Crystal Creek, (T.41, R.16, S.9, 10, 15): 1B, 2A, 3B;

(12) Grindstone River, (T.42, R.21, S.20, 21, 28, 29): 1B, 2A, 3B;

(13) Groundhouse River, West Fork, (T.39, 40, R.26): 2C;

(14) Hay Creek, (T.40, R.18, S.6, 7, 8, 18, 19; T.41, R.18, S.10, 15, 20, 21, 22, 29, 32, 33): 1B, 2A, 3B;

(15) Hay Creek, (T.42, 43, 44, R.15, 16): 1B, 2Bd, 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, 3C;

(18) *Kettle River, [11/5/84P] (From 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 to its confluence with the Saint Croix River): 2B, 3B;

(19) King Creek, (T.47, R.18, S.18, 19; T.47, R.19, S.1, 12, 13): 1B, 2A, 3B;

(20) Larson Creek, (T.44, R.17, 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, 3C;

(26) Moosehorn River (Moose River), (T.48, R.18, S.3, 9, 10, 14, 15, 16, 23, 26, 34, 35): 1B, 2A, 3B;

(27) Old Mill Stream, (T.31, R.19, S.6; T.31, R.20, S.1; T.32, R.20, S.36): 1B, 2A, 3B;

(28) Pelkey Creek, (T.41, R.20, S.33, 34, 35): 1B, 2A, 3B;

(29) Rock Creek, (T.37, 38, R.20, 21): 1B, 2Bd, 3C;

(30) Rush Creek, (T.37, R.20, 21): 1B, 2Bd, 3C;

(31) *Saint Croix River, [11/5/84R] (Wisconsin border crossing to Taylors Falls): 1B, 2Bd, 3C;

(32) *Saint Croix River, [11/5/84R] (Taylors Falls to mouth): 1C, 2Bd, 3C;

(33) Sand River (Sand Creek), (T.43, R.18, S.4, 5, 7, 8, 18, 19; 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, 3C;

(36) Tamarack River, Lower, (Hay Creek to mouth): 1B, 2Bd, 3C;

(37) Tamarack River, Upper (Spruce River), (T.41, 42, R.15, 16): 1B, 2Bd, 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;

(41) Unnamed Ditch, Chisago City, (T.34, R.20, S.19, 29, 30, 32): 7;

(42) Unnamed Ditch, Almelund, Almelund Coop Cry., (T.35, R.20, S.25): 7;

(43) Unnamed Ditch, Moose Lake, (T.46, R.19, S.30): 7;

(44) Unnamed Dry Run, Wahkon, (T.41, R.25, S.3; T.42, R.25, S.29, 32, 33, 34): 7;

(45) Unnamed Stream (Falls Creek), (T.32, R.19, S.6, 7; T.32, R.20, S.1, 12): 1B, 2A, 3B;

(46) Unnamed Stream (Gilbertson), (T.32, R.19, S.19): 1B, 2A, 3B;

(47) Unnamed Stream, Shafer, (T.34, R.19, S.32, 33, 34): 7;

(48) Unnamed Stream (Willow Brook), (T.31, R.19, S.19): 1B, 2A, 3B;

(49) Valley Creek (Valley Branch), (T.28, R.20, S.9, 10, 14, 15, 16, 17): 1B, 2A, 3B;

(50) Wilbur Brook, (T.41, R.17, S.29, 30; T.41, R.18, S.23, 25, 26): 1B, 2A, 3B; and

(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.

C. Calcareous Fens: None currently listed.

D. Scientific and Natural Areas:

(1) *Boot Lake, [11/5/84P] Waters within the Boot Lake Scientific and Natural Area, Anoka County, (T.33, R.22): 2B, 3B, except wetlands which are 2D;

(2) *Falls Creek, [4/18/94P] (trout designated waters within Washington County), (T.32, R.19, S.7; T.32, R.20, S.12): 1B, 2A, 3B;

(3) *Falls Creek, [4/18/94P] Waters within the Falls Creek Scientific and Natural Area, Washington County, (T.32, R.19, S.7; T.32, R.20, S.12): 2B, 3B, except wetlands which are 2D; and

(4) *Kettle River, [11/5/84P] Waters within the Kettle River Scientific and Natural Area, Pine County, (T.41, R.20): 2B, 3B.

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 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;

(4) Badger Creek, (T.103, R.6, S.9, 16, 21, 22, 27, 28, 34): 1B, 2A, 3B;

(5) Ballpark Creek, (T.102, R.4, S.19, 30; T.102, R.5, S.24): 1B, 2A, 3B;

(6) Bear Creek, (T.107, R.9, S.13, 14, 15, 16, 22): 1B, 2A, 3B;

(7) Bear Creek, North, Spring Grove (T.101, R.7, S.26, 27, 35): 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;

(10) Beaver Creek, (T.102, R.6, S.5; T.103, R.6, S.18, 19, 29, 30, 31, 32): 1B, 2A, 3B;

(11) Beaver Creek, East, (T.102, R.6, S.5, 6, 8, 17): 1B, 2A, 3B;

(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;

(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;

(15) Bee Creek, (T.101, R.6, S.29, 32, 33): 1B, 2A, 3B;

(16) Big Springs Creek, (T.104, R.9, S.21, 22, 26, 27): 1B, 2A, 3B;

(17) Borson Spring, (T.105, R.8, R.29, 32, 33): 1B, 2A, 3B;

(18) Brush Valley Creek (excluding trout waters), (T.104, R.5): 2C;

(19) Brush Valley Creek, (T.104, R.5, S.23, 24, 26): 1B, 2A, 3B;

(20) Bullard Creek, (T.112, R.14, S.1, 2, 3, 10; T.113, R.14, S.36): 1B, 2A, 3B;

(21) Burns Valley Creek, East Branch, (T.106, R.7, S.3, 10, 15): 1B, 2A, 3B;

(22) Burns Valley Creek, West Branch, (T.106, R.7, S.3, 4, 9, 16; T.107, R.7, S.34): 1B, 2A, 3B;

(23) Burns Valley Creek, Main Branch, (T.106, R.7, S.2; T.107, R.7, S.35): 1B, 2A, 3B;

(24) Butterfield Creek, (T.103, R.4, S.6, 7, 8, 18): 1B, 2A, 3B;

(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;

(26) Camp Hayward Creek, (T.104, R.8, S.31, 32): 1B, 2A, 3B;

(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);

(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, 3C;

(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;

(31) Carters Creek (Curtis Creek), Wykoff, (T.103, R.12, S.4, 9, 15, 16, 22): 7;

(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 (M-9-10-10-2), (T.102, R.8, S.32, 33): 1B, 2A, 3B;

(34) Chub Creek, North Branch, (T.112, 113, R.19): 2C;

(35) Clear Creek, (T.111, R.14, S.3, 10, 15): 1B, 2A, 3B;

(36) Clear Creek, (T.102, R.4): 2C;

(37) Cold Creek (Cold Spring Brook) (excluding trout waters), (T.110, 111, R.14): 2C;

(38) Cold Spring Brook (Cold Creek), (T.110, R.13, S.30, 31; T.110, R.14, S.25, 36): 1B, 2A, 3B;

(39) Coolridge Creek, (T.105, R.9, S.23, 26): 1B, 2A, 3B;

(40) Corey Creek, (T.105, R.6, S.18, 19; T.105, R.7, S.24, 25, 26, 27, 34): 1B, 2A, 3B;

(41) County Ditch No. 15, Kilkenny, (T.110, R.23, S.22, 23): 7;

(42) Crane Creek, (T.107, 108, R.20, 21, 22): 2C;

(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;

(44) Crooked Creek, North Fork, (T.102, R.5, S.17, 20, 21, 22, 23, 26): 1B, 2A, 3B;

(45) Crooked Creek, South Fork, (T.102, R.5, S.26, 28): 1B, 2A, 3B;

(46) Crystal Creek, (T.102, R.11, S.35, 36): 1B, 2A, 3B;

(47) Crystal Creek, (T.103, R.5, S.6, 7, 18, 19; T.103, R.6, S.1, 12): 1B, 2A, 3B;

(48) Dakota Creek (excluding trout waters), (T.105, R.5): 2C;

(49) Dakota Creek, (T.105, R.4, S.7; T.105, R.5, S.1, 2, 3, 11, 12): 1B, 2A, 3B;

(50) Daley Creek, (T.103, R.7, S.4, 5, 8; T.104, R.7, S.33): 1B, 2A, 3B;

(51) Diamond Creek, (T.103, R.8, S.18, 19; T.103, R.9, S.10, 11, 13, 14, 24): 1B, 2A, 3B;

(52) Dry Creek, (T.108, R.12, 13): 2C;

(53) Duschee Creek, (T.102, R.10, S.1; T.103, R.10, S.23, 24, 25, 26, 36): 1B, 2A, 3B;

(54) Dutch Creek, (T.112, R.20, 21): 2C;

(55) Eitzen Creek, (T.101, R.5, S.22, 23): 1B, 2A, 3B;

(56) Etna Creek, (T.102, R.13, S.25, 36): 1B, 2A, 3B;

(57) Ferguson Creek, (T.105, R.8, S.18; T.105, R.9, S.12, 13): 1B, 2A, 3B;

(58) Ferndale Creek, (T.104, R.7, S.29, 30, 31): 1B, 2A, 3B;

(59) Forestville Creek (see North Branch Creek);

(60) Frego Creek, (T.101, R.9, S.14, 15, 22, 23): 1B, 2A, 3B;

(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;

(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;

(63) Gilmore Creek, (T.106, R.7, S.6; T.107, R.7, S.20, 29, 30, 31, 32): 1B, 2A, 3B;

(64) Girl Scout Camp Creek, (T.103, R.7, S.29, 30): 1B, 2A, 3B;

(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;

(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;

(68) Hamilton Creek, (T.103, R.13, NW 1/4 S.6; T.103, R.14, NE 1/4 S.1): 1B, 2A, 3B;

(69) Hammond Creek, (T.109, R.13, S.28, 29): 1B, 2A, 3B;

(70) Harkcom Creek, (T.108, R.15, 16): 2C;

(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;

(73) Homer Creek, (T.106, 107, R.6): 2C;

(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;

(75) Indian Creek, West, (T.109, R.11, S.6, 7, 8, 16, 17, 21): 1B, 2A, 3B;

(76) Indian Spring Creek, (T.103, R.5): 2C;

(77) Iowa River, Little, (T.101, 102, R.14): 2C;

(78) Jordan Creek, Little (Carson Creek), (T.104, R.12, S.21, 22, 26, 27, 28): 1B, 2A, 3B;

(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;

(80) Kedron Creek, (T.104, R.13, S.36): 1B, 2A, 3B;

(81) King Creek, (T.111, R.11, 12): 2C;

(82) Kinney Creek, (T.105, R.13, S.1, 12, 13; T.106, R.13, S.36): 1B, 2A, 3B;

(83) Lanesboro Park Pond, (T.103, R.10, S.13): 1B, 2A, 3B;

(84) LeRoy Trout Pond, (T.101, R.14, S.36): 1B, 2A, 3B;

(85) Logan Creek (Logan Branch), (T.107, R.11, S.3): 1B, 2A, 3B;

(86) Long Creek (excluding trout waters), (T.108, 109, R.12): 2C;

(87) Long Creek, (T.109, R.12, S.3, 10, 15, 22, 27, 28): 1B, 2A, 3B;

(88) Lost Creek (Bear Creek), (T.104, R.11, S.18; T.104, R.12, S.8, 9, 10, 15, 16): 1B, 2A, 3B;

(89) Lynch Creek, (T.104, R.11, S.2, 11, 14): 1B, 2A, 3B;

(90) MacKenzie Creek, (T.108, 109, R.21): 2C;

(91) Mahoney Creek, (T.103, R.10): 2C;

(92) Mahoods Creek, (T.103, R.12, S.20): 1B, 2A, 3B;

(93) Maple Creek, (T.102, R.8, S.3, 4; T.103, R.8, S.27, 28, 33, 34): 1B, 2A, 3B;

(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;

(95) Middle Creek, (T.109, R.11, S.18; T.109, R.12, S.2, 3, 11, 13, 14): 1B, 2A, 3B;

(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;

(97) Miller Creek, (T.111, R.12, S.7, 8, 9, 18; T.111, R.13, S.13, 24): 1B, 2A, 3B;

(98) Money Creek, (T.105, R.7, S.3, 4, 6, 7, 8, 9, 16, 17): 1B, 2A, 3B;

(99) Mound Prairie Creek, (T.104, R.5): 2C;

(100) Mud Creek (Judicial Ditch No. 6), (T.108, 109, R.20, 21): 2C;

(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;

(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);

(104) New 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;

(106) Partridge Creek, (T.101, R.10, S.4; T.102, R.10, S.33): 1B, 2A, 3B;

(107) Peterson Creek, (T.106, R.8, S.7, 8): 1B, 2A, 3B;

(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;

(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;

(110) Pine Creek (excluding Class 7 segment), (T.101, R.10): 2C, 3C;

(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;

(112) Pine Creek, Harmony, (T.101, R.9, S.31; T.101, R.10, S.24, 25, 36): 7;

(113) Pine Creek, South Fork, (T.105, R.5, S.19; T.105, R.6, S.24): 1B, 2A, 3B;

(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;

(115) Pine Creek, Dakota County, (excluding trout waters), (T.113, R.18): 2C;

(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;

(117) Pleasant Valley Creek (excluding trout waters), (T.106, 107, R.6, 7): 2C;

(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;

(119) Plum Creek, (T.108, R.15): 2C;

(120) Prairie Creek, (T.110, 111, 112, R.18, 19, 20): 2C;

(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;

(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;

(123) Riceford Creek, Mabel, (T.101, R.8, S.24, 25, 26): 7;

(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;

(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;

(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;

(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;

(129) Rose Valley Creek, (T.105, R.5, S.22, 27, 34, 35): 1B, 2A, 3B;

(130) Rupprecht Creek (Rollingstone Creek), (T.107, R.9, S.13, 24, 25, 26, 35): 1B, 2A, 3B;

(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;

(132) Salem Creek, (T.106, R.15, 16): 2C;

(133) Schueler Creek, (T.104, R.8, S.1, 2, 3): 1B, 2A, 3B;

(134) Second Creek (Handshaw Coulee), (T.111, R.12, S.15): 1B, 2A, 3B;

(135) Shady Creek, (T.104, R.11, S.19, 30): 1B, 2A, 3B;

(136) Shattuck Creek (See Nepstad Creek);

(137) Shingle Creek, (T.109, 110, R.17): 2C;

(138) Silver Creek (excluding trout waters), (T.104, 105, R.6): 2C;

(139) Silver Creek, (T.104, R.6, S.1, 2, 11, 12, 14; T.105, R.6, S.34, 35): 1B, 2A, 3B;

(140) Silver Spring Creek, (T.108, 109, R.13): 2C;

(141) Snake Creek (excluding trout waters), (T.109, R.10): 2C;

(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;

(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;

(145) Spring Brook, (T.111, R.20, S.2, 3, 4): 1B, 2A, 3B;

(146) Spring Creek, (T.110, R.12, S.7, 17, 18, 20, 21, 27, 28, 29): 1B, 2A, 3B;

(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;

(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;

(149) Stockton Valley Creek, (T.106, R.8, S.2, 3, 10, 11, 14, 23; T.107, R.8, S.34): 1B, 2A, 3B;

(150) Storer Creek, (T.104, R.5, S.17, 18, 19, 30): 1B, 2A, 3B;

(151) Straight Creek, (T.107, R.9, S.2, 11, 12): 1B, 2A, 3B;

(152) Sugar Creek (Sugarloaf Creek), (T.112, R.13): 2C;

(153) Sullivan Creek (excluding trout waters), (T.103, R.5): 2C;

(154) Sullivan Creek, (T.103, R.5, S.12, 13, 14, 23, 24, 25, 26): 1B, 2A, 3B;

(155) Swede Bottom Creek, (T.103, R.6, S.10): 1B, 2A, 3B;

(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;

(157) Torkelson Creek, (T.104, R.10, S.25, 36): 1B, 2A, 3B;

(158) Trout Brook, Wabasha County, (T.110, R.11, S.5, 8): 1B, 2A, 3B;

(159) Trout Brook, Dakota County, (T.112, R.17, S.1; T.113, R.17, S.26, 27, 35, 36): 1B, 2A, 3B;

(160) Trout Brook (Hay Creek Tributary), (T.113, R.15, S.35, 36): 1B, 2A, 3B;

(161) Trout Brook (see also Mazeppa Creek);

(162) Trout Brook (Mazeppa Creek), Goodhue, (T.110, R.15, S.3, 4; T.111, R.15, S.28, 33, 34): 7;

(163) Trout Creek, Little (see Pickwick Creek, Little);

(164) Trout Creek, Big (see Pickwick Creek);

(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;

(166) Trout Run Creek (Trout Run) (excluding trout waters), (T.105, R.10): 2C;

(167) Trout Run-Whitewater Park, (T.107, R.10, S.29): 1B, 2A, 3B;

(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;

(169) Unnamed Creek, Houston County, (T.101, R.4, S.21): 1B, 2A, 3B;

(170) Unnamed Creek, Spring Grove, (T.101, R.7, S.14, 22, 23, 27): 7;

(171) Unnamed Creek, Houston County, (T.102, R.4, S.18, 19, 20, 29, 30): 1B, 2A, 3B;

(172) Unnamed Creek, Canton, (T.101, R.9, S.20): 7;

(173) Unnamed Creek, Byron, (T.107, R.15, S.17, 20, 29): 7;

(174) Unnamed Creek (Helbig), (T.110, R.11, S.28, 33): 1B, 2A, 3B;

(175) Unnamed Creek (M-9-10-5-3), (T.101, R.7, S.6; T.101, R.8, S.1, 2): 1B, 2A, 3B;

(176) Unnamed Creek (Whitewater Tributary), (T.108, R.10, S.35, 36): 1B, 2A, 3B;

(177) Unnamed Creek, (T.105, R.7, S.19, 29, 30; T.105, R.8, S.24): 1B, 2A, 3B;

(178) Unnamed Creek (Miller Valley), (T.106, R.5, S.21, 22, 27, 28): 1B, 2A, 3B;

(179) Unnamed Creek (Deering Valley), (T.108, R.8, S.20, 28, 29): 1B, 2A, 3B;

(180) Unnamed Creek (M-9-10-5-4), (T.101, R.8, S.12, 13): 1B, 2A, 3B;

(181) Unnamed Creek (T.104, R.8, S.19, 30): 1B, 2A, 3B;

(182) Unnamed Creek, Plainview, (T.108, R.11, S.16, 17, 20, 21, 22, 27, 34): 7;

(183) Unnamed Creek, West Concord, (T.108, R.17, S.17, 20, 21): 7;

(184) Unnamed Creek, Hayfield, (T.105, R.17, S.3, 4): 7;

(185) Unnamed Creek (Wells Creek Trib. #9), (T.111, R.14, S.8, 17): 1B, 2A, 3B;

(186) Unnamed Ditch, Claremont, (T.107, R.18, S.27, 34): 7;

(187) Unnamed Ditch, Owatonna, (T.108, R.20, S.33): 7;

(188) Unnamed Ditch, Lonsdale, (T.112, R.22, S.25, 35, 36): 7;

(189) Unnamed Ditch, Hampton, (T.113, R.18, S.5, 6; T.114, R.18, S.31): 7;

(190) Unnamed Dry Run, Altura, (T.107, R.9, S.7, 18): 7;

(191) Unnamed Dry Run, Owatonna, Owatonna Canning Company, (T.107, R.20, S.6; T.107, R.21, S.1): 7;

(192) Unnamed Dry Run, Owatonna, Owatonna Canning Company, (T.107, R.20, S.6; T.107, R.21, S.1): 7;

(193) Unnamed Stream, Dodge Center, Owatonna Canning Company, (T.107, R.17, S.27, 34): 7;

(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;

(195) Vesta Creek, (T.102, R.8, S.10, 11, 14, 15, 23): 1B, 2A, 3B;

(196) Wapsipinicon River, (T.101, R.15): 2C, 3C;

(197) Waterloo Creek, (T.101, R.6, 7): 1B, 2Bd, 3C;

(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;

(199) West Albany Creek (see Albany Creek, West);

(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;

(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;

(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;

(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;

(204) Whitewater River, North Fork, Elgin, (T.108, R.12, S.25, 26, 27): 7;

(205) Wildcat Creek (excluding trout waters), (T.103, R.4): 2C;

(206) Wildcat Creek, (T.103, R.4, S.26, 27, 28, 29, 32, 33, 34, 35): 1B, 2A, 3B;

(207) Willow Creek, (T.101, R.11, S.1, 12; T.102, R.11, S.1, 12, 13, 24, 25, 36): 1B, 2A, 3B;

(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

(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.

B. Lakes:

(1) Unnamed Marsh, Kilkenny, (T.110, R.23, S.22, 23): 7; and

(2) Unnamed Swamp, Hampton, (T.113, R.18, S.8): 7.

C. Calcareous Fens:

(1) *Cannon River Wilderness Area fen, 18, Rice [3/7/88R] (T.111, R.20, S.34): 2D;

(2) *Cannon River Wilderness Area fen, 73, Rice [4/18/94R] (T.111, R.20, S.22): 2D;

(3) *High Forest fen, 12, Olmsted [4/18/94R] (T.105, R.14, S.14, 15): 2D;

(4) *Holden 1 West fen, 3, Goodhue [4/18/94R] (T.110, R.18, S.1): 2D;

(5) *Houston fen, 62, Houston [4/18/94R] (T.104, R.6, S.26): 2D;

(6) *Nelson WMA fen, 5, Olmsted [3/7/88R] (T.105, R.15, S.16): 2D;

(7) *Perched Valley Wetlands fen, 2, Goodhue [3/7/88R] (T.112, R.13, S.8): 2D;

(8) *Red Wing fen, 72, Goodhue [4/18/94R] (T.113, R.15, S.21): 2D; and

(9) *Wiscoy fen, 58, Winona [3/7/88R] (T.105, R.7, S.15): 2D.

D. Scientific and Natural Areas: None currently listed.

Subp. 8. **Cedar-Des Moines Rivers Basin.** The water use classifications for the listed waters in the Cedar-Des Moines Rivers Basin are as identified in items A 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) Cedar River, Little, (Source to Iowa border): 2C, 3C;

(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;

(5) County Ditch No. 48, Conger, (T.102, R.22, S.19, 20; T.102, R.23, S.24, 25, 26, 35): 7;

(6) County Ditch No. 53 (see Soldier Creek);

(7) Deer Creek (excluding Class 7 segment), (T.101, R.19, 20): 2C, 3C;

(8) Deer Creek (County Ditch No. 71), Myrtle, (T.101, R.19, S.18; T.101, R.20, S.13): 7;

(9) Dobbins Creek, (T.103, R.16, 17): 2C;

(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;

(11) Heron Lake Outlet, (T.104, 105, R.37): 2C;

(12) Jack Creek, Wilmont, (T.104, R.41, S.25, 26, 30, 31, 32, 33, 34, 35, 36): 7;

(13) Lime Creek, (T.101, R.22, 23): 2C, 3C;

(14) Murphy Creek, (T.103, R.18): 2C;

(15) Okabena Creek (excluding Class 7 segment), (T.102, 103, R.37, 38, 40): 2C;

(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;

(17) Orchard Creek, (T.102, R.18, 19): 2C;

(18) Roberts Creek, (T.103, 104, R.16, 17, 18): 2C;

(19) Rose Creek, (T.102, 103, R.16, 17, 18): 2C;

(20) Scheldorf Creek, (T.106, R.36, S.19, 30, 31; T.106, R.37, S.13, 24, 25): 1B, 2A, 3B;

(21) Soldier Creek (Unnamed Stream and County Ditch No. 53), (T.101, R.32, 33): 2C, 3C;

(22) Turtle Creek, (T.103, R.18, 19, 20): 2C;

(23) Unnamed Creek, Emmons, (T.101, R.22, S.31): 7;

(24) Unnamed Creek, Brownsdale, (T.103, R.17, S.4, 9): 7;

(25) Unnamed Creek, Blooming Prairie, (T.104, R.18, S.5, 8, 9, 16; T.105, R.18, S.31): 7;

(26) Unnamed Creek, Blooming Prairie, (T.105, R.19, S.25): 7;

(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;

(30) Unnamed Ditch, Blooming Prairie, (T.105, R.19, S.25): 7;

(31) Unnamed Stream (see Soldier Creek);

(32) Wolf Creek, (T.103, R.16, 17, 18): 2C;

(33) Woodbury Creek, (T.101, 102, R.18, 19): 2C; and

(34) Woodson Creek, (T.102, R.18, S.14, 15): 1B, 2A, 3B.

B. Lakes: None currently listed.

C. Calcareous Fens:

(1) *Heron Lake fen, 45, Jackson [3/7/88R] (T.103, R.36, S.29): 2D; and

(2) *Thompson Prairie fen, 20, Jackson [3/7/88R] (T.103, R.35, S.7): 2D.

D. Scientific and Natural Areas: *Prairie Bush Clover, [3/7/88P] Waters within the Prairie Bush Clover Scientific and Natural Area, Jackson County, (T.103, R.35, S.17): 2B, 3B, except wetlands which are 2D.

Subp. 9. **Missouri River Basin.** The water use classifications for the listed waters in the Missouri River Basin are as identified in items A 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, 3C;

(3) Flandreau Creek (excluding Class 7 segment), (T.107, 108, R.46, 47): 2C, 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);

(6) Kanaranzi Creek, (Source to Iowa border): 2C, 3C;

(7) Medary Creek, (Source to South Dakota border): 2C, 3C;

(8) Mound Creek, (T.103, 104, R.45): 2C;

(9) Mud Creek, (T.101, 102, R.45, 46): 2C, 3C;

(10) Pipestone Creek, (Source to South Dakota border): 2C, 3C;

(11) Rock River (excluding Class 7 segment), (Source to Iowa border): 2C, 3C;

(12) Rock River, Holland, (T.107, R.44, S.18, 19, 20, 29; T.107, R.45, S.12, 13): 7;

(13) Rock River, Little, (source to Iowa border): 2C, 3C;

(14) Sater's Creek (Unnamed Creek), Luverne, Agri-Energy, (T.102, R.45, S.9, 14, 15, 16): 7;

(15) Sioux River, Little, (Source to Iowa border): 2C, 3C;

(16) Sioux River, West Fork Little, (Source to Iowa border): 2C, 3C;

(17) Skunk Creek (Judicial Ditch No. 13), (T.101, 102, R.37, 38, 39): 2C;

(18) Split Rock Creek, (Split Rock Lake outlet to South Dakota border): 2C, 3C;

(19) Unnamed Creek, Jasper, (T.104, R.46, S.6): 7;

(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;

(21) Unnamed Creek, Hatfield, (T.106, R.45, S.34, 35, 36): 7;

(22) Unnamed Ditch, Luverne, Agri-Energy, (T.102, R.45, S.10, 15): 7;

(23) Unnamed Ditch, Steen, (T.101, R.45, S.31, 32): 7;

(24) Unnamed Ditch, Hills, (T.101, R.46, S.28, 33): 7; and

(25) Unnamed Ditch, Lake Benton, (T.109, R.45, S.17, 19, 20): 7.

B. Lakes: None currently listed.

C. Calcareous Fens:

(1) *Burke WMA fen, 57, Pipestone [11/12/90R] (T.106, R.44, S.28): 2D;

(2) *Hole-in-the-Mountain Prairie fen, 6, Pipestone [11/12/90R] (T.108, R.46, S.1; T.109, R.45, S.31): 2D;

(3) *Lost Timber Prairie fen, 13, Murray [4/18/94R] (T.105, R.43, S.2): 2D; and

(4) *Westside fen, 59, Nobles [11/12/90R] (T.102, R.43, S.11): 2D.

D. Scientific and Natural Areas: None currently listed.

Statutory Authority: *MS s 115.03; 115.44*

History: *9 SR 914; 12 SR 1810; 15 SR 1057; 18 SR 2195; 22 SR 1466; 24 SR 1105; 24 SR 1133; 27 SR 1217; 32 SR 1699*

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Minnesota Pollution Control Agency

Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List

2014 Assessment and Listing Cycle

Minnesota Pollution Control Agency

wq-iw1-04

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The MPCA is reducing printing and mailing costs by using the Internet to distribute reports and information to a wider audience.

Forward

Minnesota is blessed with abundant water resources. Our lakes, rivers, and streams play a vital role in the state's economy and the richness of the quality of life residents and visitors enjoy. The health of Minnesota's environment and enormous opportunities for water-related recreation these resources provide depend on good water quality.

Since the Clean Water Act became law in 1972, very significant and often dramatic improvements in the water quality of Minnesota's surface waters have been accomplished. Notable examples include the Mississippi River below the Twin Cities, the Rainy River below International Falls, and the recent improvements to dissolved oxygen concentrations in the Minnesota River. Most of these gains can be attributed to vast improvements in domestic and industrial wastewater treatment.

In spite of these success stories, many Minnesota lakes and streams do not fully support beneficial uses such as swimming and fishing. The contribution of pollutants from nonpoint sources, from agriculture, construction and development sites, forestry, urban runoff, etc., is now the major reason that many of Minnesota's waters are considered impaired. The prevention and control of nonpoint source pollution remains one of the Minnesota Pollution Control Agency's (MPCA), and the publics, greatest pollution challenges.

The MPCA is charged under both federal and state law with protecting the water quality of Minnesota's lakes, rivers, streams, and wetlands. It is the responsibility of the MPCA to monitor Minnesota's water bodies, to assess water quality, and to report the results to the public. This task extends to documenting the water quality "success stories," as well as identifying those water bodies that still need improvement.

This Guidance Manual deals with the need to assess water quality. The methodologies in this Guidance Manual are designed to reap the most information, value, and benefit possible from available data. This information is critical to evaluating the current status of Minnesota's water quality, identifying waters that are impaired and need restoration and waters that need further protection to prevent impairment, and tracking progress over time.

This Guidance Manual was developed to help federal, tribal, state, and county staff, and the public in general, understand the water quality assessment process. It will be updated as assessment methods improve and as new pollution problems emerge that require assessment. Comments and suggestions from readers are encouraged and will be used to help improve the guidance.

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Environmental Assessment and Outcomes Division

Minnesota Pollution Control Agency

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Abbreviations, Acronyms, and Symbols

AUID	assessment unit identification
ch.	Chapter
chl-*a*	Chlorophyll-*a*, corrected for pheophytin
CLMP	Citizen Lake Monitoring Program
CSMP	Citizen Stream Monitoring Program
CWP	Clean Water Partnerships
DELT	Deformities, eroded fins, lesions or tumors
DO	Dissolved oxygen
EPA	U.S. Environmental Protection Agency
EQuIS	Minnesota Pollution Control Agency's data storage system
FAV	Final Acute Value
GLI	Great Lakes Water Quality Initiative
IBI	Index of Biotic Integrity
L	Liter
MDA	Minnesota Department of Agriculture
MDH	Minnesota Department of Health
MDNR	Minnesota Department of Natural Resources
MFCA	Minnesota Fish Consumption Advisory
mg/L	microgram per liter or ppb
mg/L	milligram per liter or ppm
MPCA	Minnesota Pollution Control Agency
NCHF	North Central Hardwood Forest Ecoregion
ng/L	Nanogram per liter or parts per trillion
NGP	Northern Glaciated Plains Ecoregion
NHD	National Hydrographic Data
NLF	Northern Lakes and Forests Ecoregion
NTU	Nephelometric turbidity units
PCB	Polychlorinated biphenyls
pg/L	Picogram per liter or parts per quadrillion
ppb	Microgram per liter or parts per billion
ppm	Milligram per liter or parts per million
QA/QC	Quality Assurance/Quality Control
R.	Rule
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSI	Trophic State Index
USGS	United States Geological Survey
WCBP	Western Corn Belt Plains Ecoregion
³	Greater than or equal to
£	Less than or equal to

I. Introduction

A. Background

Minnesota is blessed with abundant water resources. Our lakes, rivers, and streams play a vital role in the state's economy and the richness of the quality of life residents and visitors enjoy. The enormous opportunities for water related recreation these resources provide, such as aesthetic enjoyment, swimming, fishing, boating and canoeing depend, to a great extent, on good water quality. Within Minnesota's borders lie the headwaters of three major continental watersheds, the Great Lakes/ St. Lawrence River, the Mississippi River, and the Red River of the North/Hudson Bay watersheds. Thus, Minnesotans have the privilege and, with that, the huge responsibility of living "upstream" of millions of downstream users of these major waterways. Minnesota's water resources include about 105,000 river miles, 4.5 million acres of lakes and reservoirs including approximately 1.4 million acres of Lake Superior in Minnesota, and about 9.3 million acres of wetlands.

The Minnesota Pollution Control Agency (MPCA) is charged under both federal and state law with the responsibility of protecting the water quality of Minnesota's lakes, rivers, streams, and wetlands. One goal of the MPCA is to preserve the existing high quality of waterbodies that are meeting standards, so beneficial uses are maintained. However, too many surface waters receive enough pollutant loading from a variety of sources that they do not meet one or more water quality standards. If the extent of the violations of standards exceed the guidelines spelled out in this Guidance Manual (Guidance), those surface waters are considered to be "impaired." Another goal of the MPCA is to improve the quality of impaired waters so water quality standards are met and beneficial uses are maintained and restored, where these uses are attainable.

B. About the TMDL List, Assessment and Listing Cycle, and Integrated Report

The federal Clean Water Act (CWA) requires states to adopt water quality standards to protect waters from pollution. These standards define how much of a pollutant can be in the water and still meet beneficial uses, such as drinking water, fishing and swimming. Water quality standards are the fundamental tools used to assess the quality of all surface waters. For more detailed information regarding standards see http://www.pca.state.mn.us/index.php/water/water-permits-and-rules/water-rulemaking/water-quality-standards.html. States must monitor and assess the water quality of their waters to identify those that are "impaired" (i.e., not fully supporting their beneficial uses). Section 303(d) of the CWA requires states to publish and update a list of impaired waters for which a Total Maximum Daily Load (TMDL) Study is needed. This list, known as the "303(d) List" or "TMDL List" is updated every two years via the assessment of water quality data and an extensive public participation process. The draft TMDL List is developed by the MPCA and submitted to the U.S. Environmental Protection Agency (EPA) for final approval. The two-year timeline for assembling and submitting the draft TMDL List is known as the "assessment and listing cycle." This Guidance has been prepared to reflect the 2014 Assessment and Listing Cycle.

The CWA also requires states to submit a report on the status of all of their waters to help measure progress toward the national goals of fishable and swimmable waters. This "Integrated Report" includes the TMDL List as well as the Inventory of Impaired Waters – an accounting of all known impaired waters, not just those requiring TMDLs. The Inventory of Impaired Waters includes those waters needing a TMDL plan, those for which a plan has already been developed and approved by EPA, and waterbodies that do not require an TMDL (impaired by a non-pollutant alteration [4C] such as a dam or impoundment, or impaired because natural background exceeds the standard, in the absence of measurable impacts from human activity or influence [4D]). The Integrated Report also includes a narrative component and information about waters that are meeting beneficial uses and also programmatic information about protection and restoration efforts. As part of the assessment process and the development of the Integrated Report, all waters for which sufficient data have been collected to allow a review are assigned to a category of impaired, unimpaired, or insufficient information to determine impairment status according to an EPA-established system called the Consolidated Assessment and Listing Methodology (CALM – see Appendix B). To view the MPCA's most recent 303(b)/TMDL List, Inventory, and 305(d) Narrative Report see http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/impaired-waters-list.html.

C. Monitoring and assessment approach

The MPCA conducts a variety of surface water condition monitoring activities focused on providing critical information to assess the condition of Minnesota's water resources. This information also is used to assess potential and actual threats to water quality and to evaluate the effectiveness of management activities taken to address impairments and other threats to water quality. Monitoring conducted by other local, state, and federal agencies, citizen monitoring as well as remote sensing data are also used for this purpose. For more details on the MPCA's monitoring strategy, see http://www.pca.state.mn.us/index.php/water/water-monitoring-and-reporting/water-quality-and-pollutants/minnesotas-water-quality-monitoring-strategy.html.

The MPCA's primary condition monitoring activities are organized around Minnesota's 81 "major" watersheds. The watershed monitoring approach involves intensive monitoring on a subset of major watersheds every year. The MPCA has established and is implementing a schedule for intensively monitoring each major watershed every ten years, and the watershed outlets every year. An intended outcome of the monitoring is the identification of waters that are impaired and need restoration and waters that need further protection to prevent impairment. This is followed by TMDL and protection strategy development at the major watershed scale, and ongoing implementation. See http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/watershed-approach/index.html for a more in-depth discussion of the watershed approach and for a map of the 10-year watershed monitoring schedule. For information on TMDL priority rankings as they pertain to reporting to EPA, see Appendix E. An important feature of the watershed approach is the fact that restoration and protection planning and associated implementation will occur in *all* watersheds; the identification of an impaired status is not a key "trigger" for follow-on planning and implementation.

Until 2010, the MPCA assessed the condition of the state's waters via a biennial, statewide assessment process. With the advent of the intensive watershed monitoring approach, which was piloted in 2006 and adopted in earnest beginning in 2007, the MPCA faced a need to revise the assessment process to align with the watershed monitoring approach, including the 10-year schedule and the increased volume of data generated during watershed monitoring.

An annual assessment process has been designed to keep up with the monitoring work and reflect the more detailed monitoring data available in the watersheds where intensive watershed monitoring has been completed. The development of an annual assessment process has been critical to the MPCA's implementation of the overall watershed approach. With assessments taking place immediately following completion of intensive watershed monitoring, the entire process of monitoring-assessment-restoration-protection can be completed within ten years, at which time the watershed comes up for monitoring again as part of the next scheduled ten-year rotation. In addition, the revised process encourages earlier and more meaningful local involvement in assessment.

Some monitoring – namely monitoring of toxic parameters – continues to occur on a statewide basis. Assessment of those parameters is done statewide every two years, to reflect the monitoring design. Watershed assessments focus primarily on the aquatic life and recreation beneficial uses. Statewide assessments focus primarily on aquatic consumption and aquatic life toxicity.

Every two years the watershed and statewide assessment results are packaged together into the proposed TMDL List and Integrated Report. For the 2014 Assessment and Listing Cycle, the assessed watersheds are:

- Bois de Sioux River
- Big Fork River
- Cannon River
- Crow Wing River
- Lake Superior - South
- Little Sioux River
- Long Prairie River
- Lower Big Sioux River
- Minnesota River – Granite Falls (Yellow Medicine River and Hawk Creek)
- Mustinka River
- Mississippi River – Twin Cities
- Mississippi River – Winona (Whitewater River)
- Nemadji River
- Redeye River
- Rock River
- Sandhill River
- Thief River
- Upper Big Sioux River

While the MPCA's monitoring and assessment efforts primarily follow the major watershed schedule, interested parties are able to propose additional listings outside of the watershed schedule during the public notice of the draft TMDL List. This proposal process is intended to accommodate instances when assessment and listing outside of the watershed schedule is necessary for a locally led initiative to move forward. To honor the watershed schedule and maintain the integrity of the systematic approach to monitoring/assessment, TMDL development, and implementation, any proposals for listing outside of the watershed schedule must 1) explain why moving forward with assessment is necessary prior to the comprehensive watershed assessment, 2) document how the efficiency and coordination that is lost by deviating from the watershed approach will be offset by a local benefit, and 3) demonstrate that the MPCA's assessment methods in this Guidance were followed for the monitoring, analysis, and comparison of the data against state standards. The MPCA will review the proposal and make the determination regarding impairment and listing prior to submitting the draft list to EPA for approval.

II. Purpose and Scope

A. About the assessment guidance

The purpose of this Guidance is to define the required data and information and lay out the criteria by which waterbodies are assessed to determine if beneficial uses are supported.

The scope of this Guidance includes methods for assessing surface waters for the following beneficial uses:

- Aquatic Life (toxicity-based standards, conventional pollutants, biological indicators)
- Drinking Water and Aquatic Consumption (human health-based standards)
- Aquatic Consumption (wildlife-based standards)
- Aquatic Recreation (*E. coli* bacteria, eutrophication)
- Limited Value Resource Waters (toxicity-based standards, bacteria, conventional pollutants)

B. Disclaimers and future changes to the Guidance

To people not involved with conducting water quality assessments, the determination of an impaired condition would seem to be a straight-forward process: waters are either impaired or not impaired. However, the assessment process can be very complex and it includes a certain amount of uncertainty. The MPCA must consider many different types and sources of data, different categories of pollutants, different uses of surface waters, the variability in natural systems, and many other variables. The goal of this Guidance is to accurately and completely describe the assessment methods, and to make the assessment process as clear and understandable to all parties as possible. Nevertheless, questions about the assessment process will invariably arise that the Guidance fails to answer. Readers are encouraged to access the many resources listed in Section XI, including MPCA staff, for additional information. Two MPCA products which may be especially useful and related to this Guidance are the Volunteer Surface Water Monitoring Guide (MPCA 2003) (http://www.pca.state.mn.us/water/monitoring-guide.html) and the Environmental Data Access Website (http://www.pca.state.mn.us/eda). The Monitoring Guide provides information on planning a monitoring program, as well as data quality and management. The Environmental Data Access Website allows Minnesotans to access environmental data on surface waters statewide.

This Guidance does not affect the rights and administrative procedures available to all affected or interested parties. The Guidance is not part of any water quality rule – it does not have the force of law. It serves to guide the interpretation and application of current water quality standards that are in water quality rules. If any party feels that an MPCA decision based on the Guidance is not supported by the facts, or they have any issue related to the MPCA's use of the Guidance, that party can comment or challenge the MPCA's actions in the following ways:

- Directly contact MPCA staff, management, or the Commissioner, orally or in writing.
- Request that the issue be brought before the MPCA Citizens' Board for hearing.
- Request a contested case hearing if the issue involves an MPCA permit action, or any other MPCA action for which a contested case hearing is an appropriate forum to resolve the concern.
- Challenge the MPCA action in the appropriate legal jurisdiction.

The MPCA updates this Guidance every two years since that is the current EPA mandated schedule for preparation of both the integrated narrative report and the 303(d) List. The MPCA involves the public when major changes to the Guidance are being considered.

C. Other standards

Other toxic or conventional pollutants that are found to exceed water quality standards will be assessed following equivalent methodologies discussed in this guidance, depending on the type of pollutant. Methodologies will be developed and included in this document as new pollutants are added to the assessment process.

III. Assessment Process

As noted in the Introduction, the MPCA redesigned the assessment process during the time between the 2010 and 2012 listing cycles. As mentioned in the agency's Continuing Planning Process document (see http://www.pca.state.mn.us/index.php/water/water-publications/index.html under "Reports"), the shift to watershed-based monitoring and restoration/protection approach with a rotating 10-year watershed schedule resulted in a need for annual assessments. This adjustment along with the large amount of data that this new approach provides presented a timely opportunity to redesign the assessment process (MPCA 2010). As discussed in Minnesota's Water Quality Monitoring Strategy 2011-2021, this process is designed to combine computerized data analysis, expert review, and internal and external partner input to use all available data and information to determine the appropriate assessment decisions for a number of beneficial uses (drinking water, aquatic life, recreation, and consumption, and limited use waters) (MPCA 2011).

A. Steps in the assessment process

The redesigned process expands upon the data analysis steps of the previous assessment process. While this new process focused on the aquatic life use assessments in rivers and streams, concepts of the redesigned process have also influenced how other designated uses (e.g., aquatic recreation) are assessed. Additional reviews at the parameter level and the addition of an internal comprehensive review, prior to the professional judgment group meeting, are the largest changes. These changes reflect the increased volume and complexity of the data gathered during the intensive watershed monitoring effort, and help ensure a robust decision about the appropriate management actions to be pursued for each assessment unit (waterbody, or AUID) in the planning and implementation phases of the watershed approach (i.e. restoration for impaired waters, and protection for unimpaired waters). Further detail on the specific steps in the process is included below. A note should be made that the aquatic consumption (fish) assessment at this time utilizes only the first two steps in the process.

1. Data Compilation (pre-assessments)

The initial step in the process is a computerized screening that identifies monitoring results collected on AUIDs over the appropriate period of record and compares each data point to water quality criteria, summarizes the number of data points that exceed the criteria, the total number of data points, and the number of years of data. This step produces a parameter-specific pre-assessment (e.g., DO, Fish IBI, and *E. coli*). For more information on the sources of data that the MPCA uses, see Appendix D.

2. Expert review

This stage involves a review of automated pre-assessments for quality assurance that the computerized screening captured the appropriate data and is properly calculating the pre-assessments (particularly important when new assessment methods or new parameters are added). Also included in this stage are additional analysis and review steps required for several parameters (e.g., *E. coli*, chloride, un-ionized ammonia, nitrate) prior to the calculation of the pre-assessment.

3. Desktop assessment

The desktop assessment involves a review of pre-assessments by resource-specific staff (e.g., water quality staff review chemistry data, biologists review biological data) for waterbodies within a specific 8-digit hydrologic unit code watershed (HUC-8). This review considers multiple lines of evidence – review of flow conditions, precipitation, land use, habitat, etc. – in addition to the pre-assessment to ascertain the quality of the dataset (temporal and spatial completeness, etc.) and whether the parameter is meeting or exceeding the criterion. During this process any candidates for delisting or natural background review are identified and work begins to determine if those AUIDs meet the criteria to be removed from the TMDL List.

4. **Watershed Assessment Team (WAT)**

   Joint internal meeting of the MPCA personnel involved in the individual desktop assessments, the regional watershed project manager and stressor identification staff for a specific HUC-8. In this meeting each AUID is reviewed, considering comments and parameter-level evaluations from the desktop assessment as well as supplemental information, to reach an overall use-support decision. Delisting and natural background candidates may also be identified at this time.

5. **Professional Judgment Group (PJG)**

   The PJG meeting is a joint meeting of WAT and external parties (local data collectors, local government units, etc. as determined by the MPCA regional watershed project manager) to discuss the results of the WAT meeting for a specific HUC-8. Prior to the PJG meeting, the results of the WAT meeting are distributed to all invitees, including parameter-level evaluations, overall use-support recommendations and all comments. Invitees are asked to identify AUIDs they wish to discuss; an agenda is developed based on these submissions. The format of this meeting, instead of an exhaustive review of each AUID, is an overview of the process, a general discussion of the watershed and major subwatersheds and a review of requested AUIDs, delisting and natural background candidates. The results of this meeting are the final use-support determinations.

The analyses and recommendations for each AUID are documented in a transparency database that is archived following the completion of the assessments. Throughout the annual assessment process, care is taken to maintain consistency among the HUC-8 assessment meetings and decisions. This is accomplished via internal training and quality control, the assignment of individual staff to multiple HUC-8 data sets for the expert review and desktop assessments, "cross-pollination" of WATs, and the oversight and guidance provided by a Technical Team and management team charged with ensuring quality data analysis and consistency among watershed assessment discussions and decisions.

IV. General Aspects of Data Assessment

A. Delineation of reaches, lakes, and wetlands

Assessments of use support in Minnesota are made for individual waterbodies. The waterbody unit used for river systems, lakes, and wetlands is called the “assessment unit.” A river assessment unit usually extends from one significant tributary to another or from the headwaters to the first significant tributary and is typically less than 20 miles in length. The river may be further divided into two or more assessment units when there is a change in the use classification (as defined in Minn. R. ch. 7050), or when there is a significant morphological feature such as a dam, or a lake within the river.

The MPCA uses the 1:24,000 scale high resolutions National Hydrography Dataset (NHD) to create geospatial data to represent stream and lake assessment units. All of our assessment units are indexed to the NHD, or have had custom shapes created for addition to the NHD. The high resolution NHD was created from 1:24,000 scale USGS DLG’s (United States Geological Survey Digital Line Graphs) and Minnesota Department of Natural Resources (MDNR) stream and lake data.

Each waterbody is identified by a unique waterbody identifier code called an assessment unit identification or AUID. For streams, the code is comprised of the USGS eight digit subbasin code plus a three character code that is unique within each subbasin. It is for these specific reaches that the data are evaluated for potential use impairment. The MPCA consults with border states during the assessment process and documents reasons for any discrepancies in assessment determination between Minnesota and the specific border state.

The Protected Waters Inventory (MDNR) is the source for lake and wetland identifiers. MDNR uses an 8-digit identifier for waterbodies, consisting of a 2 digit prefix that represents county, 4-digit number identifying a lake, and a 2-digit suffix that represents either a whole lake (-00) or representing a specific bay of a lake (-01, -02, etc.). This 8-digit identifier is used by MPCA to represent an assessment unit for lakes and wetlands. Waterbodies determined to be wetlands will not be assessed using the eutrophication factors discussed in Section VIII.B; factors used to identify wetlands can be found in Appendix A.

Currently, the MPCA is only monitoring and assessing depressional open water/emergent wetlands. Assessed wetlands that were not included in the Protected Waters Inventory are assigned unique identification numbers by the MDNR using the same eight-digit format. Wetland assessment unit delineations are based on the National Wetland Inventory (NWI) digital data set. However, if there has been significant alterations (e.g., drainage, filling) in the wetland basin since the NWI (i.e., aerial photographs used to generate these maps were obtained in the late 70s/early 80s), assessment unit boundaries were modified to reflect these changes using Geographic Information System software and current aerial imagery.

Typically, the listing of impaired waters is by individual assessment unit. The major exception to this is the listing of rivers for contaminants in fish tissue. Over the time it takes fish, particularly game fish, to grow to “catchable” size and accumulate pollutants to unacceptable levels there is a good chance they have moved considerable distance to the site where they were sampled. The impaired reach is defined by the location of significant barriers to fish movement such as dams upstream and downstream of the sampled reach. Thus, the impaired reaches often include several assessment units, and for lakes, will include all bays on the lake (may be listed under the -00 suffix, representing the entire waterbody).

B. Period of record

The MPCA generally uses data collected over the most recent 10-year period for all the water quality assessments considered for 303(d) impairments. Years of record are based on the USGS water year. Water years are from October 1 of one year through September 30 of the following year. It is preferable to split the year in the fall, when hydrological conditions are usually stable, than to use calendar years. A full 10 years of data are not required to make an assessment.

The MPCA uses a period as long as 10 years in its assessments for several reasons. It provides reasonable assurance that data will have been collected over a range of weather and flow conditions and that all seasons will be adequately represented. From a practical standpoint, the 10-year period means there is a better chance of meeting the minimum data requirements.

C. Values below detection

The concentrations of some pollutants in surface waters, particularly the highly bioaccumulative pollutants, may be below standard analytical detection limits. That is, the true concentration may be below the ability of the analytical method to measure. It may be difficult to determine in advance of monitoring whether ambient concentrations will be below detection. Thus, data sets that include values below the level of detection, or “less than values” are a possibility. Best professional judgment will be used in the assessment of these data sets, taking into account such information as the following:

- the relative number of “less-than” values compared to the number of “detects”
- the extent the “detects” are above the method detection limit
- the magnitude of the difference between the method detection limit, the chronic standard, and expected ambient concentrations
- information from data in other media such as fish tissue or sediment data

Re-sampling in these situations may be necessary if new analytical methods with lower method detection limits have become available. Values below the level of detection, even if greater than the standard, will not be considered an exceedance of the standard. Values below the level of detection will be considered a data point for the purposes of meeting the minimum data requirement.

Fish tissue analytical results below detection are assigned a value equal to one half the method detection limit for use in assessments. For pollutants other than those measured in fish tissue, if values below the level of detection must be assigned a number in order to include them in the calculation of an average, the formula shown below is used. A geometric or log mean is used to calculate a mean for data sets that include “less thans” when the data are not normally distributed. This formula adjusts the assigned value downward as the number of “less thans” goes up, relative to the total number of values, and vice versa.

$$\text{Value assigned to “less thans”} = \text{LOD}\left(1 - \frac{\text{Number of values} < \text{LOD}}{\text{Total number of values}}\right)$$

Where LOD = level of detection

D. Uncertainty in water quality assessments

The MPCA is very cognizant of the hazards of making assessments with limited data. One benefit of the watershed monitoring approach is that it provides a more robust dataset for assessment. The selection of the minimum data requirements for water quality assessment is clearly a compromise between the need to assess as many waterbodies as possible and the importance of minimizing the probability of making an erroneous assessment. The methods described in this Guidance deal with this problem in a variety of ways, depending on the pollutant category. Nonetheless, some level of uncertainty is part of every analysis of water quality data. There is always a chance that a waterbody will be assessed as impaired when in fact it is not or assessed as un-impaired when in fact it is. The number of data points the MPCA requires as a minimum for water quality assessments is small in the context of statistical analyses of uncertainty. The approach used by the MPCA to make impairment decisions, which is a screening of the data using the impairment thresholds, followed by a review by professionals, makes the best use of limited data. This is the approach recommended by the EPA.

Essentially all assessments are subject to review by a team of professional water quality experts (see next section). Review of the data by professionals is a very important part of minimizing erroneous impairment determinations, and this review would be required whether or not statistical tests are used. The possible erroneous placement of a waterbody on the 303(d) impaired list is a concern because of the regulatory and monetary implications of 303(d) Listing. It has been the experience of the MPCA that very few waterbodies have been incorrectly determined to be impaired.

When the professional review of data collected for a lake or stream finds conflicting or inadequate information to make a confident assessment, and more monitoring could resolve the need, notes are recorded in the transparency database and discussions are had with monitoring programs to determine if additional sampling can be pursued.

E. Data sources and quality

Data for assessments are queried primarily from MPCA's water quality data management system, EQuIS; a limited amount of data from outside that system is also included in the process. However, to allow for the external data to be included in the process, it must be submitted to MPCA in time for incorporation into the assessment tables; this date is announced via a call for data and is typically November 1st prior to the start of the assessments.

The data used in assessment decisions must be of reliable quality and QA/QC protocols must be carefully followed for each step along the way from field sampling to lab analysis to data management in order to reduce the introduction of errors. Monitoring and data management at the MPCA are performed in accordance with the requirements specified in a Quality Management Plan approved by the EPA and available for review on the MPCA website at http://www.pca.state.mn.us/index.php/about-mpca/mpca-overview/agency-strategy/mpca-quality-system.html.

The MPCA watershed assessment process assigns a quality rating to individual assessment parameters used to assess aquatic life, aquatic consumption, and aquatic recreation. The Assessment Database (ADB) requires that a four tiered assessment confidence rating system be used for each type of data included in the use-support assessment.

F. Dataset quality and parameter-level evaluation

As noted previously, a key step in the assessment process is to determine if individual parameters meet or exceed their criteria (numeric or narrative standards) or have insufficient data to make that determination. In addition to this comparison against standards, the evaluator also makes a determination of the quality of the assessment, assigning a low, medium, or high quality rating (Table 1). These results are stored in a working database and used in the WAT reviews and PJG meetings, with supporting information, to make the final use-support determinations.

For some parameters, the parameter-level evaluation is equivalent to the final use assessment decision (e.g., aquatic consumption). The dataset quality for many of these parameters uses the ADB categories for data quality for the use determination, instead of the matrix in Table 1. For other parameters (e.g., conventional chemistry, biota, bacteria), the parameter-level evaluations are then used in conjunction with supporting data, including dataset quality, to make a final use-support determination. This will be discussed further in specific sections that follow (i.e. aquatic life, aquatic recreation).

To assist in parameter-level evaluations, MPCA has developed guidance for technical staff to use in their analyses (Table 2). The 10 percent and 25 percent exceedance frequencies referenced in Table 2 for conventional pollutants are based on EPA guidance (EPA 1997) and have been used by the MPCA in assessments for many years. These thresholds are appropriate for the conventional category of pollutants for several reasons, including that none are considered “toxic” (or bioaccumulative), and all are subject to periodic “exceedances” because of natural causes. For example, turbidity typically increases in streams after a rain event even in relatively undisturbed parts of the state and dissolved oxygen can drop below the standard in low gradient rivers and streams for reasons other than pollution, such as the AUID is located downstream of or flows through extensive wetland complexes. These potential pollutants are also natural characteristics of surface waters, the fluctuations of which aquatic organisms have adapted to cope with over time. The existence and extent of natural exceedances are considered during the assessment process.

It should be emphasized that the elements outlined in Tables 1 and 2 are not prescriptive rules, but rather are guidelines as to the types of considerations that are part of the water quality assessments.

The dataset quality rating and notes about the parameter-level evaluation are recorded in the transparency database for use by the Watershed Assessment Team (WAT) and Professional Judgment Group (PJG) in making the use-support assessment. The technical staff that completed the parameter-level evaluations participates in the WAT and PJG meetings.

Table 1. Indicator Quality Rating for Conventional Pollutants* for Assessing Aquatic Life Use in Streams (each pollutant rated independently).

Rating	Data Quantity/Technical Components	Data Spatial/Temporal coverage	Data Currency
low	- Data of insufficient quantity to provide good indication of overall conditions - Diurnal cycle not represented (where applicable)	- Spatially, data very localized and do not provide good representation of overall reach - Temporally, data cover limited portion of monitoring season or limited to single year - Data biased towards certain types of conditions	Data do not reflect current conditions: -Majority of data greater than 5 years old -Significant changes in watershed since data collected
medium	- Data of sufficient quantity to provide good indication of overall conditions AND - Diurnal cycle not represented (where applicable)	- Spatially, data provide good representation of overall reach OR - Temporally, data cover entire monitoring season through multiple years AND - Data representative of overall conditions rather than biased towards certain types of conditions	Data older than ideal, but reasonable indicator of current conditions: -Majority of data greater than 5 years old -No significant changes in watershed since data collected
high	- Extensive data set (many grab or probe measurements, or continuous monitoring) to provide good indication of overall conditions - Diurnal cycle properly represented (where applicable)	- Spatially, data provide good representation of overall reach - Temporally, data cover entire monitoring season through multiple years - Data representative of overall conditions rather than biased towards certain types of conditions	Data reflect current conditions: -Majority of data less than 5 years old -No significant changes in watershed since data collected

***** DO, pH, Turbidity/TSS/T-Tube, and Temperature

Table 2. Guidelines for parameter-level evaluations of conventional pollutants. Most parameters will have data sets that only allow frequency and magnitude to be evaluated. When sufficient data exist (e.g., continuous monitoring or extensive grab samples) or appropriate ancillary data (e.g., flow, precipitation) are accessible, duration or timing of exceedances may also be considered in the evaluation. The parameter-level evaluation requires best professional judgment to integrate information across all applicable columns.

Assessment	Frequency of Exceedances	Magnitude of Exceedances	Duration of Exceedances	Timing of Exceedances1
Water Chemistry Parameter Indicating Unimpaired or Supporting Conditions	Less than 10% exceedances of chronic standard	Exceedances generally within 10% of water quality criteria	Continuous data or extensive grab sample data set indicates no or few instances of prolonged exceedance	Exceedances only occurring during extreme events such as 100 year flood (e.g., TSS) or severe drought conditions (e.g., DO)
Water Chemistry Parameter Indicating Potential Impairment	Between 10 – 25% exceedances of chronic standard	Exceedances generally greater than 10% but less than 25% of water quality criteria	Continuous data or extensive grab sample data set indicates some instances of prolonged exceedance	Exceedances only occurring during periods in which they are most likely to occur (e.g., before 9 am, 7Q10 low flow, storm events, etc.); not counting extreme events above
Water Chemistry Parameter Indicating Potential for Severe Impairment	Greater than 25% exceedances of chronic standard	Exceedances generally greater than 25% of water quality criteria	Continuous data or extensive grab sample data set indicates chronic exceedance or many instances of prolonged exceedance	Exceedances occurring during periods (seasonal or daily cycle) in which they typically do not occur in addition to occurring in periods in which they are most likely to occur.

[1]Based on evaluation of available flow data and/or precipitation records as well as observations made by monitoring staff.

G. Reporting

MPCA reports the results of the assessments in a number of different formats, in watershed assessment reports (HUC-8), and in the integrated report (narrative report, ADB data, and geospatial data). A brief description of each is below.

1. Watershed Monitoring and Assessment Report

Results of the assessments are compiled in a watershed monitoring and assessment report following the assessment determinations. AUIDs are discussed by sub-watersheds and overall water quality conditions, potential stressors, and protection areas are identified. These documents inform the restoration (TMDL) and protection strategies that are developed by the agency. An example of a watershed assessment report can be found at http://www.pca.state.mn.us/dm0rde2.

2. Integrated Reporting

The results of the assessments are reported as directed by guidance from EPA. The assessment decisions are loaded into EPA's Assessment Database (ADB) (Currently Version 2.3.1). Categories and subcategories used to categorize each assessment unit in the ADB can be found in Appendix B. Each designated use is identified as "full support," "not support," "insufficient information," or "not assessed" as a result of the assessments. In addition, the use assessment data types are rated per the levels in the ADB. Impaired use/pollutant combinations without approved TMDL plans or otherwise determined to be category 4 impaired waters are extracted from the ADB and make up the 303(d) List. In conjunction with the ADB upload, a narrative report to the US Congress as required by section 305(b) of the Clean Water Act (CWA) is developed. An Integrated Report consisting of the narrative report, the ADB data, a 303(d) List and NHD indexed geospatial data are completed and submitted to EPA by April 1 every even year.

V. Protection of Aquatic Life

A. Pollutants with toxicity-based water quality standards

Protection of “aquatic life” with applicable Class 2 chronic standards means protection of the aquatic community from the direct harmful effects of toxic substances, and protection of human and wildlife consumers of fish or other aquatic organisms. This section of the Guidance deals with the former, the assessment of water quality for pollutants that have toxicity-based chronic standards and acute or Maximum Standards (MS) that are always aquatic life-toxicity based.

Surface waters are assessed to determine if they are of a quality needed to support the aquatic community that would be found in the waterbody under natural conditions. In general, two types of data are used in assessments: water chemistry data and biological data. Pre-assessments based on chemistry data and biological data are both considered, along with data quality indicators, in aquatic life use-support determinations.

1. Pollutants

The pollutants that have toxicity-based standards most often included in MPCA water quality assessments are briefly discussed. Pollutants other than those mentioned here may be assessed also, as data allow.

a) Trace metals

Trace metals with toxicity-based standards used in water quality assessments include aluminum, antimony, arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc. Mercury is discussed in the Chapter V because it has a human health-based standard.

Minn. R. ch. 7050 and ch. 7052 provide water quality standards for trace metals both in terms of “total” metal and, through conversion factors, “dissolved” metal. The use of dissolved metal standards is based on substantial evidence that the dissolved analysis better estimates the toxic fraction of metals in most waterbodies, and it is EPA policy that metal standards should be in the form of dissolved metal (EPA 1993). Total and dissolved metal data will be used in the assessments until there are adequate data to switch all lab analysis completely to dissolved metal data. However, while total metal data can be used to show that concentrations are less than and thus meet dissolved metal water quality standards, total metal data cannot be used to indicate impairment, as they do not provide the necessary evidence that the dissolved fraction fails to meet standards.

The acute and chronic standards for cadmium, chromium III, copper, lead, nickel, silver, and zinc vary with ambient total hardness. Thus, the standards for these metals are in the form of formulas that reflect the hardness/toxicity relationship. Each measured value for a hardness-dependent metal is compared to an individually calculated standard based on the hardness at the same time and place the metal sample was taken.

Figure 1. Use of trace metals data for total metals standards

Chronic Standard (Std) for Trace Metal (total)

Toxicity-based
Convert Std to dissolved Std

Multiply total Std by adjustment factor in Minn. R. ch. 7050.0222, subp. 9

If factor <1.0 (dissolved Std is < total Std) (adjustment factor is never > 1.0)

If factor =1.0, or no factor listed, then factor = 1.0. total and dissolved Std are equal

Result is dissolved Std

Compare **dissolved** Std to **dissolved a**mbient data (filtered sample)

Human health-based
No conversion to dissolved Std

Compare Std to total [unfiltered] analysis of ambient water

Hypothetical example: Total Copper Std = 15 µg/L @ a hardness of 200 mg/L

Total Std = 15 µg/L, toxicity-based; factor = 0.960;
Dissolved Std = 14.4 µg/L (15 µg/L X 0.960)

Therefore, compare the 14.4 µg/L dissolved std to the dissolved ambient copper analysis to assess for compliance with water quality standards.

b) Un-ionized ammonia

Ammonia at elevated levels in the un-ionized form (NH_3) is toxic to aquatic life. The chronic un-ionized ammonia standards are shown below:

- Class 2A. 0.016 mg/L un-ionized ammonia
- Class 2Bd, B, C, D. 0.04 mg/L un-ionized ammonia

The fraction of total ammonia in the un-ionized form in water is dependent on ambient pH and temperature. Therefore, pH and temperature as well as total ammonia must be measured at the same time and place to determine the un-ionized ammonia concentration.

c) Chloride

Besides being a general indicator of human impacts on water quality, high levels of chloride can harm aquatic organisms, possibly by interfering with the organism's osmoregulatory capabilities. The Class 2 chronic standard for chloride is 230 mg/L. MPCA began assessing lakes against the existing chloride standards in the 2012 listing cycle and wetlands in the 2014 cycle.

2. Data requirements and determination of impaired condition

Exceedances of standards for toxic pollutants are evaluated over consecutive three-year periods (see Table 3). Two or more exceedances of the chronic standard in three years is considered an impairment. One exceedance of the maximum standard is considered an impairment.

Toxicity-based chronic water quality standards are written as 4-day average concentrations. In some cases, pollutant concentrations can be quite variable over such periods, depending on factors such as the type and size of the waterbody, weather and flow conditions, and the source and nature of the pollutant. For example, chloride concentrations in lakes, streams, and wetlands are relatively stable during low flow conditions over a 4-day period, while pesticide concentrations during storm events in small streams can vary greatly in that same amount of time.

Because standards are expressed as 4-day averages, care must be taken to ensure that the water quality measurements used in assessments provide an adequate representation of pollutant concentrations over the relevant time period. When concentrations are judged to be relatively stable over the 4-day period in question, single samples can be sufficient. When concentrations are more variable, multiple samples or time-weighted composite samples are generally necessary in order to calculate a sufficiently accurate average concentration. Flow-weighted composite samples are taken with the purpose of calculating average concentrations by volume rather than by time, and can be very difficult to interpret in assessment contexts.

If more than one sample was taken within a four-day period for flowing waters the values are averaged (usually an arithmetic mean is appropriate) and the four-day average is counted as one value in the assessment. This includes multiple samples in 4 days at one station or multiple stations along an assessment unit. For lakes, depth of sample must be taken into consideration, as concentrations may change with depth (i.e. chloride often increases with depth). Within the 4-day period, samples will typically be averaged as follows: those samples collected at depths of 2 meters or less (including both grab samples and 0-2 meter integrated samples), those at depth (defined as the deepest two meters of the water column), and the mid-depth values (greater than 2 meters from the surface and the maximum depth). As with flowing waters, this averaging applies to both samples at a single station or samples collected at multiple stations along the assessment unit. Each depth will be compared against the chronic standard. If any 4-day average, regardless of depth, exceeds the standard, it will count as a single exceedance for the waterbody (i.e. the surface average may meet the standard, while the average at 12 meters may exceed the standard – for that 4-day period, a single exceedance will be counted).

The necessary number and type of samples can vary considerably from one situation to another and the determination of adequacy for the purpose of assessment will necessarily involve considerable professional judgment. It should be noted that because impairment can result from only one or two exceedances, an assessment of full support generally requires extensive monitoring during times when exceedances are most likely to occur.

Table 3. Summary of data requirements and exceedance thresholds for assessment of pollutants with toxicity-based standards.

Period of Record	Use-Support or Listing Category	
Most recent 10 years	No more than 1 exceedance of the chronic standard in 3 years, and no exceedances of the maximum standard: Not listed	2 or more exceedances of the chronic standard in 3 years, or 1 or more exceedances of the maximum standard: Listed

B. Conventional pollutants and biological indicators

Conventional pollutants or water quality characteristics most often included in MPCA water quality assessments are dissolved oxygen, pH, temperature, and turbidity. Turbidity is measured directly or estimated from transparency tube and/or total suspended solids measurements. Biological indicators (fish and invertebrates in streams, and invertebrates and plants in wetlands) are also currently evaluated in MPCA assessments. Biological indicators for lakes are under development and not yet available for use in assessments.

Pre-assessments based on chemistry data and biological data are both considered, along with data quality indicators and supporting information, in aquatic life use-support determinations. Not all data types are available for all AUIDs, and not all datasets agree. The following paragraphs describe the parameter-level data that inform aquatic life use-support determinations and the process for evaluating the parameter-level and supporting data to make such decisions.

1. Pollutant or water quality characteristic

The conventional pollutants most often included in MPCA water quality assessments are briefly described. Pollutants other than those mentioned here may be assessed also, as data allow.

a) Low dissolved oxygen

Dissolved oxygen (DO) is required for essentially all aquatic organisms to live. When DO drops below acceptable levels, desirable aquatic organisms, such as fish, can be killed or harmed. Dissolved oxygen standards differ depending on the use class of the water:

- Class 2A. Not less than 7 mg/L as a daily minimum
- Class 2Bd, 2B, 2C. Not less than 5 mg/L as a daily minimum
- Class 2D. Maintain background
- Class 7. Not less than 1 mg/L as a daily average, provided that measurable concentrations are present at all times

The standard for DO is expressed in terms of daily minimums and concentrations generally follow a diurnal cycle. Consequently, measurements in open-water months (April through November) should be made before 9:00 a.m.

A stream is considered impaired if 1) more than 10 percent of the "suitable" (taken before 9:00) May through September measurements, or more than 10 percent of the total May through September measurements, or more than 10 percent of the October through April measurements violate the standard, and 2) there are at least three total violations.

Because the underlying criterion is that water quality standards can be exceeded no more than 10 percent of the relevant time, it is usually essential that measurements are a representative sample of overall water quality and are not biased towards certain types of conditions, such as storm events or certain times of the year. The relevant time generally refers not to the entire year but rather to the usual water quality monitoring portion of the year. The requirement of at least three exceedances helps ensure that the measured data set is sufficiently large to provide an adequate picture of overall conditions.

A designation of "full support" for DO generally requires at least 20 suitable measurements from a set of monitoring data that give a representative, unbiased picture of DO levels over at least two different years. However, if it is determined that the data set adequately targets periods and conditions when dissolved oxygen exceedances are most likely to occur, a smaller number of measurements may suffice for a determination of "full support."

b) pH

The pH of water is a measure of the degree of its acid or alkaline reaction. The applicable pH standard for most Class 2 waters is a minimum of 6.5 and a maximum of 8.5, based on the more stringent of the standards for the applicable multiple beneficial uses. pH values that are outside the range of the standard because of natural causes are not considered exceedances.

c) Turbidity

Turbidity is caused by suspended soil particles, algae, etc., that scatter light in the water column making the water appear cloudy. Exceedance of the turbidity standard, especially for prolonged periods of time, can harm aquatic life. Aquatic organisms may have trouble finding food, gill function may be affected, and spawning beds may be covered.

Turbidity is measured in nephelometric turbidity units (NTU). The standards are shown below:

- 10 NTU, Class 2A waters
- 25 NTU, Class 2Bd, B, C, D waters

Transparency and total suspended solids (TSS) values reliably predict turbidity and can serve as surrogates at sites where there are an inadequate number of turbidity observations. A transparency tube measurement of less than 20 centimeters indicates a violation of the 25 NTU turbidity standard. For TSS, a measurement of more than 60 mg/L in the Western Corn Belt Plains (WCBP) and Northern Glaciated Plains (NGP) ecoregions or more than 100 mg/L in the North Central Hardwood Forest (NCHF) ecoregion indicates a violation.

If sufficient turbidity measurements exist, only turbidity will be evaluated. If there are insufficient turbidity measurements, any combination of independent turbidity, transparency, and total suspended solids observations may be evaluated. If there are multiple observations of a single parameter in one day, the mean of the values will be used. If there are observations of more than one of the three parameters in a single day, the hierarchy of consideration for assessment purposes will be turbidity, then transparency, then total suspended solids.

The MPCA has not analyzed enough data on Class 2A waters to determine transparency or TSS thresholds for violation of the 10 NTU standard. However, if turbidity-related data (turbidity, t-tube, TSS) data indicate impairment on a Class 2A water (based on the 25 NTU standard), the waterbody is assessed as impaired for turbidity.

A stream is considered impaired if 1) more than 10 percent of the turbidity-related measurements (turbidity, t-tube, TSS) exceed the standard, and 2) there are at least three total exceedances.

Because the underlying criterion is that water quality standards can be exceeded no more than 10 percent of the relevant time, it is usually essential that measurements are a representative sample of overall water quality and are not biased towards certain types of conditions, such as storm events or certain times of the year. The relevant time generally refers not to the entire year but rather to the usual water quality monitoring portion of the year. The requirement of at least three exceedances helps ensure that the measured data set is sufficiently large to provide an adequate picture of overall conditions.

A designation of “full support” for turbidity generally requires at least 20 suitable measurements from a set of monitoring data that give a representative, unbiased picture of turbidity levels over at least two different years. However, if it is determined that the data set adequately targets periods and conditions when turbidity exceedances are most likely to occur, a smaller number of measurements may suffice for a determination of “full support.”

d) Temperature

High water temperatures, or rapid elevations of temperature above ambient, can be very detrimental to fish. Cold water fish such as trout are particularly intolerant of high temperatures. The temperature standard for Class 2A cold water sport fish is a narrative statement of “no material increase.” A demonstration of a “material increase” means that temperature data must show a statistically significant increase when measured, for example, upstream and downstream of a stream modification, upstream and downstream of a point or nonpoint heat source, or before and after a modification that might impact stream temperature. Temperatures must be for similar time frames such as weeks or seasons. The larger the data set, the finer the precision in determining whether a material increase in stream temperature has occurred.

Currently the MPCA is evaluating mostly cold water fisheries for temperature-caused impairment because of the special sensitivity of cold water fish to elevations in temperature.

e) Biological indicators

The presence of a healthy, diverse, and reproducing aquatic community is a good indication that the aquatic life beneficial use is being supported by a lake, stream, or wetland. The aquatic community integrates the cumulative impacts of pollutants, habitat alteration, and hydrologic modification on a waterbody over time. Monitoring the aquatic community, or biological monitoring, is therefore a relatively direct way to assess aquatic life use support. Interpreting aquatic community data is accomplished using an index of biological integrity or IBI. The IBI incorporates multiple attributes of the aquatic community, called “metrics,” to evaluate a complex biological system. MPCA has developed fish and invertebrate IBIs to assess the aquatic life use of rivers and streams in Minnesota as well as plant and invertebrate IBIs to assess depressional wetlands. At this time, IBIs for aquatic communities in lakes are under development and not yet available for use in assessments.

Further interpretation of aquatic community data is provided by an assessment threshold or biocriteria against which an IBI score can be compared. In general, an IBI score above this threshold is indicative of aquatic life use support, while a score below the threshold is indicative of non-support. Currently, Minnesota is using a combination of two similar concepts to set biocriteria: the Biological Condition Gradient (BCG) and reference condition. To develop biocriteria that are protective of the structural and functional health of biological communities, Minnesota used the median of BCG level 4. Communities at the middle of this level can be best characterized as possessing “*overall balanced distribution of all expected major groups; ecosystem functions largely maintained through redundant attributes*” which is in line with the language of the CWA interim goal. This BCG-derived criteria was then compared to criteria derived from reference sites to insure that the two approaches were closely aligned in each fish and invertebrate IBI class.

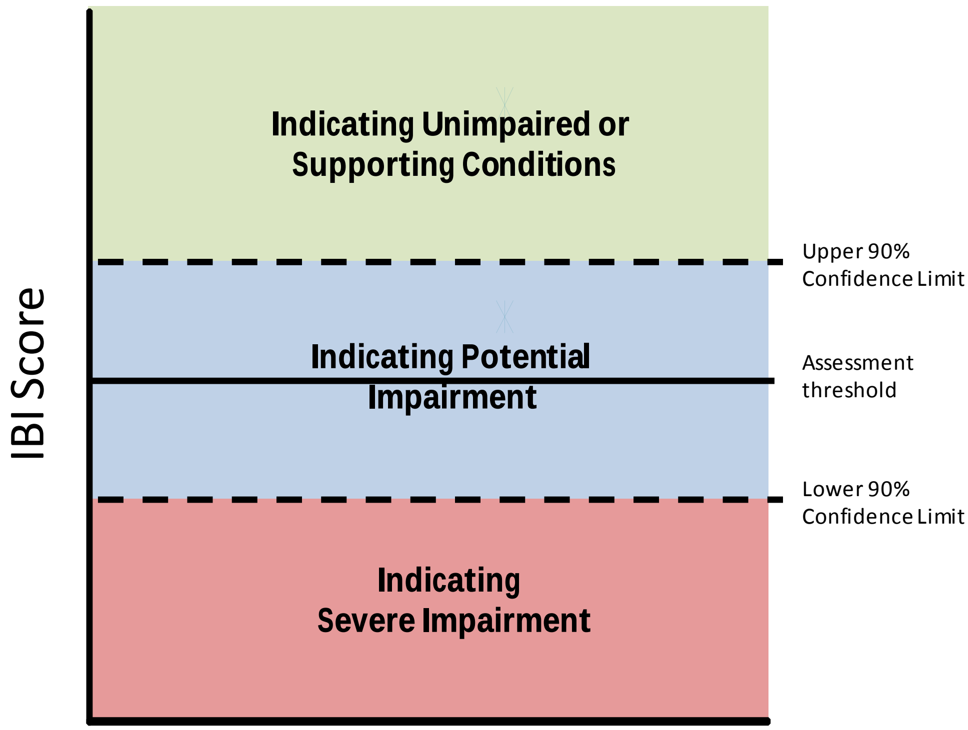
Bracketing each IBI assessment threshold is a 90 percent confidence interval that is based on the variability of IBI scores obtained at sites sampled multiple times in the same year (i.e., replicates). Confidence intervals account for variability due to natural temporal changes in the community as well as method error. For assessment purposes, sites with IBI scores within the 90 percent confidence interval are considered “potentially impaired.” Upon further review of available supporting information, an IBI parameter review may change to ”indicating support” or ”indicating severe impairment” depending on the extent and nature of this additional information (see Figure 2).

For further information regarding the basis of biological assessment in Minnesota’s water quality standards, the development of the BCG for rivers and streams in Minnesota, and the selection of river and stream reference sites in Minnesota see Appendix C.

f) Lack of Coldwater Assemblage

Another biological impairment cause that is used relates to the absence of expected biology to be found in coldwater streams. The cause is lack of coldwater assemblage and is used in situations where the Agency has acquired fish community data on designated cold water streams that meet all data quality requirements as defined in the assessment guidance but for which there is no formal assessment tool (e.g., IBI) that may be used to ascertain the segments impairment status. In such cases, the Agency relies on an interpretation of its narrative language in rule. Waterbodies that have been identified as lacking a coldwater assemblage have a fish community comprised predominantly of tolerant, warmwater species. Obligate coldwater species, such as trout and sculpins, are absent, or nearly so.

Figure 2. General diagram illustrating the characterization of individual biological indicator results.



2. Data requirements and determination of impaired condition

Overall assessment of whether an AUID adequately supports aquatic life involves the review of the parameter-level evaluations and data quality in conjunction with all available supporting information (flow, habitat, precipitation, etc.) to make an overall use-support determination. For a given AUID, there may be chemistry indicator data, biological indicator data, or both types of data available for assessment. The final assessment takes into consideration the strength of the various indicators and the quality of the data sets and, in addition, looks at upstream and downstream conditions to gain a better understanding of the interactions between the individual AUID and the larger waterbody and watershed.

In general:

a) A stream reach is considered to be **fully supporting** of aquatic life if:

- IBI scores for all available assemblages indicate fully supporting conditions, or
- the criteria for both dissolved oxygen and turbidity/t-tube/total suspended solids are adequately met, and
- other lines of evidence considered comprehensively, including upstream/downstream conditions, do not contradict a finding of full support

b) A stream reach is considered to be **not supporting** if:

- IBI scores for at least one biological assemblage indicate impairment, or
- one or more water chemistry parameters indicates impairment, and
- other lines of evidence considered comprehensively, including upstream/downstream conditions, do not contradict a finding of non-support

c) If the above criteria are not met and the assessment is inconclusive, the result is a determination of **insufficient information**.

In cases where an assessment unit has been determined to be not supporting based on biological indicators, water-chemistry parameters are added to the list of impairments only when the chemical impairment is clear enough that the AUID would be considered impaired even without the biological evidence.

The following paragraphs provide more details of the considerations that occur when analyzing the available data and information to make a comprehensive aquatic life use-support assessment, based on what types of indicator data are available. This information is used by the Watershed Assessment Team and Professional Judgment Group for each watershed as guidance in making use-support decisions.

a) Only biological indicator data available

Fully Supporting – All available fish and invertebrate IBI scores within the assessment unit fall above the upper 90 percent confidence limit. A fully supporting determination does not require that both indicator assemblages have been measured within the assessment unit.

Not Supporting – All fish and/or invertebrate IBI scores fall below the lower 90 percent confidence limit. A not supporting determination does not require agreement between the indicator assemblages; one assemblage indicating severe impairment is sufficient for a not supporting determination.

Otherwise, initial assessment is potentially impaired when one or more IBI scores fall within the 90 percent confidence interval that bounds the assessment threshold OR multiple IBI scores within an indicator assemblage are resulting in discrepant assessments. Further analysis is required to make a use support determination, consider the following factors:

- co-occurrence of indicator data
- habitat conditions
- sampling conditions
- watershed context

b) Only water chemistry indicator data available

Fully Supporting – 1) The standards for both Turbidity/TSS/t-tube and dissolved oxygen are fully met, AND 2) supporting information including upstream/downstream conditions, do not strongly contradict a finding of full support. In making this determination, consider the following factors:

- co-occurrence of indicator data
- strength of indicator
- parameter-level evaluations
- sampling conditions
- watershed context
- continuous monitoring data (when available)

Not Supporting – 1) One or more water chemistry parameters indicate potential or severe impairment AND 2) supporting information including upstream/downstream conditions do not strongly contradict a finding of non-support. If the first condition is met, condition two should primarily be evaluated considering:

- strength of indicator
- parameter-level evaluations
- watershed context
- continuous monitoring data (when available)

In general, information from within the assessment unit (strength of indicator and parameter-level evaluation) serves as the primary arbiter for making a not supporting determination, while assessments and data from adjacent assessment units (watershed context) provides additional information that either corroborates or refutes this determination. Considering these three factors together, a not supporting determination is more likely in situations where 1) parameter-level evaluations indicate potential or severe impairment, 2) the strength of these indicators is medium or high, AND 3) the assessment is corroborated by similar conditions upstream or downstream of the assessment unit in question. Continuous monitoring data, if available, can be used to either corroborate or refute the evidence provided by grab-sample data sets.

c) Both biological and water chemistry indicator data:

Fully Supporting – 1) IBI score for at least one biological assemblage indicates supporting conditions OR the standards for both Turbidity/TSS/t-tube and dissolved oxygen are fully met, AND 2) other data and information considered comprehensively, including upstream/downstream conditions, do not strongly contradict a finding of full support. If the first condition is met, condition two should be evaluated considering the following factors:

- co-occurrence of indicator data
- strength of indicator
- parameter-level evaluations
- habitat conditions
- sampling conditions
- watershed context
- continuous monitoring data (when available)

Not Supporting – 1) IBI score for at least one biological assemblage indicates severe impairment OR 2) IBI score for at least one biological assemblage indicates potential impairment AND the parameter-level evaluations and other data and information considered comprehensively corroborate a finding of non-support OR 3) one or more water chemistry parameters indicate potential or severe impairment AND the evidence considered comprehensively leads to a conclusion of non-support. To evaluate all three conditions consider the following factors:

- co-occurrence of indicator data
- strength of indicator
- parameter-level evaluations
- habitat conditions
- sampling conditions
- watershed context
- continuous monitoring data (when available)

d) Insufficient information:

If the criteria are not met for a fully supporting or not supporting assessment and the assessment is inconclusive, the result is a determination of insufficient information. “Insufficient information” determinations include situations where sufficient data are not available to assess the use, or the strength of the available indicator(s) is low and there is no supporting information available to help verify what the weak dataset is indicating. Sites receiving an “insufficient information” assessment may be prioritized for follow-up monitoring during MPCA stressor identification efforts, addressed by local monitoring efforts, or monitored further during the next round of intensive watershed monitoring.

VI. Aquatic Consumption and Drinking Water

This section addresses the assessment of water quality for pollutants that have human health-based standards. Standards based on protection to humans include Class 2 chronic standards (CS), narrative standards based on the Minnesota Department of Health's (MDH) Fish Consumption Advisory program, and Class 1 drinking water standards. An overview of these standards and their application for assessment is provided below.

A. Pollutants with Class 2 human health-based chronic standards

Class 2 CSs are set after determining the water column concentration that will be protective for long-term or chronic exposure for aquatic organisms, human health, and fish-eating wildlife (Minn. R. ch. 7052 only). The most protective CS is then listed in the rule under each beneficial use classification (2A, 2B, or 2Bd). This section discusses the development of human health protective numeric CSs.

1. Algorithms for human health-based chronic standards

The methods used to develop human health-based CSs depend on the beneficial use classification and toxicological profile of the pollutant. All Class 2 CSs ensure protection for fish consumption. For Class 2A and Class 2Bd surface waters, development of the CSs also include drinking water intake in the algorithm, as follows:

Class 2A or 2Bd CS

$$= \frac{\text{Toxicological value (Reference dose or Cancer risk level/Cancer slope factor)}}{\text{Drinking water intake rate + (Fish consumption intake rate x Bioaccumulation factor)}}$$

Class 2B surface waters are not used as a source of drinking water, but instead base possible ingestion on a "mouthful" of water that may be incidentally consumed while swimming. This intake rate is much lower than drinking water intake; therefore, the CS for these waters is generally driven by the fish consumption intake rates.

Class 2B CS

$$= \frac{\text{Toxicological value (Reference dose or Cancer risk level/Cancer slope factor}}{\text{Incidental water intake rate + (Fish consumption intake rate x Bioaccumulation Factor)}}$$

It is important to distinguish the basis for human health protection in the Class 2 subclasses as it is critical to understanding the exposure pathways included and to distinguish from the Class 1 drinking water standards that are further discussed in Section VI. C. In addition to the route of exposure addressed by each Class 2 subclass, the consideration of how bioaccumulative a pollutant is is also an important aspect to the application of human health-based standards in the integrated assessment.

Chemicals that persist in the environment and "build up" in the tissues of aquatic organisms to higher concentrations than the concentrations in the surrounding water are called bioaccumulative chemicals. Uptake through the food chain means that at each step, from plants to prey to predator, the concentrations in the biota increase. This "biomagnification" as it is called is a concern because many game fish (e.g., walleye and northern pike) are at the top of the aquatic food chain and they typically carry the highest tissue concentrations of the chemical in the aquatic system.

The bioaccumulation factor (BAF) is the ratio between the concentration of the chemical in the biota and the concentration of the chemical in the water. BAFs can exceed one million for very highly bioaccumulative chemicals. A BAF must be determined to calculate a human health-based water quality standard. (MPCA, 2000e). For pollutants with high BAFs, generally > 1000, the CSs are very low water column concentrations in order to limit their concentration in fish tissue; this means human health protection is the basis for these CSs as the concentrations are more stringent than those for aquatic organism protection. For these chemicals (such as mercury, PCBs, and dioxins), exposure from the fish consumption pathway also far exceeds that from drinking water consumption. Based on EPA guidance, MPCA adopted a fish tissue criterion for mercury in 2008 to provide a more accurate and directly usable standard to protect fish consumers (for further discussion, see VI.B.)

2. Pollutants with human health-based chronic standards

The pollutants that have human health-based CSs that are most often included in MPCA water quality assessments are briefly described. Pollutants other than those mentioned here may be assessed also, as data allow.

a) Mercury

Mercury is the classic example of a bioaccumulative element; it never degrades, it can bioaccumulate through the food chain to toxic levels from benign water concentrations, and it can cause serious health effects. Mercury numeric water quality standards are based on total concentrations and, thus, total mercury measurements are used in assessments. Minnesota has two water column Class 2 water quality standards for total mercury, as shown below (although the more stringent CS for Lake Superior is based on fish-eating wildlife, this value is protective of human consumers and assessed the same way as the statewide mercury CS):

- 6.9 ng/L. chronic standard, Minn. R. ch. 7050.0222 (statewide)
- 1.3 ng/L. chronic standard, Minn. R. ch. 7052.0100 (waters of Lake Superior Basin)

In 2008, MPCA also adopted a fish tissue mercury standard into Minn. R. ch. 7050:

- 0.2 mg/kg, total in edible fish tissue

The MPCA began using clean sampling techniques for mercury and other trace metals in 1996, and only data collected in this manner will be used (EPA Method 1631 or equivalent). Mercury levels are assessed by comparing concentrations in water to the ambient standards shown above, and by assessing the mercury in fish tissue directly, as outlined in Section VI.B. where mercury is further discussed.

b) Polychlorinated biphenyls

Polychlorinated biphenyls (PCBs) constitute a group of chlorinated organic compounds distributed world-wide. Their extensive use combined with their persistence, bioaccumulative properties, and cancer and non-cancer toxicity, make them very serious environmental pollutants. Concentrations of PCBs in water are very low (typically less than one part per trillion) and difficult to measure. But, because they bioaccumulate as much as a million fold or more in fish and other animals, they are readily measured in animal tissues. Thus, PCBs are usually assessed for the 303(d) List on the basis of their presence in fish, resulting in advice to anglers to limit their consumption of certain fish (see Section VI.B.). The MPCA has adopted human health-based water quality standards for total PCBs, as listed below:

Minn. R. ch. 7050.0222 (statewide standards)

- 14 pg/L, Class 2A chronic
- 29 pg/L, Class 2Bd, 2B, 2C and 2D chronic

Minn. R. ch. 7052.0100 (waters of Lake Superior Basin)

- 4.5 pg/L, Lake Superior chronic
- 6.3 pg/L, Class 2A chronic
- 25 pg/L, Class 2Bd, 2B, 2C and 2D chronic

c) Dioxins and chlorinated pesticides

Dioxins are similar to PCBs in many respects. Both represent a family of chlorinated organic chemicals, some of which are very persistent, bioaccumulative and toxic, as well as global in their distribution. Unlike PCBs, dioxins were never intentionally manufactured. The major sources of dioxins are combustion, chlorine bleaching of pulp wood (now largely phased out), and trace contaminants in other manufactured organic compounds, including PCBs. 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) has been shown to be carcinogenic in animals at extremely low doses. The MPCA has Class 2 human health-based water quality standards for 2,3,7,8-TCDD in Minn. R. ch. 7052, applicable only to waters in the Lake Superior basin. These are shown below:

- 0.0014 pg/L, Lake Superior chronic
- 0.0020 pg/L, Class 2A chronic
- 0.0080 pg/L, Class 2Bd, 2B, 2C and 2D chronic

The only 2,3,7,8-TCDD standard in Minn. R. ch. 7050 is the EPA drinking water standard of 30 pg/L.

Organochlorine pesticides, such as DDT, Dieldrin, and toxaphene are persistent, bioaccumulative, and have reproductive toxicity to non-target organisms. The use of most organochlorine pesticides is banned in the United States and in most countries world-wide (EPA 2001b). The MPCA evaluates waters for dioxins or organochlorine pesticides only at site-specific locations where contamination is suspected or where data are needed to support remedial efforts.

3. Data requirements and determination of impaired condition

The data requirements for assessing waterbodies for exceedances of human health-based CSs are essentially the same as for chemicals with toxicity-based standards (see Section V. A.) The major difference is that data compared to the chronic standard are averaged over a 30-day period.

Table 4. Summary of data requirements and listing criteria for assessment of pollutants with human health-based and wildlife-based standards.

Period of Record	Use-Support or Listing Category	
Most recent 10 years	No more than 1 exceedance of the chronic standard in 3 years: Not listed	2 or more exceedances of the chronic standard in 3 years: Listed

4. Pollutants with human health- and toxicity-based standards or criteria

The MPCA calculates both a toxicity-based and a human health-based chronic criteria, and the more restrictive of the two is adopted into Minn. R. ch. 7050 or ch. 7052 as the applicable chronic standard. Because of the different averaging times used when comparing human health-based or aquatic toxicity-based standards to monitoring data, a complete impaired waters assessment would require comparisons of monitoring data to both values. Minn. R. ch. 7050 and ch. 7052 will only list the more stringent CS, but the MPCA retains a record of all calculated criteria values.

a) Pollutants

Three pollutants - atrazine, cobalt, and pentachlorophenol - have human health-based and toxicity-based standards or criterions that have similar values. Cadmium, lindane, and 2,4,6-trichlorophenol are other pollutants in this category.

The chronic standard for atrazine is 3.4 µg/L for Class 2A and 2Bd waters. While this human health-based standard is lower than the aquatic toxicity-based criterion of 10 µg/L, the aquatic-toxicity value is applicable to all waters to ensure protection of aquatic organisms. Because Class 2B waters are not protected for drinking water, the aquatic toxicity criterion of 10 µg/L becomes the most stringent value and is the basis for the chronic standard. The human health-based criterion value for Class 2B waters is 100 µg/L, to protect people who eat fish.

Monitoring data available on atrazine often includes atrazine degradates. In most cases, not enough information is available to determine a water quality standard for degradates, but available human health and aquatic toxicity reviews are considered by the PJG when assessing waters for impairment. Pesticide reviews by MDH and EPA have provided guidance on factoring in toxicity of degradates.

b) Data requirements and determination of impaired condition

The data requirements for assessing waterbodies for exceedances of pollutants like atrazine are the same as those for human health-based standards and toxicity-based standards. Thirty-day and four-day averages are calculated for those periods where exceedances of the standard are observed, and compared against the human health-based standard and aquatic toxicity-based standard/criterion, respectively.

Two exceedances of the human health-based standard or the aquatic toxicity-based standard within three consecutive years indicate impairment. Based on additional information on the timing and magnitude of an exceedance, the PJG would evaluate on a case-by-case basis the appropriateness of listing waters with one exceedance of each standard at different times within a three-year period. One exceedance of the maximum standard indicates impairment.

B. Protection for human consumption of fish

In the context of water quality standards, support of the aquatic life beneficial use means that the concentrations of toxicants in water must be low enough that:

- the aquatic community is healthy, diverse and successfully reproducing
- the fish and other aquatic organisms are safe for people and wildlife to eat

This section describes the assessment of fish for human consumption based on fish contaminant data. The data used in the MPCA assessments is the same monitoring data used by the MDH to issue Fish Consumption Advisories (MCFA). The water quality standards used in the assessment include both a narrative standard based on MFCA and a mercury fish tissue-based CS.

1. Basis for assessment of fish contaminants: narrative standard

The basis for assessing the contaminants in fish tissue is the narrative water quality standards and assessment factors in Minn. R. ch. 7050.0150, subp. 7 which states the following:

> *Subp. 7.* ***Impairment of waters relating to fish for human consumption****. In evaluating whether the narrative standards in subpart 3, which prevent harmful pesticide or other residues in aquatic flora or fauna, are being met, the commissioner will use the residue levels in fish muscle tissue established by the Minnesota Department of Health to identify surface waters supporting fish for which the Minnesota Department of Health recommends a reduced frequency of fish consumption for the protection of public health. A water body will be considered impaired when the recommended consumption frequency is less than one meal per week, such as one meal per month, for any member of the population. That is, a water body will not be considered impaired if the recommended consumption frequency is one meal per week, or any less restrictive recommendation such as two meals per week, for*

all members of the population. The impaired condition must be supported with measured data on the contaminant levels in the indigenous fish.

2. MDH fish consumption advice and thresholds for consumption

To support the continued good health of people that eat fish in Minnesota, the MDH issues guidelines for how often certain fish can be safely eaten. This is called the Minnesota Fish Consumption Advisory (MFCA) (MDH 2001; in VI.B.1 for the MFCA website). The determination of fish consumption advice for mercury, PCBs, and PFOS depends on two elements — toxicity and exposure. **Toxicity** refers to the harmful effects of the substance on humans at various doses. **Exposure** refers to the sources of the toxicant to humans — exposure is discussed in the next section. MDH uses extensive toxicity data from EPA and original studies for these pollutants to establish the concentrations of contaminants in fish that trigger the following levels of advice: unlimited consumption, 1 meal per week, 1 meal per month, and do not eat. As an advisory, the goal of the MFCA is to help people make intelligent decisions on which fish to eat and which to avoid. The advice is not mandatory or regulatory.

The MDH then established concentrations of mercury, total PCBs, and PFOS in fish tissue that corresponds to meal frequency recommendations (Table 5). Mercury concentrations in Table 5 are for consumption by the more sensitive life stage, young children, and sub-populations, women who are pregnant or may become pregnant. The concentrations for PCBs and PFOS apply to all humans. These concentration thresholds are derived from health-based estimates of exposure to the contaminants through fish consumption that are likely to be without appreciable risk of harmful effects on humans (assuming the advice is followed). The mercury advice of interest to 303(d) Listing targets the most sensitive individuals in the population including, but not limited to, children, pregnant women, and their fetuses. It is not necessarily protective of hypersensitive individuals.

Table 4. Fish tissue concentrations (in ppm) for levels of consumption advice established by MDH for mercury, total PCBs, and PFOS (April 2008)

Consumption Advice:	Unrestricted	1 meal per week	1 meal per month	1 meal per 2 months	Do not eat
*Mercury (mg/kg)	≤ 0.05	>0.05 - 0.22	>0.22** - 0.95		> 0.95
Total PCBs (mg/kg)	≤ 0.05	>0.05 - 0.22	>0.22 - 0.95	>0.95 - 1.89	> 1.89
PFOS (mg/kg)	≤ 0.040	>0.040 – 0.200	>0.200 – 0.800		> 0.800

http://www.health.state.mn.us/divs/eh/fish/eating/mealadvicetables.pdf

*Consumption advice for young children and women who are pregnant or may become pregnant.

Shaded cells indicate consumption advice that corresponds to non-support and an impaired condition.

**With MDH's revised thresholds for MFCA for mercury, the mercury fish tissue criterion of 0.2 ppm adopted into Minn. R. ch. 7050 in 2008 is more stringent and is the applicable numeric standards for assessing mercury impairments in fish (See discussion in 4).

3. Selection of single fish meal-per-week impairment threshold

As discussed in Section VI.A. on human health-based water quality protection, the consumption of fish is an important route of exposure for bioaccumulative pollutants, such as mercury, PCBs, and PFOS. Exposure varies with how often people eat fish and with the contaminant concentrations in the fish they eat. MPCA has departed from EPA policy with regard to assumptions about fish consumption (exposure). This is based on the prevalence and importance of sport fishing in Minnesota. The EPA assumes people eat 17.5 grams per day for purposes of calculating their human health-based aquatic life criteria (EPA 2000b). This generic assumption applies to everybody in the United States. Minnesota human health-based water quality standards are calculated assuming people eat 30 grams of fish per day. Thirty grams per day is the 80th percentile fish consumption rate of sport-caught fish for the angling population based on several surveys of the fish eating habits of upper Midwest anglers (MPCA 2000e). Thirty grams per day equals about a half-pound meal per week (0.463 pounds/week).

The single fish meal-per-week consumption rate is the basis for the human health-based water quality standards in Minn. R. ch. 7050 and ch. 7052. Therefore, the “fish consumption” use is judged to be supported if it is safe to eat one fish meal per week (over a life time), consistent with the assumption inherent in the numeric water quality standards. In other words, advice to limit consumption to “no more than one meal-per-week” or more is not considered an exceedance of water quality standards, and waterbodies with such advice will not be listed as impaired. Advice to limit consumption to less than one meal per week, such as one meal per month, for any member of the population is an indication of impairment.

Alternately, if reliable data are available to show that localized populations in Minnesota consistently eat more (or less) than 30 g/d, Minn. R. ch. 7050.0222, subp. 8 allow the MPCA to recalculate an existing standard using the local fish consumption data; this process would require EPA approval. So far no site-specific standards have been developed based on a different rate of local fish consumption.

4. Mercury: numeric fish tissue standard

In 2008, the MPCA promulgated a new mercury standard based on EPA’s revised human health-based water quality criterion for methylmercury (EPA 2001a). This new criterion is unique among all EPA criteria in that the environmental medium for the acceptable mercury concentration is fish tissue rather than water. A fish tissue criterion for mercury is logical because it is fish that are the main source of methylmercury exposure to both humans and wildlife.

For the Minnesota fish tissue mercury standard, the EPA criterion was re-calculated assuming people eat 30 g/day of fish, resulting in the fish tissue-based chronic standard of 0.2 mg/kg. This EPA criterion and the MFCA are both based on the same EPA-derived reference dose of 0.1 mg/kg/day. The difference between the MDH value of 0.22 ppm from Table 5 and the re-calculated EPA criterion has to do with how the consumption of marine fish is taken into account (and new MDH policy in April 2008 to use two significant figures). The MFCA is advice about eating fish from any source, sport-caught, store-bought, marine, or freshwater. The EPA aquatic life criteria (applicable in Minnesota) apply only to freshwater habitats. But, in the calculation of freshwater criteria, EPA assumes people eat a certain amount of marine fish; therefore, as a result the freshwater criterion is lowered to allow for this “outside” source of mercury

5. Data requirements and determination of impaired condition

The 303(d) List identifies waterbodies that do not meet legally enforceable water quality standards, and for which a remedial plan may be required. While mindful of the different purposes and function of the MFCA and the 303(d) List, the MPCA strives for consistency between the protocols MDH uses to assess data for the MFCA and the protocols MPCA uses to assess data for determination of impairment when applying the narrative standard. An important caveat is that **one cannot assume, because a particular waterbody does not appear on the 303(d) List, the fish in that waterbody are safe for unlimited consumption**. Most likely it means the fish from that waterbody have not been tested. Only those waterbodies from which the fish have been tested and found to exceed the impairment thresholds will be put on the 303(d) List. The MFCA should be consulted for general advice on fish consumption and health risks (MDH 2001).

The MDH currently relies on a regression approach to determine consumption advice for variable size ranges. The advisory threshold concentrations summarized in Table 5 are applied to the most recent five years of data from a waterbody. Impairments for PCBs are based on a fish tissue concentration exceeding 0.22 ppm, which is the upper threshold for one meal per week fish consumption. Accordingly, impairments for PFOS are based on tissue concentrations exceeding 0.200 ppm (see Table 5).

For mercury, as a result of comments received on the draft statewide mercury TMDL, the MPCA agreed to remove from the TMDL those waters with any size class mean fish-Hg greater than 0.57 ppm – the concentration that would achieve 0.2 ppm with a 65 percent reduction. Prior to this reassessment the fish consumption advisory results were accepted as is. Unlike the water quality data assessments, fish-Hg impairment could be based on only one sample. The purpose of this revised assessment is to treat fish-Hg data as similar as possible to other water quality data. Although this new protocol uncouples the impairment assessment from the fish consumption advisory, the 0.2 ppm fish-Hg concentration remains the threshold for determining impairment and, as of 2008, is codified as a Minnesota water quality standard for total mercury in fish tissue. A waterbody is defined as impaired if more than 10 percent of the fish in a species are greater than 0.2 ppm. This is equivalent to saying the water is impaired if the 90th percentile for any fish species is >0.2 ppm.

To determine which waters are impaired for fish-Hg, the Minnesota Fish Contaminant Monitoring Program database is queried for the following criteria:

- fish collected in the last 10 years
- filet with or without skin on; no whole fish
- at least five fish in a species, including fish within a composite sample
- 90th percentile fish-Hg is greater than 0.2 ppm (i.e., more than 10 percent are greater than 0.2 ppm

Whole fish were not used for this process because they are not used for the fish consumption advisory. If a waterbody-species had less than five fish, but at least one fish sample was greater than 1.0 ppm Hg, it was assigned to a separate list for further consideration; five fish with one fish of 1.0 ppm would have an average greater than 0.2 ppm.

The 90th percentile rank is calculated by multiplying the number of fish (N) by 0.9 and rounding to the nearest whole number. The 90th percentile fish-Hg is determined for each waterbody-species by (1) ranking the samples within each waterbody-species from low to high Hg, (2) Hg concentration of a composite sample is treated as the concentration for all fish within the composite, (3) if the 90th percentile ranked fish is >0.2 ppm or is in a composite that is >0.2 ppm, it is marked as impaired. This evaluation complements assessment of waterbodies that are impaired based on water column mercury.

C. Class 1 drinking water standards for nitrate nitrogen

Class 1 waters are protected as a source of drinking water. In Minnesota, all groundwater and selected surface waters are designated Class 1. The assessment of groundwater (Class 1A) for potential impairment of the drinking water use is outside the scope of this Guidance. The Minnesota Department of Health (MDH) monitors municipal finished water supplies for compliance with drinking water standards. The assessment of Class 1B and 1C listed surface waters for potential impairment by nitrate nitrogen is discussed in this Section.

1. Nitrate nitrogen

Nitrate nitrogen poses a risk to human health at concentrations exceeding 10 mg/L in drinking water. Humans, especially infants under six months of age, who are exposed to nitrate in drinking water at concentrations exceeding the 10 mg/L federal safe drinking water standard (which is incorporated by reference into Minn. R. ch. 7050.0221) can develop methemoglobinemia, a blood disorder that interferes with the ability of blood to carry oxygen. The 10 mg/L standard is an acute toxicity standard. Long term, chronic exposure to nitrate in drinking water is less well understood but has been linked to the development of cancer, thyroid disease, and diabetes in humans.

In recognition of the trend of increasing nitrate concentrations in Minnesota streams and the public health and economic impact arising from elevated nitrate concentrations in drinking water (a particular concern in Southeast Minnesota's karst region), the MPCA assesses Class 1B and 1C designated surface waters for potential impairment by nitrate nitrogen.

2. Data requirements and determination of impaired condition

When assessing drinking water-protected surface waters Class 1B and 1C, MPCA compares 24-hour average nitrate concentrations to the 10 mg/L standard. Two 24-hour averages exceeding 10 mg/L within a three-year period indicates impairment.

Single measurements of nitrate concentrations under relatively stable conditions are generally considered to be sufficiently representative of 24-hour average concentrations for the purpose of assessments. When concentrations are more variable, multiple samples or time-weighted composite samples may be necessary in order to calculate a sufficiently accurate average concentration. The necessary number and type of samples can vary considerably from one situation to another and the determination of adequacy for the purpose of assessment will necessarily involve considerable professional judgment.

Table 5. Summary of data requirements and exceedance thresholds for assessment of nitrate nitrogen, Class 1 drinking water standard.

Period of Record	Use-Support or Listing Category	
Most recent 10 years	No more than 1 exceedance of the acute standard in 3 years: Not listed	2 or more exceedances of the acute standard in 3 years: Listed

VII. Pollutants with Wildlife-Based Water Quality Standards

Protection of the aquatic life use includes the protection of wildlife consumers of aquatic organisms. Minnesota has four wildlife-based water quality standards – all in Minn. R. ch. 7052, the Great Lakes Water Quality Initiative (GLI) rule. The GLI rule focuses on the reduction of bioaccumulative toxic chemicals in the Great Lakes ecosystem as a whole. The standards in Minn. R. ch. 7052 are applicable only to the surface waters of the Lake Superior basin in Minnesota. The GLI chronic wildlife-based standards are listed below:

- DDT – 11 pg/L
- Mercury – 1300 pg/L
- PCBs – 122 pg/L (GLI human health-based standards for PCBs are more stringent than the wildlife based standard)
- 2,3,7,8-TCDD – 0.0031 pg/L (GLI human health-based standards for dioxin are more stringent than the wildlife based standard for Lake Superior and Class 2A waters, but not for Class 2Bd and 2B,C&D waters)

The assessment of waterbodies for compliance with the GLI wildlife-based standards follows the same protocols used to assess waterbodies for human health-based standards, as described in the previous section (Table 4).

VIII. Protection of Aquatic Recreation

This section addresses the assessment of water quality for pollutants that have aquatic recreation-based standards. Standards based on protecting the ability to recreate on and in Minnesota's waters are Class 2 standards. An overview of these standards and their application for assessment is provided below

A. Streams and rivers – *E. coli* bacteria

The numeric standards in Minn. R. ch. 7050 that directly protect for primary (swimming and other recreation where immersion and inadvertently ingesting water is likely) and secondary (boating and wading where the likelihood of ingesting water is much smaller) body contact are the *E. coli* (*Escherichia coli*) standards shown in Table 7. *E. coli* standards are applicable only during the warm months since there is very little swimming in Minnesota in the non-summer months. Exceedances of the *E. coli* standard mean the recreational use is not being met.

The MPCA uses an *E. coli* standard based on a geometric mean EPA criterion of 126 *E. coli* colony forming units (cfu) per 100ml. *E. coli* has been determined by EPA to be the preferred indicator of the potential presence of waterborne pathogens.

Table 6. *E. coli* water quality standards for Class 2 and Class 7 waters.

Use Class	Standard No. of Organisms Per 100 mL of Water		Applicable Season	Use
	Monthly Geometric Mean*	10 % of Samples Maximum**		Body Contact
2A, trout streams and lakes, 2Bd, 2B, 2C, non-trout (warm) waters	126	1260	April 1 – October 31	Primary
2D, wetlands	126	1260	April 1 – October 31	Primary, if the use is suitable
7, limited resource value waters	630	1260	May 1 – October 31	Secondary

* Not to be exceeded as the geometric mean of not less than 5 samples in a calendar month.
** Not to be exceeded by 10% of all samples taken in a calendar month, individually.

1. Data requirements and determination of impaired condition

There is a considerable amount of *E. coli* data available in Minnesota, and also older fecal coliform data. For assessment purposes, only *E. coli* measurements will be used. Exceptions to the exclusive use of *E. coli* data will be made only in special cases, using a ratio of 200 to 126 to convert fecal coliform to *E. coli*.

Data over the full 10-year period are aggregated by individual month (e.g., all April values for all 10 years, all May values, etc.). At least five values for each month is ideal, while a minimum of five values per month for at least three months, preferably between June and September, is necessary to make a determination. Assessment with less than these minimums may be made on a case-by-case basis.

Where multiple bacteria/pathogen samples have been taken on the same day on an assessment unit, then the geometric mean of all the measurements will be used for the assessment analysis.

If the geometric mean of the aggregated monthly values for one or more months exceeds 126 organisms per 100 ml, that reach is considered to be impaired. Also, a waterbody is considered impaired if more than 10 percent of individual values over the 10-year period (independent of month) exceed 1260 organisms per 100 ml This assessment methodology more closely approximates the five-samples-per-month requirement of the standard while recognizing typical sampling frequencies, which rarely provide five samples in a single month and usually only one. Table 8 summarizes the assessment process.

Table 7. Assessment of waterbodies for impairment of swimming use - data requirements and exceedance thresholds for *E. coli* bacteria.

Period of Record	Minimum No. of Data Points	Use Support or Listing Category Based on Exceedances of The *E. coli* Standard	
Standard Exceedance Thresholds ® Monthly geometric mean > 126 orgs/100 mL (Class 2) > 630 orgs/100 mL (Class 7)		**No months**	**1 or more months**
Most recent 10 years	see text	Not Listed	Listed
Standard Exceedance Thresholds ® Exceeds 1260 orgs/100 ml*		**≤ 10 %**	**>10 %**
Most recent 10 years	15	Not Listed	Listed

* In full data set over 10 years.

Expert review of the data provides a further evaluation. When fewer than five values are available for most or all months, the individual data are reviewed. Considerations in making the impairment determinations include the following:

- dates of sample collection (years and months)
- variability of data within a month
- magnitude of exceedances
- ‘remark’ codes associated with individual values
- previous assessments and 303d listings

In some circumstances where four values are available for some or all months, a mathematical analysis is done to determine the potential for a monthly geometric mean to exceed the 126 organisms/100mL standard. All assessments are reviewed by the Watershed Assessment Team (WAT) for each watershed.

Large datasets:

Aggregating data by month across years for very large datasets diminishes the value of the data and assessment, making it less likely that periodic *E. coli* exceedances will be identified that indicate impairment. Data aggregation should be held to a minimum, no more than necessary to have sufficient data to satisfy the requirements for determining exceedances.

Alternative methods of data analysis may be used based on a professional judgment review of the data. Where there are five values per individual month or 30 day time period, the data will not be aggregated and individual monthly or 30 day geometric means may be calculated. Alternatively, data may be aggregated by month across consecutive two year or five year time periods. If more than 10 percent of the geometric means calculated exceed the 126 org/100 mL standard, the AUID is assessed as not supporting.

B. Great Lakes Shoreline (Lake Superior) beaches – *E. coli* bacteria

The Clean Water Act defines Coastal Recreation Waters as the Great Lakes and marine coastal waters (including coastal estuaries) that are designated under section 303(c) of the Clean Water Act for use for swimming, bathing, surfing, or similar water contact activities. The MPCA is applying the coastal waters definition and Beaches Environmental Assessment and Coastal Health (BEACH) Act water quality standards to all bacteria monitoring sites on the Lake Superior shoreline and in the mouths of tributaries that are representative of shoreline/Lake Superior conditions. The St. Louis River and Duluth-Superior Harbor sites monitored in the BEACH Act program that extends upstream in the St. Louis River to the Boy Scout Landing Beach are also considered within the coastal recreation designation. AUIDs were established for each individual beach, which generally includes only one beach monitoring station.

Lake Superior coastal waters are subject to E. Coli water quality standards in the BEACH Act rule [November 2004 *Water Quality Standards for Coastal and Great Lakes Recreation Waters* rule (69 FR 67217, November 16, 2004), found at http://www.gpo.gov/fdsys/pkg/FR-2004-11-16/html/04-25303.htm]. These standards as applied in Minnesota are shown in Table 9.

Table 8. *E. coli* water quality standards for coastal recreation waters.

Standard **No. of Organisms Per 100 mL of Water**		**Applicable Season**	**Use**
Monthly Geometric Mean*	**10 % of Samples Maximum****		**Body Contact**
126	235	April 1 – October 31	Primary

* Not to be exceeded as the geometric mean of not less than 5 samples in a calendar month.
** Not to be exceeded by 10% of all samples taken in a calendar month, individually.

1. Data requirements and determination of impaired condition

There is a considerable amount of *E. coli* data collected as part of the BEACH monitoring program in Minnesota. Most beaches are monitored weekly from Memorial Day to Labor Day, while some are monitored twice weekly. To ensure use of the most recent data, data for the most recent 5-year period are used and assessments are made every other (odd numbered) year.

When there are five or more samples per individual month or 30 day time period, individual monthly geometric means are calculated and compared to the 126 orgs/100mL standard for the period April 1 through October 31. If more than 10% of the geometric means calculated exceed the 126 orgs/100mL standard, or if more than 10% of the individual sample results in the entire dataset exceed the maximum criterion of 235 orgs/100mL, the AUID is assessed as not supporting.

When sampling frequency results in smaller data sets, data is aggregated by month across years. If one or more of the monthly aggregated geometric means exceeds 126 orgs/100mL, or more than 10% of the individual sample results in the entire dataset exceed the maximum criterion of 235 orgs/100mL, the AUID is assessed as not supporting.

Data from adjacent sampling sites on the same beach are combined. For sites with both tributary mouth stations and BEACH stations, data from each station are assessed separately and the results considered using best professional judgment to make an assessment decision. For sites with only tributary mouth samples, the data are assessed against the coastal recreation water standards. Streams tributary to Lake Superior with bacteria data at stations upstream of the mouth are assessed as stream AUIDs using the statewide water quality standards and methodology in part A. above.

The overall use support assessment also requires best professional judgment to consider and integrate information regarding the timing, frequency, magnitude, and duration of exceedances along with other conditions present at the time of sampling. These longer term use support assessments based on several years of data are distinguished from the short term beach advisory postings (water contact not recommended) that are based only on current 'real-time' data.

C. Lake eutrophication

Excessive nutrient loads, in particular total phosphorus (TP), lead to increased algae blooms and reduced transparency – both of which may significantly impair or prohibit the use of lakes for aquatic recreation. The ecoregion-based eutrophication standards are the primary basis for aquatic recreational use assessments in lakes.

1. Waterbody classification and ecoregion determination

As the eutrophication standards are specific to ecoregion and lake depth, a number of steps are required to be completed prior to the actual assessment of the waterbody. Statue defines lake, shallow lake, reservoir, and wetland (Minn. R. ch. 7050.0150). The determination between the four requires an analysis of basin depth and littoral area. Additionally, a series of questions was developed to help make the differentiation between shallow lake and wetland. These can be found in Appendix A. This step includes a desktop review using GIS and available morphometric data and may include a site visit, if the decisions cannot be made from this review. Decisions are recorded and stored in the assessment database for future reference.

Reservoirs with residence times less than 14 days will not be assessed as lakes, per EPA guidance (EPA 200a, Kennedy 2001). For this purpose, residence times are usually determined under conditions of low flow. A mean flow for the four-month summer season (June – September) with a once in 10 year recurrence interval is normally used. The MPCA may establish a minimum residence time of less than 14 days on a site-specific basis if credible scientific evidence shows that a shorter residence time is appropriate for that reservoir.

The majority of the lakes in the state (98 percent) reside in four of the seven ecoregions (EPA Omernik Level III ecoregions). The remaining 2 percent of lakes reside in one of three ecoregions: Red River Valley, Northern Minnesota Wetlands, and the Driftless Area (Heiskary and Wilson 2005). Percent land use by categories (forest, pasture/open, cultivated, urban, water/wetland) are calculated for the lake watershed using the most recent national land cover dataset. These percentages are then compared to the breakdown of land use for the standards development dataset to see which ecoregion is more similar to the lake in question. The next step involves comparing morphometry of the lake basin (large, small, deep, shallow); different ecoregions have different lake characteristics. This data is used together to determine the proper ecoregion-based standard to address these lakes that do not fall in the ecoregions for which criteria have been developed.

2. Data requirements and determination of use assessment

a) Minimum data requirements

Samples must be collected over a minimum of 2 years and data used for assessments must be collected from June to September. Typically, a minimum of 8 individual data points for TP, corrected chlorophyll-*a* (chl-*a* corrected for pheophytin), and Secchi are required.

b) Lake assessment determinations

Data used for phosphorus and chlorophyll-*a* calculations are limited to those collected from the upper most 3 meters of the water column (surface). If more than one sample is collected in a lake per day, these values are averaged to yield a daily average value. Following this step, all June to September data for the 10-year assessment window are averaged to determine summer-mean values for TP, corrected chl-*a*, and Secchi depth. These values are then compared to the standards and the assessment is made (Table 10).

Lakes where TP and at least one of the response variables (corrected chl-*a* or Secchi) exceed the standards are considered impaired. For lakes with excellent data quality (2+ years of data) and where all parameters are better than the standards, an assessment of full support is made. Lakes with good quality data (1 year data plus Secchi trends) may be considered for full support assessment as well. In this case the assessment thresholds have been adjusted by 20 percent (made more stringent) and lakes with good quality data that meet these thresholds will be considered fully supporting. This modification of the thresholds provides a margin of safety to assure that lakes with lesser amounts of data are supporting the beneficial use.

For lakes that do not meet minimum data requirements and use support cannot be determined, a determination of insufficient data will be made. In some instances, a lake may have good or excellent quality data but only one of the thresholds is exceeded (e.g., TP or corrected chl-*a* or Secchi), while the other two are in compliance with the standards. In this instance, the lake will be considered to have insufficient data to determine impairment.

c) Reservoirs and other special situations

Sampling design and assessments for aquatic recreational use for reservoirs may be different from those used for lakes. Since reservoirs typically exhibit distinct zones, often referred to as inflow segment, transitional segment, and near-dam segment, calculation of “whole reservoir” mean TP may not be an appropriate basis for assessing aquatic recreational use. Rather, the MPCA may evaluate the status of the reservoir based on a specific segment – most likely the near-dam segment. Also, water residence time may vary substantially as a function of river flow (e.g., Lake Pepin, Heiskary and Walker 1995) and may influence algal response to available nutrients. In addition, reservoirs often have very large watersheds that may drain portions of one or more ecoregion. Hence ecoregion-based standards based on where the reservoir is located may not always be the best basis for evaluating use support.

Lakes with distinct bays, such as Lake Minnetonka, may present a similar situation. The bays (basins) may need to be assessed on an individual basis (data is stored by specific basin, not by whole lake). In some instances a single bay may exceed the listing thresholds while other bays in the lake do not. In this case it should be determined whether the entire lake should be listed (e.g., there is distinct interaction between the bays) or simply the individual bay. This will likely require knowledge of flow-through patterns in the lake and assistance from local cooperators to make an appropriate determination.

Table 9. Lake eutrophication standards for aquatic recreation use assessments.

Ecoregion	TP	Chl-a	Secchi
	ppb	ppb	meters
NLF – Lake trout (Class 2A)	< 12	< 3	> 4.8
NLF – Stream trout (Class 2A)	< 20	< 6	> 2.5
NLF – Aquatic Rec. Use (Class 2B)	< 30	< 9	> 2.0
NCHF – Stream trout (Class 2a)	< 20	< 6	> 2.5
NCHF – Aquatic Rec. Use (Class 2b)	< 40	< 14	> 1.4
NCHF – Aquatic Rec. Use (Class 2b) Shallow lakes	< 60	< 20	> 1.0

WCBP & NGP – Aquatic Rec. Use (Class 2B)	< 65	< 22	> 0.9
WCBP & NGP – Aquatic Rec. Use (Class 2b) Shallow lakes	< 90	< 30	> 0.7

IX. Protection of Limited Resource Value Waters (Class 7)

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. These waters are specifically listed in rule (Minn. R. ch. 7050.0470) and are 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.

Standards for limited resource value waters include the following:

- *Escherichia (E.) coli*: Not to exceed 630 organisms per 100 mL as a geometric mean of not less than five samples representative of conditions within any calendar month, nor shall more than 10 percent of all samples taken during any calendar month individually exceed 1260 organisms per 100 mL. The standard applies between May 1 and October 31. Assessment methodology is described in detail in Section VIII.A.
- Dissolved Oxygen: At concentrations which will avoid odors or putrid conditions or at concentrations not less than 1 mg/L as a daily average, provided that measurable concentrations are present at all times.
- pH: minimum value 6.0 maximum value 9.0
- Toxic pollutants not allowed in such quantities or concentrations that will impair the specified uses.

Application of toxic standards to Class 7 waters for assessment purposes includes applying the Maximum Standard (MS) for most pollutants or 100 times the Chronic Standard (CS), whichever is lower (Minn. R. ch. 7050.0222, subp. 7, item E). However, for bioaccumulative pollutants (BCF>5000) the CS would apply. Because Class 7 waters may be used by game fish for spawning and/or maintaining minnow populations during brief periods in the spring, a special protection against bioaccumulative pollutants is needed.

X. Removal of Waterbodies from the 303(d) List

There are four basic ways in which waterbodies are removed from the 303(d) List:

1) If, during subsequent monitoring or the development of the TMDL study, new and reliable data or information indicates that the waterbody is no longer impaired and is meeting water quality standards. Such a waterbody would be de-listed before a TMDL plan was completed.
2) If a TMDL assessment and preliminary plan for reducing the sources of pollution is completed and approved by the EPA.
3) If the sources of impairment are determined to be not caused by a pollutant or non-anthropogenic in origin.
4) If it was determined that a reach was placed on the list in error.

It is important to note that in scenarios 2 and 3 above, the waterbody is still impaired and still appears on the Impaired Waters Inventory (until such time as the waterbody supports all its beneficial uses), but because a TMDL study is not required that waterbody is not included on the 303(d) List. The following paragraphs provide more details on the four scenarios for 303(d) List delisting.

A. Waterbody no longer impaired

In general, waterbodies will be assessed and listing or de-listing decisions will be made using the methods described in this Guidance. In practice, there will usually be more data available for the "de-listing" assessment than was available for the "listing" assessment. New and old data will be considered together in the re-assessments, unless tangible improvements of sufficient dimension to change impairment status have taken place in the reach, in which case only new data will be used in the de-listing assessment. Improvements could include implementation of best management practices to reduce nonpoint sources, improvements in wastewater treatment, or some combination of nonpoint and point source reductions. If the new data show the waterbody to be un-impaired, the MPCA will recommend that the waterbody be de-listed.

All de-listing decisions are subject to review by the appropriate watershed assessment and professional judgment teams (see Section III.) or the delisting committee for waters outside of the watersheds being assessed that year. Information about watershed improvements should be brought to the watershed assessment and professional judgment team or delisting committee for consideration. The MPCA will make a final determination on whether a water can be considered no longer impaired, and should be submitted to the EPA for de-listing.

It is essential that data used in the de-listing assessment be collected under appropriate conditions. For dissolved oxygen and for pollutants with toxicity- and human health-based water quality standards, data should be from observations taken during critical conditions, i.e. those conditions most likely to result in exceedances of the standard. For example, if a waterbody was listed as impaired because of low dissolved oxygen, the measurements used to support de-listing would likely need to be collected in the early morning (generally no later than two hours after sunrise, so as to reflect the daily minimum) during periods of very low flow. For other pollutants, data should be from observations that provide an accurate representation of the overall period of time under consideration and are not biased by, for example, being collected only during a certain season or under certain flow conditions.

The following is a summary of the specific data and assessment requirements needed to consider removing a waterbody from the 303(d) List, impaired because of exceedances of numeric standards:

Turbidity must have:

- at least 20 observations (new and old data) in the most recent 10 years, of which at least 10 observations (new and old data) are in the most recent 5 years
- at least 20 observations (new data) in the most recent 5 years, and evidence of action in the watershed of sufficient dimension to change impairment status, and in either case, there must be fewer than 10 percent of samples exceeding the water quality standard

Dissolved Oxygen must have:

- at least 20 observations (new and old data) in the most recent 10 years, of which at least 10 observations (new and old data) are in the most recent 5 years, or at least 20 observations (new data) in the most recent 5 years, and evidence of action in the watershed of sufficient dimension to change impairment status
- in either case, there must be fewer than 10 percent of samples exceeding the water quality standard

Un-ionized Ammonia and Chloride must have:

- at least 5 observations (new and old data) for any 3-year interval in the most recent 10 years, or
- at least 5 observations (new data) for any 3-year interval in the most recent 5 years, and evidence of action in the watershed of sufficient dimension to change impairment status
- in either case, no more than one exceedance of the chronic water quality standard in any 3-year interval (chronic standard is a 4-day average)

Mercury, water column data must have:

- at least 5 observations for any 3-year interval in the most recent 10 years
- no more than one exceedance of the chronic water quality standard in any 3-year interval (chronic standard is a 30-day average)

***E. coli* bacteria** must have for step two:

- at least 15 observations over a two year period in the most recent 10 years
- A minimum of five values per month for at least three months when the standard is applicable (i.e. April – October), preferably between June and September – data are combined for each month over most recent 10 years, unless there are a sufficient number of observations to aggregate data by month over consecutive two year time periods or to calculate individual monthly or 30 day geometric means
- A minimum of five values per month for at least three months when the standard is applicable (i.e. April – October), preferably between June and September – data are combined for each month over most recent years since corrective actions were taken in the watershed of sufficient dimension to change impairment status, unless there are a sufficient number of observations to aggregate data by month over consecutive two year time periods or to calculate individual monthly or 30 day geometric means
- in either case, no exceedance of the monthly mean standard (126 organisms per liter) by the geometric mean in any of those months for 10 year aggregated data or less than 10 percent of months exceed the standard for two year aggregated or individual monthly or 30 day geometric means

- in either case, fewer than 10 percent of sample observations exceed “maximum” standard (126 organisms per liter)

Lake nutrient eutrophication must have:

- At least 8 paired TP, corrected chl-*a*, and Secchi measurements (June to September) over a minimum of 2 years for the most recent 10 years
- If TP meets the standard, and either chl-*a* or Secchi meet the standard, the lake will be removed from the TMDL List.
- If TP exceeds the standard and corrected chl-*a* and Secchi meet the standard, and an improving trend in TP is observed or management activities are in place to maintain improved chl-*a* or Secchi observations, the lake may be delisted. This will require the local entity to provide information that details how the response conditions will be met over time.

Streams with impaired aquatic communities can be de-listed if additional bio-monitoring indicates that the community is no longer impaired when compared to the threshold IBI. Streams listed as impaired using the earlier narrative IBIs (Karr et al. 1986) can be de-listed using the same narrative IBIs if watershed-specific, reference site-based, IBIs have not been determined for that reach. Otherwise, streams will be de-listed using the reference site-based threshold IBIs (in Section V.B.).

Lakes and rivers listed as impaired because of fish tissue contaminants will be de-listed when additional sampling and analysis show that the fish tissue concentrations, by species and size class, are below 0.2 mg/kg (ppm) for either mercury or PCBs (in Section VI).

B. EPA-approved TMDL plan

The second major way waters are removed from the 303(d) List is through the completion of the TMDL study. Under the current federal TMDL regulation, the TMDL process must progress through the step where an EPA-approved plan is in place that indicates in general how the river reach or lake is to be brought back into compliance with water quality standards. That is, under current EPA regulations, the waterbody does not need to be brought back to an un-impaired condition to be de-listed. Irrespective of this EPA regulation, the MPCA is committed, with the help of local entities, to improving the water quality in all impaired waters so beneficial uses are restored, where restoration is possible. To that end an AUID that has an approved TMDL plan for a pollutant no longer appears on the 303(d) List, but it remains on the Inventory of Impaired Waters until it is no longer impaired.

C. Waterbody impaired because of a non-pollutant including natural causes/conditions

A third pathway for removing a waterbody from the impaired waters list is to determine that there are only non-pollutant sources contributing to the impairment. These sources might include changes to the waterbody such as dams, impoundments or other anthropogenic factors affecting stream connectivity or flow, or are due to natural conditions with essentially no anthropogenic sources contributing to the impairment. According to EPA’s Consolidated Assessment and Listing Methodology, these waters are impaired but no TMDL pollution reduction study plan is required.

D. List correction

If a waterbody was placed on the list in error either by a wrong AUID being assigned to the data or due to an update in a standard or methodology that would not have caused an initial listing, the reach will be removed from the list as a correction.

XI. Sources of Information and MPCA Contacts

The readers of this document are encouraged to access the sources of information listed in this section. Included are e-mail addresses and phone numbers of MPCA staff that work in areas relevant to the protocols and procedures in this Guidance. They are listed alphabetically by subject area. Also provided are some pertinent websites, listed by agency.

A. MPCA staff

1. 303(d) List, general questions and comments: Miranda Nichols at miranda.nichols@state.mn.us or 651-757-2614
2. Integrated Assessment [ADB] coordinator: Douglas Hansen at douglas.hansen@state.mn.us or 651-757-2406
3. Integrated narrative report, preparation: Miranda Nichols at miranda.nichols@state.mn.us or 651-757-2614
4. Basin or watershed planning questions: Glenn Skuta at glenn.skuta@state.mn.us or 651-757-2730
5. Biological impairment: Scott Niemela at scott.niemela@state.mn.us or 218-828-6076
6. Citizen lake monitoring program: Shannon Martin at shannon.martin@state.mn.us or 651-757-2874
7. Citizen stream monitoring program: Laurie Sovell at laurie.sovell@state.mn.us or 651-757-2750
8. Effluent limits for toxic pollutants and temperature standard for cold water fisheries: Dann White dann.white@state.mn.us or 651-757-2820
9. Fish consumption advice: Minnesota Department of Health at 800-657-3908. Patricia McCann at patricia.mccann@state.mn.us
10. Lake eutrophication methodology: Pam Anderson at pam.anderson@state.mn.us or 651-757-2190
11. Limited Resource Value Waters (Class 7): Carol Sinden at carol.sinden@state.mn.us or 651-757-2727
12. Monitoring and data management: Miranda Nichols at miranda.nichols@state.mn.us or 651-757-2614
13. Quality assurance and quality control for surface water sampling and analysis: Roger Fisher at roger.fisher@state.mn.us or 651-757-2360
14. TMDL process, general questions and comments: Jeff Risberg at jeff.risberg@state.mn.us or 651-757-2670. Celine Lyman at celine.lyman@state.mn.us or 651-757-2541
15. Water quality data for specific waterbodies: Lynda Nelson at lynda.nelson@state.mn.us or 651-757-2601
16. Water quality standards: Angela Preimesberger at angela.preimesberger@state.mn.us or 651-757-2656

All MPCA staff can also be reached toll free at 800-657-3864 or 651-296-6300 in the Twin Cities Metropolitan Area.

B. Websites

The MPCA and other agencies maintain a number of websites that provide information on aspects covered in this Guidance; some of the more pertinent sites are listed below:

1. MPCA websites

The MPCA home page is at http://www.pca.state.mn.us. From this site the reader can link to all the MPCA websites listed below and many more.

1. Water quality standards, water quality rules, and general information: http://www.pca.state.mn.us/water/standards/index.html
2. 305(b) Report:

   Rivers: http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/streams-and-rivers/305b-assessments-of-stream-conditions-in-minnesotas-major-river-basins.html. Lakes: http:// www.pca.state.mn.us/water/basins/305blake.html
3. Lake protection, including Citizen Lake Monitoring Program and lake water quality:

   http:// www.pca.state.mn.us/water/lake.html
4. MPCA Quality Management Plan. Provides guidance on monitoring and data management, approved by the EPA: http://www.pca.state.mn.us/index.php/view-document.html?gid=19485
5. Phosphorus strategy: http:// www.pca.state.mn.us/water/phosphorus.html
6. Quality assurance and quality control requirements for water quality sampling and data assessment for lakes and streams: http://www.pca.state.mn.us/index.php/about-mpca/mpca-overview/agency-strategy/mpca-quality-system.html
7. TMDLs and the 303(d) List: http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/impaired-waters-list.html
8. Watersheds and basin management: http://www.pca.state.mn.us/water/basins/index.html
9. Data Access Website with environmental data on surface waters statewide: http://cf.pca.state.mn.us/water/watershedweb/wdip/search_more.cfm

2. Minnesota Department of Health websites, fish consumption advice

1. Fish consumption advice, general: http://www.health.state.mn.us/divs/eh/fish/
2. Site-specific advice: http://www.health.state.mn.us/divs/eh/fish/eating/sitespecific.html

3. EPA websites

The EPA main office in Washington D.C. maintains many relevant websites; their home page for water related topics is: http://www.epa.gov/owow/. The EPA Region 5 office in Chicago has their own relevant websites; their home page for water is: http://www.epa.gov/r5water/. Minnesota is in EPA Region 5.

1. EPA Region 5, TMDLs: http://www.epa.gov/r5water/wshednps/watersheds.html#tmdls
2. EPA Region 5, water quality monitoring and assessment: http://www.epa.gov/r5water/

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XIII. Appendices

Appendix A. Lake, shallow lake, and wetland differentiation

Some of the factors used to separate lakes, shallow lakes, and wetlands are as follows:

Factor	Lakes	Shallow lakes	Wetlands
Protected Waters Inventory Code	Typically coded as "L or LP" in PWI	May be coded as either "L, LP or LW" in PWI	Typically coded as a "LW" in PWI
Depth, maximum	Typically >15 feet	Typically < 15 feet	Typically < 7 feet
Littoral area	Typically <80%	Typically >80%	Typically 100%
Area (minimum)	> 10 acres (Bulletin 25)	> 10 acres (Bulletin 25)	No minimum
Thermal stratification (summer)	Stratification common but dependent upon depth, size and fetch	Typically do not thermally stratify	Typically do not stratify.
Fetch	Significant fetch depending on size & shape	Fetch is variable depending on size & shape	Rarely has a significant fetch
Substrate	Consolidated sand/silt/gravel	Consolidated to mucky	Mucky to unconsolidated
Shoreline features	Generally wave formed, often sand, gravel or rock	Generally wave formed, often sand, gravel or rock	Generally dominated by emergents
Emergent vegetation & relative amount of open water	Shoreline may have ring of emergents; vast majority of basin open water.	Emergents common, may cover much of fringe of lake; basin often has high percentage of open water.	Emergents often dominate much of basin; often minimal open water.
Submergent vegetation	Common in littoral fringe, extent dependent on transparency	Abundant in clear lakes; however may be lacking in algal-dominated turbid lakes.	Common unless dominated by an emergent like cattail.
Dissolved Oxygen	Aerobic epilimnion; hypolimnion often anoxic by midsummer	Aerobic epilimnion but wide diurnal flux possible	Diurnal flux & anaerobic conditions common
Fishery	Typically managed for a sport/game fishery. May be stocked. MDNR fishery assessments typically available.	May or may not be managed for a sport fishery. If so, fishery assessment should be available. Winter aeration often used to minimize winterkill potential.	Typically not managed for a sport fishery. Little or no MDNR fishery information. Seldom aerated May be managed to remove fish & promote waterfowl.
Uses	Wide range of uses including boating, swimming, skiing, fishing; boat ramps & beaches common	Boating, fishing, waterfowl production, hunting, aesthetics; limited swimming; may have boat ramp, beaches uncommon	Waterfowl & wildlife production, hunting, aesthetics. Unimproved boat ramp if any. No beaches.

Appendix B. State Overall and Beneficial Use reporting categories

Category/ Subcategory	Description
1	All designated uses are fully assessed and met, and no use is threatened.
2	Some uses or parameters are met, but insufficient data to determine if remaining uses or parameters are met.
3A	No data or information to determine if any designated use is attained.
3B	Data are available for a review and generally indicate non-support, but insufficient data and information to determine TMDL impairment. (Example: single lake data point showing non-support)
3C	Data available that currently has no assessment tools to allow its use in assessing. (Example: data with only eco-region expectation standards)
3D	Data are available for a review and generally indicate full support, but insufficient data and information to assess for category 1 or 2.
3E	Data are available for a review, but insufficient data and information to determine full support or TMDL impairment. (Example: lake data just below the threshold showing non-support)
4A	Impaired or threatened but all needed TMDL plans have been completed.
4B	Impaired or threatened but doesn't require a TMDL plan because it is expected to attain standards within a reasonable period of time.
4C	Impaired or threatened but doesn't require a TMDL plan because impairment not caused by a pollutant.
4D	Impaired or threatened but doesn't require a TMDL plan because the impairment is due to natural conditions with only insignificant anthropogenic influence. To be considered "insignificant," the elimination of the anthropogenic influence would not lead to the attainment of water quality standards and it would not be included in formal pollution reduction goal-setting activities. A reach-specific water quality standard based on local natural conditions has yet to be determined. Upon determination, the assessment unit will be considered non-impaired for the natural conditions and re-categorized to an appropriate category.
4E	Impaired or threatened but existing data strongly suggests a TMDL plan is not required because impairment is solely a result of natural or non-pollutant sources; a final determination of Category 4C or 4D will be made in the next listing cycle pending confirmation from additional information (i.e. water quality or land use).
5A	Impaired or threatened by multiple pollutants and no TMDL plans approved.
5B	Impaired by multiple pollutants and either some TMDL plans are approved but not all or at least one impairment is the result of natural conditions.
5C	Impaired or threatened by one pollutant.

In addition, the state may use the following categories as well as some of those above when defining a state cause category.

4X	Preliminary new impairment parameter pending EPA approval of next draft 303(d) List.
5	Use assessment indicates an impaired status and no TMDL plan has been completed.
5X	Preliminary new impairment parameter pending EPA approval of next draft 303(d) List.

Appendix C. Supplemental information on biological assessment in Minnesota

Basis for assessment of biological community – narrative standards

The basis for assessing the biological community for impairment is the narrative water quality standards and assessment factors in Minn. R. ch. 7050.0150. The most relevant part, Minn. R. ch. 7050.0150, subp. 6 is quoted below:

> *Subp. 6. Impairment of biological community and aquatic habitat. In evaluating whether the narrative standards in subpart 3, which prohibit serious impairment of the normal fisheries and lower aquatic biota upon which they are dependent and the use thereof, material alteration of the species composition, material degradation of stream beds, and the prevention or hindrance of the propagation and migration of fish and other biota normally present, are being met, the commissioner will consider all readily available and reliable data and information for the following factors of use impairment:*
>
> *A. An index of biological integrity calculated from measurements of attributes of the resident fish community, including measurements of:*
>
> *1) species diversity and composition;*
> *2) feeding and reproduction characteristics; and*
> *3) fish abundance and condition.*
>
> *B. An index of biological integrity calculated from measurements of attributes of the resident aquatic invertebrate community, including measurements of:*
>
> *1) species diversity and composition;*
> *2) feeding characteristics; and*
> *3) species abundance and condition.*
>
> *C. An index of biological integrity calculated from measurements of attributes of the resident aquatic plant community, including measurements of:*
>
> *1) species diversity and composition, including algae; and*
> *2) species abundance and condition.*
>
> *D. A quantitative or qualitative assessment of habitat quality, determined by an assessment of:*
>
> *1) stream morphological features that provide spawning, nursery, and refuge areas for fish and invertebrates;*
> *2) bottom substrate size and variety;*
> *3) variations in water depth;*
> *4) sinuosity of the stream course;*
> *5) physical or hydrological alterations of the stream bed including excessive sedimentation;*
> *6) types of land use in the watershed; and*
> *7) other scientifically accepted and valid factors of habitat quality.*
>
> *E. Any other scientifically objective, credible, and supportable factors.*
>
> *A finding of an impaired condition must be supported by data for the factors listed in at least one of items A to C. The biological quality of any given surface water body will be assessed by comparison to the biological conditions determined for a set of reference water bodies which best represents the most natural condition for that surface water body type within a geographic region.*

Additional language supporting the use of narrative water quality standards in wetlands is found in Minn. R. ch. 7050.0222, subp. 6, which defines the protection of Class 2D waters (wetlands) as follow:

> *"The quality of Class 2D wetlands 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. This class of surface water is not protected as a source of drinking water. …"*

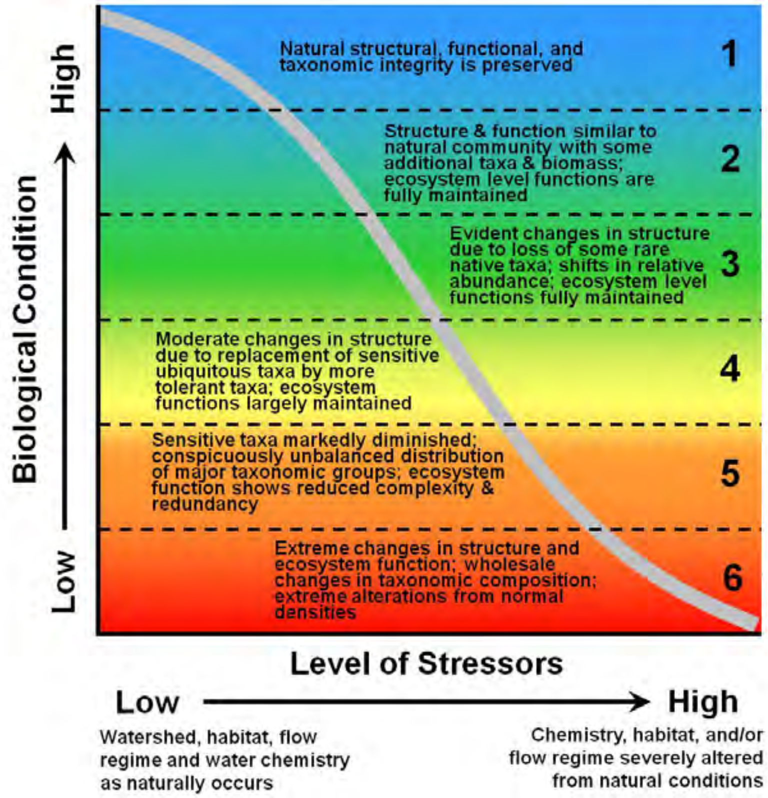
The aquatic life use support assessment methodology described in this Guidance fully supports this narrative standard and protects the biological integrity of rivers, streams, and wetlands by:

- measuring attainment directly through sampling of the aquatic biota
- controlling biological and sampling variability through regionalization, classification and strict adherence to sampling protocol
- establishing impairment thresholds based on data collected from reference (least-disturbed) waters of the same class
- incorporating a confidence limit (based on the repeatability of the IBI) to account for variability within the aquatic community because of natural spatial and temporal differences and sampling or method errors

Biological Condition Gradient

The Biological Condition Gradient (BCG) is a conceptual model of aggregated biological knowledge used to describe changes in biological communities along a gradient of increasing stress. This model is based on a combination of ecological theory and empirical knowledge. A number of indices have been developed to measure the biological condition in aquatic systems (e.g., IBI, RIVPACS; Karr et al. 1986, Hawkins et al. 2000, Whittier et al. 2007), but these measures are based on the available conditions that are used to develop the models. The BCG differs from these in that it provides a common "yardstick" of biological condition that is rooted in the natural condition. As a result, the BCG can be used to develop biocriteria that are consistent across regions and stream types in Minnesota. This is particularly important for a state such as Minnesota where the range of conditions are regionally distinct and extreme (i.e., relatively pristine to degraded). The BCG divides biological condition into six levels that are intended to be manageable and useful for water quality managers (see BCG model below). More detailed descriptions of the BCG can be found in EPA (2005) and Davies and Jackson (2006).

The development of the BCG models for warmwater rivers and streams involved input from biological experts from the MPCA and Minnesota DNR familiar with aquatic communities in Minnesota. BCG models were developed for fish and macroinvertebrates for each of the 7 warmwater stream classes. A coldwater BCG was also developed and involved experts from Minnesota, Wisconsin, Michigan, and several tribes. In Minnesota this included 2 classes each for fish and macroinvertebrates. Model development for each class involved reviewing biological community data from monitoring sites and then assigning that community to a BCG level (1-6). A sufficient number of samples were assessed to develop a model which can duplicate the panel's BCG level assignments. This model was then used to assign BCG levels to all monitoring sites in MPCA's biological monitoring database.



Selection of Reference Sites for Rivers and Streams

Minnesota has developed an index to measure *a priori* the degree of human disturbance at a stream class called the Human Disturbance Score (HDS). The HDS includes both watershed and reach level measures of human disturbance which when combined have a maximum score of 81 (see Table 1 below). Reference sites for streams were identified as those with an HDS score of 61 or greater (i.e., a 25 percent decline from the maximum score). Reference sites for rivers (drainage area >300-500 mi^2 depending on the class; Fish classes 1 and 4, Macroinvertebrate classes 1 and 2) were identified as those with an HDS score of 45 or greater (i.e., a 45 percent decline from the maximum score). The difference in HDS thresholds between different stream size classes was due to differences in how HDS scores relate to local biological condition. At equivalent HDS scores large rivers often perform better than small streams. This is in part due to the fact that the HDS uses several landscape measures that may reflect human activities far up in the watershed that have a reduced impact on the biological communities far downstream. Once sites were selected based on their HDS score, an additional filter was applied to remove sites disparately influenced by nearby stressors. All sites in close proximity to urban areas (site within or adjacent to urban area), feedlots (feedlot at or immediately upstream of site [only streams >50 mi^2]), or point sources (continuous point source <5 mi upstream of site) were removed. The remaining sites (i.e., those meeting the HDS threshold and meeting the proximity criteria) were considered to be minimally or least disturbed and therefore representative of attainment of Minnesota's aquatic life use goals. Reference sites were selected from each of the fish and macroinvertebrate classes and depending on the overall condition, the 25th or 10th percentile of IBI scores was determined. Northern and statewide stream classes used the 10th percentile due to the relatively good condition of these streams. The overall poorer condition of the southern stream classes necessitated the use of the 25th percentile to determine thresholds (see Table 2 below).

Table 1. Metrics and scoring for Minnesota's Human Disturbance Score.

Human Disturbance Score Metric	Scale	Primary Metric or Adjustment	Maximum Score
Number of animal units per sq km	watershed	primary	10
Percent agricultural land use	watershed	primary	10
Number of point sources per square km	watershed	primary	10
Percent impervious surface	watershed	primary	10
Percent channelized stream per stream km	watershed	primary	10
Degree channelized at site	reach	primary	10
Percent disturbed riparian habitat	watershed	primary	10
Condition of riparian zone	reach	primary	10
Number of feedlots per sq km	watershed	adjustment	-1
Percent agricultural land use on >3% slope	watershed	adjustment	-1
Number of road crossings per sq km	watershed	adjustment	-1 or +1
Percent agricultural land use in 100m buffer	watershed	adjustment	-1
Feedlot adjacent to site	reach (proximity)	adjustment	-1
Point source adjacent to site	reach (proximity)	adjustment	-1
Urban land use adjacent to site	reach (proximity)	adjustment	-1
		Maximum	**81**

Table 2. Percentiles used to determine reference condition thresholds for Fish and Invertebrate IBI Classes (RR = riffle/run, GP = glide/pool).

Class	Class Name	Percentile	Class	Class Name	Percentile
Fish			**Invertebrates**		
1	Southern Rivers	25th	1	Northern Forest Rivers	10th
2	Southern Streams	25th	2	Prairie Forest Rivers	25th
3	Southern Headwaters	25th	3	Northern Forest	10th
4	Northern Rivers	10th	4	Northern Forest	10th
5	Northern Streams	10th	5	Southern Streams RR	25th
6	Northern Headwaters	10th	6	Southern Forest	25th
7	Low Gradient Streams	10th	7	Prairie Streams GP	25th
10	Southern Coldwater	25th	8	Northern Coldwater	10th
11	Northern Coldwater	10th	9	Southern Coldwater	25th

Appendix D. Sources of data used for assessment

Involvement of local units of government and other governmental agencies in the monitoring of water quality is always encouraged, and the MPCA actively seeks data from all sources utilizing appropriate QA/QC. The MPCA solicits data from outside sources through a notice published in the *State Register*.

Analytical labs providing data must be certified under the lab certification program operated by MDH, and the data to be used in assessments should be entered into EQuIS (Environmental Quality Information System). Criteria used to determine whether to use data from other sources are outlined in Volunteer Surface Water Monitoring Guide (MPCA 2003) [http://www.pca.state.mn.us/water/monitoring-guide.html]. A major aspect of monitoring that the MPCA must consider when reviewing outside data for use in assessments is the purpose for which the data were collected. For example, samples collected to characterize "events" such as the effects of storm runoff on a river may not be suitable, if used alone, to characterize the overall water quality of the river. It is important that outside data be used and interpreted correctly.

The screening and entry of data from outside sources into EQuIS can be very labor intensive, and this often becomes a barrier to utilizing "outside" data. Thus, there is a much greater chance that valuable outside data will be used if the outside parties enter the data into EQuIS themselves. In general, data under consideration from any source that has been reviewed and found to satisfy QA/QC requirements will be used in water quality assessments following the priority listed below:

- data collected through the MPCA monitoring programs
- data collections funded by state or federal money (e.g., CWP or LAP data), for which EQuIS entry is required
- data from any source readily accessible through EQuIS
- data in an electronic format from which assessments can be made directly, or in a form easily entered into EQuIS (e.g., data collected by governmental or other major entities that provide monitoring data in places where MPCA has little or no monitoring)
- data in a form amenable to EQuIS entry that fills an important gap in MPCA data
- Minnesota Department of Agriculture water quality data
- Continuous water quality data (e.g., flow, DO, temperature data collected internally or by parties outside the MPCA) accessible through Hydrsta, the MPCA's and MDNR's repository for continuous data

Data obtained through projects the MPCA funds must be the result of a clearly defined and documented purpose and it must satisfy specific data needs. This documentation is called an "information protocol," and it has proven to be very useful to MPCA staff considering the broad range of types and purposes of monitoring programs carried out by agencies and other organizations.

The MPCA may also search out data from sources not amenable to EQuIS entry. Sources of water quality data outside the MPCA that are considered each year for use in water quality assessments include:

- Neighboring states and tribes (found in EPA's STORET data warehouse)
- Metropolitan Council Environmental Services
- United States Geological Survey (found in NWIS)
- Any other source that may be pertinent to that year's assessments

When receiving monitoring data collected by neighboring states and tribes, the MPCA, on a case by case basis, may consider the use of this data in the state's assessment process. Professional judgment groups will consider the proximity of the collection point to Minnesota, including any intervening tributaries between the monitoring location and the Minnesota border that may affect the ability of the monitoring site to represent the Minnesota waterbody. In addition, MPCA staff will use such data where it is made available through our calls for data, but will not actively seek out non-Minnesota-collected data. Data from non-Minnesota sources will have to meet all the existing data standards for consideration in assessments, including entry into EQuIS.

Appendix E. TMDL priority ranking

The MPCA's TMDL priority ranking is reflected in the scheduled target start and end dates for each impairment, as indicated on Minnesota's 303(d) List. Schedules are developed by MPCA's watershed staff located in each regional office, and in consultation with stakeholders. MPCA management analyzes the schedules on a statewide basis and makes final decisions. The schedules are based upon the following ranking criteria:

- Sequencing with the MPCA's intensive watershed schedule,* which initiates monitoring in about eight major watersheds (HUC 8) each year
- The TMDLs are scheduled to be completed within about four years after the initiation of monitoring and as part of Watershed Restoration and Protection Strategies (WRAPs). Each of the state's 81 watersheds will be monitored and WRAP initiated every 10 years.
- TMDL projects that are currently in progress (particularly those that are independent of a scheduled WRAP).
- TMDLs that are scheduled to be started outside of a WRAP due to their unique or complex nature (i.e., toxic impairments like mercury, PCBs and other legacy pollutants).
- Also taken into account in the TMDL scheduling process is the beneficial use, severity of the pollution, regulated dischargers, public interest in the resource, and relative cost and resource requirements of a TMDL.

*The watershed monitoring schedule was established by the MPCA, and was designed to distribute workload as evenly as possible across all basins (1-2 watersheds per basin per year). In addition, watersheds selected for monitoring are based on a number of factors, including local organizational readiness to do the work, amount of data about the watershed, progression of work upstream to downstream, and whether a major TMDL plan was recently completed and there is a desire to delay monitoring until after implementation work has been well established to understand progress. The ultimate goal is to complete the first round of watershed monitoring statewide by 2018.

7050.0218 FOR TOXIC POLLUTANTS: DEFINITIONS AND METHODS FOR DETERMINATION OF HUMAN HEALTH-BASED NUMERIC STANDARDS AND SITE-SPECIFIC NUMERIC CRITERIA FOR AQUATIC LIFE, HUMAN HEALTH, AND FISH-EATING WILDLIFE.

Subpart 1. **Purpose.** The methods in this part and part 7050.0219 meet the objectives in part 7050.0217 and provide the basis for developing human health-based numeric chronic standards and site-specific numeric criteria for aquatic toxicity, human health, and fish-eating wildlife. The agency may also adopt new standards according to Minnesota Statutes, chapter 14, to replace those listed in parts 7050.0220 to 7050.0227 and 7052.0100 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.** The Class 2 and Class 7 numeric water quality standards for toxic pollutants in parts 7050.0220, 7050.0222, 7050.0227, and 7052.0100 do not address all pollutants that may be discharged to surface waters and cause toxic effects. Therefore, methods are established in this part and part 7050.0219 to address on a site-specific basis the discharge into surface waters of toxic pollutants not listed in parts 7050.0220, 7050.0222, 7050.0227, 7052.0100. Class 2 and Class 7 site-specific numeric criteria for toxic pollutants shall be derived by the commissioner using the procedures in this part.

A. A site-specific criterion so derived is specific to the point source being addressed. Any effluent limitation derived from a site-specific criterion under this subpart shall only be required after the discharger has been given notice of the specific proposed effluent limitations and an opportunity to request a hearing as provided in part 7000.1800.

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

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

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

B. "Acute toxicity" means a stimulus severe enough to rapidly induce a response. In toxicity tests, a response is normally observed in 96 hours or less. Acute effects are often measured in terms of mortality or other debilitating effects, represented as LC50s or EC50s, and expressed as concentrations of mass per unit volume, percent effluent, or toxic units.

C. "Adjustment factor, lifetime" or "$AF_{lifetime}$" means the numeric multiplier used to modify the adult-based cancer slope factor for lifetime (70 years standard in risk characterization) exposure based on chemical-specific data.

D. "Adverse effect" means a biochemical change, functional impairment, or pathologic lesion that affects the performance of the whole organism or reduces an organism's ability to respond to an additional environmental challenge.

E. "Age-dependent adjustment factor" or "ADAF" means the default numeric modifiers to the cancer slope factor that account for the increased susceptibility to cancer from early-life exposures to linear carcinogens in the absence of chemical-specific data. For default use, there are three ADAF:

(1) $ADAF_{0<2}$ = 10, for birth up to two years of age;

(2) $ADAF_{2\ to\ <16}$ = 3, for two up to 16 years of age; and

(3) $ADAF_{16+}$ = 1, for 16 years of age and older.

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

G. "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 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.

H. "Bioaccumulative chemical of concern" or "BCC" has the meaning given in part 7052.0010, subpart 4.

I. "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.

J. "Biomagnification" means the increase in tissue concentration of a pollutant in aquatic organisms at successive trophic levels through a series of predator-prey associations, primarily occurring through dietary accumulation. The expression used to quantify this increase is the biomagnification factor or "BMF." For a given water body, the BMF is calculated as:

(1) the ratio of the tissue concentration of a pollutant in a predator at a particular trophic level to the tissue concentration in its prey at the next lower trophic level; or

(2) the ratio estimated from a comparable laboratory model.

K. "Biota-sediment accumulation factor" or "BSAF" means the ratio (in kilogram of organic carbon/kilogram of lipid) of a pollutant's lipid-normalized concentration in tissue of an aquatic organism to its organic carbon-normalized concentration in surface sediment, where:

(1) the ratio does not change substantially over time;

(2) both the organism and its food are exposed; and

(3) the surface sediment is representative of average surface sediment in the vicinity of the organism.

L. "Cancer potency slope factor" or "CSF" means a factor indicative of a chemical's human cancer causing potential and an upper-bound estimate of cancer risk per increment of dose that can be used to estimate cancer risk probabilities for different exposure levels. CSF is expressed in units of cancer incidence per milligram of pollutant per kilogram of body weight-day $(mg/kg\text{-}day)^{-1}$.

M. "Cancer risk level" or "CR" means the probability that daily exposure to a carcinogen over a lifetime may induce cancer. CR refers to an incremental or additional excess cancer risk equal to 1×10^{-5} (1 in 100,000) and is applied with the cancer potency slope factor for single chemicals and for mixtures.

N. "Carcinogen, linear" or "C" means a chemical agent for which, either by a known mode of action or a conservative assumption, the associated cancer risk varies in direct proportion to the extent of exposure and for which there is no risk-free level of exposure. The toxicological value for a C is the cancer potency slope factor. Seventy years is the standard lifetime duration used by United States Environmental Protection Agency in the characterization of lifetime cancer risk.

O. "Carcinogen, nonlinear" or "NLC" means a chemical agent for which, particularly at low doses, the associated cancer risk does not rise in direct proportion to the extent of exposure and for which a threshold level of exposure exists below which there is no cancer risk. For NLC, the reference dose is the toxicological value used as the threshold for cancer risk.

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

Q. "Chronic criterion" or "CC" and "chronic standard" or "CS" mean the highest water concentration or fish tissue concentration of a toxicant or effluent to which aquatic life, humans, or wildlife can be exposed indefinitely without causing chronic toxicity. CC represents a site-specific chronic criterion developed under this part and part 7050.0219 or part 7052.0110. CS represents a chronic standard listed in parts 7050.0220 and 7050.0222 or in part 7052.0100. CC and CS are further distinguished by the organisms they are developed to protect and medium in which they apply:

(1) CC_{tox} or CS_{tox} represent values applied in surface water developed to protect aquatic life from chronic toxicity;

(2) CC_{dfr} or CS_{dfr} represent values applied in surface water based on protecting humans from exposure to the pollutant from drinking water, eating fish, and aquatic recreation;

(3) CC_{fr} or CS_{fr} represent values applied in surface water based on protecting humans from exposure to the pollutant from eating fish and aquatic recreation;

(4) CC_{ft} or CS_{ft} represent values applied in fish tissue based on protecting humans from exposure to the pollutant from eating fish; and

(5) CC_{w} represents values applied in surface water based on protecting wildlife from exposure to the pollutant from eating aquatic organisms.

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

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

T. "Criterion" means a number or numbers established for a pollutant derived under this part or part 7050.0219 or 7052.0110, or issued by the USEPA, to protect aquatic life, humans, or wildlife.

U. "Developmental health endpoint" or "developmental toxicity" means an adverse effect on the developing organism that may result from parental exposure prior to conception, maternal exposure during prenatal development, or direct exposure postnatally until the time of sexual maturation. Developmental toxicity may be detected at any point in the lifespan of the organism. The major manifestations of developmental toxicity include:

(1) death of the developing organism;

(2) structural abnormality;

(3) altered growth; or

(4) functional deficiency.

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

W. "Durations for human health-based algorithms" or "D" means the length of the exposure period under consideration for noncancer and linear cancer algorithms.

(1) The four default D used in developing reference doses and corresponding intake rates are:

(a) acute: a period of 24 hours or less;

(b) short-term: a period of more than 24 hours, up to 30 days;

(c) subchronic: a period of more than 30 days, up to eight years based on application of the less than ten percent standard life expectancy of 70 years for humans; or

(d) chronic: a period of more than eight years.

(2) The default durations for use in the linear cancer algorithms with age dependent adjustment factors are:

(a) two years for the birth up to two-year age group;

(b) 14 years for the two- up to 16-year age group; and

(c) 54 years for the 16- up to 70-year age group.

For any algorithm, use of chemical-specific data to define durations for noncancer or linear cancer algorithms are preferred when acceptable data are available.

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

Y. "Endocrine" or "E" means a change in circulating hormone levels or interactions with hormone receptors, regardless of the organ or organ system affected. Health endpoints with or without the E designation are deemed equivalent, for example, thyroid (E) = thyroid, and must be included in the same health risk index equation.

Z. "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 7053.0215, subpart 1; 7053.0225, subpart 6; and 7053.0245, subpart 1.

AA. "Food chain multiplier" or "FCM" means the ratio of a bioaccumulation factor by trophic level to an appropriate bioconcentration factor. FCM refers to values developed using USEPA models or from available and reliable field studies.

BB. "Frequency" means the number of times a standard can be exceeded in a specified period of time without causing acute or chronic toxic effects on the aquatic community, human health, or fish-eating wildlife.

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

DD. "Health risk index" means the sum of the quotients calculated by identifying all chemicals that share a common health endpoint or are based on linear carcinogenicity and dividing the water or fish tissue concentration for each chemical (measured or statistically derived) by its applicable chronic standard or chronic criterion. To meet the objectives in part 7050.0217, the health risk index must not exceed a value of one. The equations for the risk indices are found in part 7050.0222, subpart 7, items D and E.

EE. "Health risk index endpoint" or "health endpoint" means the general description of toxic effects used to group chemicals for the purpose of calculating a health risk index.

FF. "Intake rate" or "IR" means rate of ingestion, inhalation, or dermal contact, depending on the route of exposure, expressed as the amount of a media taken in, on a per body weight and daily basis, for a specified duration.

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

HH. "Lowest observable adverse effect level" or "LOAEL" means the lowest exposure level that caused a statistically or biologically significant increase in the frequency or severity of adverse effects observed between the exposed population and its appropriate control group.

II. "Magnitude" means the acceptable amount of a toxic pollutant in water or fish tissue expressed as a concentration.

JJ. "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.

KK. "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.

LL. "MDH" means the Minnesota Department of Health.

MM. "Mode of action" or "MOA" means the sequence of key events following pollutant or chemical exposure upon which the toxic outcome depends.

NN. "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. (Publication PB85-227049)

OO. "No observable adverse effect level" or "NOAEL" means the highest exposure level at which there is no statistically or biologically significant increase in the frequency or severity of adverse effects between the exposed population and its appropriate control group.

PP. "Octanol to water partition coefficient" or "K_{ow}" means the ratio of the concentration of a chemical in the octanol phase to its concentration in the aqueous phase of a two-phase octanol to water system after equilibrium of the chemical between the two phases has been achieved. The base 10 logarithm of the K_{ow} or log K_{ow} is used in the calculation of bioaccumulation factors. The log K_{ow} has been shown to be proportional to the bioconcentration potential of lipophilic organic chemicals.

QQ. "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 NOAEL.

RR. "Reference dose" or "RfD" means an estimate of a dose for a given duration to the human population, including susceptible subgroups such as infants, that is likely to be without an appreciable risk of adverse effects during a lifetime. It is derived from a suitable dose level at which there are few or no statistically or biologically significant increases in the frequency or severity of an adverse effect between the dosed population and its associated control group. The RfD includes one or more divisors, applied to the suitable dose level, accounting for:

(1) uncertainty in extrapolating from mammalian laboratory animal data to humans;

(2) variation in toxicological sensitivity among individuals in the human population;

(3) uncertainty in extrapolating from effects observed in a short-term study to effects of long-term exposure;

(4) uncertainty in using a study in which health effects were found at all doses tested; and

(5) uncertainty associated with deficiencies in the available data.

The product of the divisors is not to exceed 3,000 in an RfD used for a chronic standard. The RfD is expressed in units of daily dose as milligrams of chemical per kilogram of body weight-day or mg/kg-day.

SS. "Relative source contribution factor" or "RSC" means the percentage or apportioned amount (subtraction method) of the reference dose for a pollutant allocated to surface water exposures from drinking or incidental water ingestion and fish consumption. In the absence of sufficient data to establish a pollutant- or chemical-specific RSC value, the default RSC is 0.2 or 0.5 as described in part 7050.0219, subpart 5.

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

UU. "Standard" means a number or numbers established for a pollutant or water quality characteristic to protect a specified beneficial use as listed in parts 7050.0221 to 7050.0227. The standard for a toxic pollutant includes the CS, MS, and FAV. Some pollutants do not have an MS or an FAV due to insufficient data. For these pollutants, the CS alone is the standard.

VV. "Toxic effect" means an observable or measurable adverse biological event in an organ, tissue, or system. The designation of health endpoints does not exclude other possible observable or measurable biological events. For the purpose of grouping chemicals and creating a health risk index when multiple chemicals are present, toxic effects may be ascribed to more general health risk index endpoints or health endpoints.

WW. "Toxic pollutant" has the meaning given it in part 7050.0185, subpart 2, item F. Toxic pollutant is used interchangeably in this part and parts 7050.0217, 7050.0219, and 7050.0222, subpart 7, items B to G, with the terms "pollutant" and "chemical."

XX. "Toxic unit" means a measure of acute or chronic toxicity in an effluent. One acute toxic unit (TUa) is the reciprocal of the effluent concentration that causes 50 percent effect or mortality to organisms for acute exposures (100/LC50); one chronic toxic unit (TUc) is the reciprocal of the effluent concentration that causes no observable adverse effect level on test organisms for chronic exposures (100/NOAEL).

YY. "Trophic level" or "TL" means the food web level in an ecosystem that is occupied by an organism or group of organisms because of what they eat and how they are related to the rest of the food web. For example, trophic level 3 in an aquatic ecosystem consists of small fish such as bluegills, crappies, and smelt and trophic level 4 consists of larger carnivorous fish such as walleye, northern pike, and most trout species.

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

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

BBB. "Whole effluent toxicity test" means the aggregate toxic effect of an effluent measured directly by a toxicity test. Effects on tested organisms are measured and expressed as toxic units or percent effluent for both acute and chronic whole effluent toxicity tests.

Subp. 4. **Adoption of USEPA national criteria.** The USEPA establishes aquatic life and human health-based 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 Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses."

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

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

B. The USEPA criteria are adopted, subject to modification as described in this item or item C, for application to 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 part 7050.0425 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, 2C, and 2D criteria.

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

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

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

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

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

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

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

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

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

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

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

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

$A = S(\text{square root of } 0.05) + L$

$FAV = e^A$

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, 2C, and 2D waters, the FAV for these water classes is lower than the FAV for Class 2A waters, the Class 2Bd, 2B, 2C, or 2D FAV will be changed to equal the Class

2A FAV, unless the lower Class 2Bd, 2B, 2C, or 2D FAV is justified based on the available toxicological data.

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

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

C. If the commissioner finds that the information that supports a USEPA criterion is no longer current or complete for reasons including, but not limited to, changes to the relationship between a water quality characteristic and toxicity; the ACR; the weight given to toxicity data for a commercially or recreationally important species; or the human health-based methods; then the commissioner shall evaluate all available information and modify the criterion according to the information and with the objectives in part 7050.0217 and the methods in this part and part 7050.0219. Any effluent limitation determined to be necessary based on site-specific criteria derived under this item shall only be required after the discharger has been given notice to the specific proposed effluent limitations and an opportunity to request a hearing as provided in part 7000.1800.

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

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

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

(2) a freshwater or saltwater crustacean;

(3) a freshwater cladoceran;

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

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

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

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

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

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

D. The MC is the FAV divided by two.

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

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

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

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

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

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

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

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

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

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

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

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

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

(b) a member of one of the following genera in the family Daphnidae: *Daphnia, Ceriodaphnia, Simocephalus*.

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

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

(4) Data for saltwater species shall not be used except for purposes of determining ACRs.

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

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

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

(8) The FAV is calculated by dividing the lowest GMAV by the appropriate factor listed below, depending on the number of GMAVs available that meet the minimum data requirements in subitems (2) and (3) and in item A.

Number of GMAVs	Factor
2	13.0
3	8.0
4	7.0
5	6.1
6	5.2
7	4.3

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

(10) A final ACR is determined as described in item F, except that the default ACR shall be 18 for all chemicals for which this method is applicable as specified in this item.

(11) The CC_{tox} is calculated by dividing the FAV by the appropriate ACR.

(12) If chronic data are available, they are used to determine measured ACR as described in item F, and chronic data are compared to the CC_{tox}.

Subp. 6. [Repealed, 39 SR 1344]

Subp. 7. [Repealed, 39 SR 1344]

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

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

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

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

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

where: CC_w = wildlife 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 and reliable scientific data on the relative sensitivity of the test organism compared to other wildlife species

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

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

BAF = BAF in liters per kg

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

(1) for mammalian species:

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

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

(2) for avian species:

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

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

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

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

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

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

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

Subp. 10. **Applicable criteria or human health-based standard.** The final criteria or chronic standard for human health for toxic pollutants for surface waters must be the lowest of the applicable criteria or standards for human health derived under this part and part 7050.0219.

A. Applicable criteria or standards for human health by use for Class 2A, 2Bd, 2B, 2C, and 2D surface waters are listed for each applicable population protected (aquatic life, humans, and fish-eating wildlife). The applicable criteria or standards for human health must be the lowest of the CC or CS as described in subitems (1) to (3):

(1) for aquatic life toxicity: a CC_{tox} and MC based on toxicity to aquatic organisms from subpart 4 or 5 or a CC_{tox} based on plant toxicity from subpart 4 or 5;

(2) for human health: a CC or CS by medium (water or fish) as described in part 7050.0219, subpart 2, or a concentration that will prevent unacceptable taste or odor in water, fish, or other edible aquatic organisms from subpart 8; or

(3) when available, for fish-eating wildlife: a CC_w from subpart 9.

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

(1) a 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 7050.0140.

C. If the site-specific 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 G, apply.

D. The CS or CC and MS or MC must be averaged over the durations described in part 7050.0222, subpart 7, item C.

Statutory Authority: *MS s 14.06; 115.03; 115.44; 116.07*

History: *15 SR 1057; 18 SR 2195; 19 SR 1310; 24 SR 1105; 32 SR 1699; 39 SR 1344*

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Exhibit 9 is not publicly posted on the MPCA web page due to copyright protection laws. However, the following link is provided for interested parties to access the document in accordance with the respective copyright restrictions. The document may also be available through your local library.

Karr J. R. & D. R. Dudley. (1981) Ecological perspective on water quality goals. Environmental
Management 5: 55-68

http://link.springer.com/article/10.1007/BF01866609

1948, ch. 758, 62 Stat. 1155, and amended by acts July 17, 1952, ch. 927, 66 Stat. 755; July 9, 1956, ch. 518, §§ 1, 2, 70 Stat. 498–507; June 25, 1959, Pub. L. 86–70, 73 Stat. 141; July 12, 1960, Pub. L. 86–624, 74 Stat. 411; July 20, 1961, Pub. L. 87–88, 75 Stat. 204; Oct. 2, 1965, Pub. L. 89–234, 79 Stat. 903; Nov. 3, 1966, Pub. L. 89–753, 80 Stat. 1246; Apr. 3, 1970, Pub. L. 91–224, 84 Stat. 91; Dec. 31, 1970, Pub. L. 91–611, 84 Stat. 1818; July 9, 1971, Pub. L. 92–50, 85 Stat. 124; Oct. 13, 1971, Pub. L. 92–137, 85 Stat. 379; Mar. 1, 1972, Pub. L. 92–240, 86 Stat. 47, and was formerly classified first to section 466 et seq. of this title and later to section 1151 et seq. of this title. The act is shown herein, however, as having been added by Pub. L. 92–500 without reference to such intervening amendments because of the extensive amendment, reorganization, and expansion of the act's provisions by Pub. L. 92–500.

SUBCHAPTER I—RESEARCH AND RELATED PROGRAMS

§ 1251. Congressional declaration of goals and policy

(a) Restoration and maintenance of chemical, physical and biological integrity of Nation's waters; national goals for achievement of objective

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this chapter—

(1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;

(2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;

(3) it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited;

(4) it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works;

(5) it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;

(6) it is the national policy that a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and

(7) it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this chapter to be met through the control of both point and nonpoint sources of pollution.

(b) Congressional recognition, preservation, and protection of primary responsibilities and rights of States

It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter. It is the policy of Congress that the States manage the construction grant program under this chapter and implement the permit programs under sections 1342 and 1344 of this title. It is further the policy of the Congress to support and aid research relating to the prevention, reduction, and elimination of pollution and to provide Federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution.

(c) Congressional policy toward Presidential activities with foreign countries

It is further the policy of Congress that the President, acting through the Secretary of State and such national and international organizations as he determines appropriate, shall take such action as may be necessary to insure that to the fullest extent possible all foreign countries shall take meaningful action for the prevention, reduction, and elimination of pollution in their waters and in international waters and for the achievement of goals regarding the elimination of discharge of pollutants and the improvement of water quality to at least the same extent as the United States does under its laws.

(d) Administrator of Environmental Protection Agency to administer chapter

Except as otherwise expressly provided in this chapter, the Administrator of the Environmental Protection Agency (hereinafter in this chapter called ''Administrator'') shall administer this chapter.

(e) Public participation in development, revision, and enforcement of any regulation, etc.

Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this chapter shall be provided for, encouraged, and assisted by the Administrator and the States. The Administrator, in cooperation with the States, shall develop and publish regulations specifying minimum guidelines for public participation in such processes.

(f) Procedures utilized for implementing chapter

It is the national policy that to the maximum extent possible the procedures utilized for implementing this chapter shall encourage the drastic minimization of paperwork and interagency decision procedures, and the best use of available manpower and funds, so as to prevent needless duplication and unnecessary delays at all levels of government.

(g) Authority of States over water

It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this chapter. It is the further policy of Congress that nothing in this chapter shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.

(June 30, 1948, ch. 758, title I, § 101, as added Pub. L. 92–500, § 2, Oct. 18, 1972, 86 Stat. 816; amended Pub. L. 95–217, §§ 5(a), 26(b), Dec. 27, 1977, 91 Stat. 1567, 1575; Pub. L. 100–4, title III, § 316(b), Feb. 4, 1987, 101 Stat. 60.)

AMENDMENTS

1987—Subsec. (a)(7). Pub. L. 100–4 added par. (7).

1977—Subsec. (b). Pub. L. 95–217, § 26(b), inserted provisions expressing Congressional policy that the States manage the construction grant program under this chapter and implement the permit program under sections 1342 and 1344 of this title.

Subsec. (g). Pub. L. 95–217, § 5(a), added subsec. (g).

SHORT TITLE OF 2008 AMENDMENT

Pub. L. 110–365, § 1, Oct. 8, 2008, 122 Stat. 4021, provided that: ''This Act [amending sections 1268 and 1271a of this title] may be cited as the 'Great Lakes Legacy Reauthorization Act of 2008'.''

Pub. L. 110–288, § 1, July 29, 2008, 122 Stat. 2650, provided that: ''This Act [amending sections 1322, 1342, and 1362 of this title] may be cited as the 'Clean Boating Act of 2008'.''

SHORT TITLE OF 2002 AMENDMENT

Pub. L. 107–303, § 1(a), Nov. 27, 2002, 116 Stat. 2355, provided that: ''This Act [enacting section 1271a of this title, amending sections 1254, 1266, 1268, 1270, 1285, 1290, 1324, 1329, 1330, and 1375 of this title, enacting provisions set out as notes under this section, section 1254 of this title, and section 1113 of Title 31, Money and Finance, and repealing provisions set out as a note under section 50 of Title 20, Education] may be cited as the 'Great Lakes and Lake Champlain Act of 2002'.''

Pub. L. 107–303, title I, § 101, Nov. 27, 2002, 116 Stat. 2355, provided that: ''This title [enacting section 1271a of this title and amending section 1268 of this title] may be cited as the 'Great Lakes Legacy Act of 2002'.''

Pub. L. 107–303, title II, § 201, Nov. 27, 2002, 116 Stat. 2358, provided that: ''This title [amending section 1270 of this title] may be cited as the 'Daniel Patrick Moynihan Lake Champlain Basin Program Act of 2002'.''

SHORT TITLE OF 2000 AMENDMENTS

Pub. L. 106–457, title II, § 201, Nov. 7, 2000, 114 Stat. 1967, provided that: ''This title [amending section 1267 of this title and enacting provisions set out as a note under section 1267 of this title] may be cited as the 'Chesapeake Bay Restoration Act of 2000'.''

Pub. L. 106–457, title IV, § 401, Nov. 7, 2000, 114 Stat. 1973, provided that: ''This title [amending section 1269 of this title] may be cited as the 'Long Island Sound Restoration Act'.''

Pub. L. 106–457, title V, § 501, Nov. 7, 2000, 114 Stat. 1973, provided that: ''This title [enacting section 1273 of this title] may be cited as the 'Lake Pontchartrain Basin Restoration Act of 2000'.''

Pub. L. 106–457, title VI, § 601, Nov. 7, 2000, 114 Stat. 1975, provided that: ''This title [enacting section 1300 of this title] may be cited as the 'Alternative Water Sources Act of 2000'.''

Pub. L. 106–284, § 1, Oct. 10, 2000, 114 Stat. 870, provided that: ''This Act [enacting sections 1346 and 1375a of this title and amending sections 1254, 1313, 1314, 1362, and 1377 of this title] may be cited as the 'Beaches Environmental Assessment and Coastal Health Act of 2000'.''

SHORT TITLE OF 1994 AMENDMENT

Pub. L. 103–431, § 1, Oct. 31, 1994, 108 Stat. 4396, provided that: ''This Act [amending section 1311 of this title] may be cited as the 'Ocean Pollution Reduction Act'.''

SHORT TITLE OF 1990 AMENDMENT

Pub. L. 101–596, § 1, Nov. 16, 1990, 104 Stat. 3000, provided that: ''This Act [enacting sections 1269 and 1270 of this title, amending sections 1268, 1324, and 1416 of this title, and enacting provisions set out as notes under this section and section 1270 of this title] may be cited as the 'Great Lakes Critical Programs Act of 1990'.''

Pub. L. 101–596, title II, § 201, Nov. 16, 1990, 104 Stat. 3004, provided that: ''This part [probably means title, enacting section 1269 of this title and amending section 1416 of this title] may be cited as the 'Long Island Sound Improvement Act of 1990'.''

Pub. L. 101–596, title III, § 301, Nov. 16, 1990, 104 Stat. 3006, provided that: ''This title [enacting section 1270 of this title, amending section 1324 of this title, and enacting provisions set out as a note under section 1270 of this title] may be cited as the 'Lake Champlain Special Designation Act of 1990'.''

SHORT TITLE OF 1988 AMENDMENT

Pub. L. 100–653, title X, § 1001, Nov. 14, 1988, 102 Stat. 3835, provided that: ''This title [amending section 1330 of this title and enacting provisions set out as notes under section 1330 of this title] may be cited as the 'Massachusetts Bay Protection Act of 1988'.''

SHORT TITLE OF 1987 AMENDMENT

Section 1(a) of Pub. L. 100–4 provided that: ''This Act [enacting sections 1254a, 1267, 1268, 1281b, 1329, 1330, 1377, 1381 to 1387, and 1414a of this title, amending this section and sections 1254, 1256, 1262, 1281, 1282 to 1285, 1287, 1288, 1291, 1311 to 1313, 1314, 1317 to 1322, 1324, 1342, 1344, 1345, 1361, 1362, 1365, 1369, 1375, and 1376 of this title, and enacting provisions set out as notes under this section, sections 1284, 1311, 1317, 1319, 1330, 1342, 1345, 1362, 1375, and 1414a of this title, and section 1962d–20 of Title 42, The Public Health and Welfare] may be cited as the 'Water Quality Act of 1987'.''

SHORT TITLE OF 1981 AMENDMENT

Pub. L. 97–117, § 1, Dec. 29, 1981, 95 Stat. 1623, provided that: ''This Act [enacting sections 1298, 1299, and 1313a of this title, amending sections 1281 to 1285, 1287, 1291, 1292, 1296, 1311, and 1314 of this title, and enacting provisions set out as notes under sections 1311 and 1375 of this title] may be cited as the 'Municipal Wastewater Treatment Construction Grant Amendments of 1981'.''

SHORT TITLE OF 1977 AMENDMENT

Section 1 of Pub. L. 95–217 provided: ''That this Act [enacting sections 1281a, 1294 to 1296, and 1297 of this title, amending this section and sections 1252, 1254 to 1256, 1259, 1262, 1263, 1281, 1282 to 1288, 1291, 1292, 1311, 1314, 1315, 1317 to 1319, 1321 to 1324, 1328, 1341, 1342, 1344, 1345, 1362, 1364, 1375, and 1376 of this title, enacting provisions set out as notes under this section and sections 1284, 1286, 1314, 1321, 1342, 1344, and 1376 of this title, and amending provisions set out as a note under this section] may be cited as the 'Clean Water Act of 1977'.''

SHORT TITLE

Section 1 of Pub. L. 92–500 provided that: ''That this Act [enacting this chapter, amending section 24 of Title 12, Banks and Banking, sections 633 and 636 of Title 15, Commerce and Trade, and section 711 of former Title 31, Money and Finance, and enacting provisions set out as notes under this section and sections 1281 and 1361 of this title] may be cited as the 'Federal Water Pollution Control Act Amendments of 1972'.''

Section 519, formerly section 518, of Act June 30, 1948, ch. 758, title V, as added Oct. 18, 1972, Pub. L. 92–500, § 2, 86 Stat. 896, and amended Dec. 27, 1977, Pub. L. 95–217, § 2, 91 Stat. 1566, and renumbered § 519, Feb. 4, 1987, Pub. L. 100–4, title V, § 506, 101 Stat. 76, provided that: ''This Act [this chapter] may be cited as the 'Federal Water Pollution Control Act' (commonly referred to as the Clean Water Act).''

SAVINGS PROVISION

Section 4 of Pub. L. 92–500 provided that:

''(a) No suit, action, or other proceeding lawfully commenced by or against the Administrator or any other officer or employee of the United States in his official capacity or in relation to the discharge of his official duties under the Federal Water Pollution Control Act as in effect immediately prior to the date of enactment of this Act [Oct. 18, 1972] shall abate by reason of the taking effect of the amendment made by section 2 of this Act [which enacted this chapter]. The court may, on its own motion or that of any party made at any time within twelve months after such taking effect, allow the same to be maintained by or against the Administrator or such officer or employee.

''(b) All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to the Federal Water Pollution Control Act as in effect immediately prior to the date of enactment of this Act [Oct. 18, 1972], and pertaining to any functions, powers, requirements, and duties under the Federal Water Pollution Control Act as in effect immediately prior to the date of enactment of this Act [Oct. 18, 1972] shall continue in full force and effect after the date of enactment of this Act [Oct. 18, 1972] until modified or rescinded in accordance with the Federal Water Pollution Control Act as amended by this Act [this chapter].

''(c) The Federal Water Pollution Control Act as in effect immediately prior to the date of enactment of this Act [Oct. 18, 1972] shall remain applicable to all grants made from funds authorized for the fiscal year ending June 30, 1972, and prior fiscal years, including any increases in the monetary amount of any such grant which may be paid from authorizations for fiscal years beginning after June 30, 1972, except as specifically otherwise provided in section 202 of the Federal Water Pollution Control Act as amended by this Act [section 1282 of this title] and in subsection (c) of section 3 of this Act.''

SEPARABILITY

Section 512 of act June 30, 1948, ch. 758, title V, as added Oct. 18, 1972, Pub. L. 92–500, § 2, 86 Stat. 894, provided that: ''If any provision of this Act [this chapter], or the application of any provision of this Act [this chapter] to any person or circumstance, is held invalid, the application of such provision to other persons or circumstances, and the remainder of this Act [this chapter], shall not be affected thereby.''

NATIONAL SHELLFISH INDICATOR PROGRAM

Pub. L. 102–567, title III, § 308, Oct. 29, 1992, 106 Stat. 4286; as amended by Pub. L. 105–362, title II, § 201(b), Nov. 10, 1998, 112 Stat. 3282, provided that:

''(a) ESTABLISHMENT OF A RESEARCH PROGRAM.—The Secretary of Commerce, in cooperation with the Secretary of Health and Human Services and the Administrator of the Environmental Protection Agency, shall establish and administer a 5-year national shellfish research program (hereafter in this section referred to as the 'Program') for the purpose of improving existing classification systems for shellfish growing waters using the latest technological advancements in microbiology and epidemiological methods. Within 12 months after the date of enactment of this Act [Oct. 29, 1992], the Secretary of Commerce, in cooperation with the advisory committee established under subsection (b) and the Consortium, shall develop a comprehensive 5-year plan for the Program which shall at a minimum provide for—

''(1) an environmental assessment of commercial shellfish growing areas in the United States, including an evaluation of the relationships between indicators of fecal contamination and human enteric pathogens;

''(2) the evaluation of such relationships with respect to potential health hazards associated with human consumption of shellfish;

''(3) a comparison of the current microbiological methods used for evaluating indicator bacteria and human enteric pathogens in shellfish and shellfish growing waters with new technological methods designed for this purpose;

''(4) the evaluation of current and projected systems for human sewage treatment in eliminating viruses and other human enteric pathogens which accumulate in shellfish;

''(5) the design of epidemiological studies to relate microbiological data, sanitary survey data, and human shellfish consumption data to actual hazards to health associated with such consumption; and

''(6) recommendations for revising Federal shellfish standards and improving the capabilities of Federal and State agencies to effectively manage shellfish and ensure the safety of shellfish intended for human consumption.

''(b) ADVISORY COMMITTEE.—(1) For the purpose of providing oversight of the Program on a continuing basis, an advisory committee (hereafter in this section referred to as the 'Committee') shall be established under a memorandum of understanding between the Interstate Shellfish Sanitation Conference and the National Marine Fisheries Service.

''(2) The Committee shall—

''(A) identify priorities for achieving the purpose of the Program;

''(B) review and recommend approval or disapproval of Program work plans and plans of operation;

''(C) review and comment on all subcontracts and grants to be awarded under the Program;

''(D) receive and review progress reports from the Consortium and program subcontractors and grantees; and

''(E) provide such other advice on the Program as is appropriate.

''(3) The Committee shall consist of at least ten members and shall include—

''(A) three members representing agencies having authority under State law to regulate the shellfish industry, of whom one shall represent each of the Atlantic, Pacific, and Gulf of Mexico shellfish growing regions;

''(B) three members representing persons engaged in the shellfish industry in the Atlantic, Pacific, and Gulf of Mexico shellfish growing regions (who shall be appointed from among at least six recommendations by the industry members of the Interstate Shellfish Sanitation Conference Executive Board), of whom one shall represent the shellfish industry in each region;

''(C) three members, of whom one shall represent each of the following Federal agencies: the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, and the Food and Drug Administration; and

''(D) one member representing the Shellfish Institute of North America.

''(4) The Chairman of the Committee shall be selected from among the Committee members described in paragraph (3)(A).

''(5) The Committee shall establish and maintain a subcommittee of scientific experts to provide advice, assistance, and information relevant to research funded under the Program, except that no individual who is awarded, or whose application is being considered for, a grant or subcontract under the Program may serve on such subcommittee. The membership of the subcommittee shall, to the extent practicable, be regionally balanced with experts who have scientific knowledge concerning each of the Atlantic, Pacific, and Gulf of Mexico shellfish growing regions. Scientists from the National Academy of Sciences and appropriate Federal agencies (including the National Oceanic and Atmospheric Administration, Food and Drug Administration, Centers for Disease Control, National Institutes of Health, Environmental Protection Agency, and National Science Foundation) shall be considered for membership on the subcommittee.

''(6) Members of the Committee and its scientific subcommittee established under this subsection shall not be paid for serving on the Committee or subcommittee, but shall receive travel expenses as authorized by section 5703 of title 5, United States Code.

"(c) CONTRACT WITH CONSORTIUM.—Within 30 days after the date of enactment of this Act [Oct. 29, 1992], the Secretary of Commerce shall seek to enter into a cooperative agreement or contract with the Consortium under which the Consortium will—

"(1) be the academic administrative organization and fiscal agent for the Program;

"(2) award and administer such grants and subcontracts as are approved by the Committee under subsection (b);

"(3) develop and implement a scientific peer review process for evaluating grant and subcontractor applications prior to review by the Committee;

"(4) in cooperation with the Secretary of Commerce and the Committee, procure the services of a scientific project director;

"(5) develop and submit budgets, progress reports, work plans, and plans of operation for the Program to the Secretary of Commerce and the Committee; and

"(6) make available to the Committee such staff, information, and assistance as the Committee may reasonably require to carry out its activities.

"(d) AUTHORIZATION OF APPROPRIATIONS.—(1) Of the sums authorized under section 4(a) of the National Oceanic and Atmospheric Administration Marine Fisheries Program Authorization Act (Public Law 98–210; 97 Stat. 1409), there are authorized to be appropriated to the Secretary of Commerce $5,200,000 for each of the fiscal years 1993 through 1997 for carrying out the Program. Of the amounts appropriated pursuant to this authorization, not more than 5 percent of such appropriation may be used for administrative purposes by the National Oceanic and Atmospheric Administration. The remaining 95 percent of such appropriation shall be used to meet the administrative and scientific objectives of the Program.

"(2) The Interstate Shellfish Sanitation Conference shall not administer appropriations authorized under this section, but may be reimbursed from such appropriations for its expenses in arranging for travel, meetings, workshops, or conferences necessary to carry out the Program.

"(e) DEFINITIONS.—As used in this section, the term—

"(1) 'Consortium' means the Louisiana Universities Marine Consortium; and

"(2) 'shellfish' means any species of oyster, clam, or mussel that is harvested for human consumption."

LIMITATION ON PAYMENTS

Section 2 of Pub. L. 100–4 provided that: "No payments may be made under this Act [see Short Title of 1987 Amendment note above] except to the extent provided in advance in appropriation Acts."

SEAFOOD PROCESSING STUDY; SUBMITTAL OF RESULTS TO CONGRESS NOT LATER THAN JANUARY 1, 1979

Pub. L. 95–217, §74, Dec. 27, 1977, 91 Stat. 1609, provided that the Administrator of the Environmental Protection Agency conduct a study to examine the geographical, hydrological, and biological characteristics of marine waters to determine the effects of seafood processes which dispose of untreated natural wastes into such waters and to include in this study an examination of technologies which may be used in such processes to facilitate the use of the nutrients in these wastes or to reduce the discharge of such wastes into the marine environment and to submit the result of this study to Congress not later than Jan. 1, 1979.

STANDARDS

For provisions relating to the responsibility of the head of each Executive agency for compliance with applicable pollution control standards, see Ex. Ord. No. 12088, Oct. 13, 1978, 43 F.R. 47707, set out as a note under section 4321 of Title 42, The Public Health and Welfare.

OVERSIGHT STUDY

Section 5 of Pub. L. 92–500 authorized the Comptroller General of the United States to conduct a study and review of the research, pilot, and demonstration programs related to prevention and control of water pollution conducted, supported, or assisted by any Federal agency pursuant to any Federal law or regulation and assess conflicts between these programs and their coordination and efficacy, and to report to Congress thereon by Oct. 1, 1973.

INTERNATIONAL TRADE STUDY

Section 6 of Pub. L. 92–500 provided that:

"(a) The Secretary of Commerce, in cooperation with other interested Federal agencies and with representatives of industry and the public, shall undertake immediately an investigation and study to determine—

"(1) the extent to which pollution abatement and control programs will be imposed on, or voluntarily undertaken by, United States manufacturers in the near future and the probable short- and long-range effects of the costs of such programs (computed to the greatest extent practicable on an industry-by-industry basis) on (A) the production costs of such domestic manufacturers, and (B) the market prices of the goods produced by them;

"(2) the probable extent to which pollution abatement and control programs will be implemented in foreign industrial nations in the near future and the extent to which the production costs (computed to the greatest extent practicable on an industry-by-industry basis) of foreign manufacturers will be affected by the costs of such programs;

"(3) the probable competitive advantage which any article manufactured in a foreign nation will likely have in relation to a comparable article made in the United States if that foreign nation—

"(A) does not require its manufacturers to implement pollution abatement and control programs.

"(B) requires a lesser degree of pollution abatement and control in its programs, or

"(C) in any way reimburses or otherwise subsidizes its manufacturers for the costs of such program;

"(4) alternative means by which any competitive advantage accruing to the products of any foreign nation as a result of any factor described in paragraph (3) may be (A) accurately and quickly determined, and (B) equalized, for example, by the imposition of a surcharge or duty, on a foreign product in an amount necessary to compensate for such advantage; and

"(5) the impact, if any, which the imposition of a compensating tariff of other equalizing measure may have in encouraging foreign nations to implement pollution and abatement control programs.

"(b) The Secretary shall make an initial report to the President and Congress within six months after the date of enactment of this section [Oct. 18, 1972] of the results of the study and investigation carried out pursuant to this section and shall make additional reports thereafter at such times as he deems appropriate taking into account the development of relevant data, but not less than once every twelve months."

INTERNATIONAL AGREEMENTS

Section 7 of Pub. L. 92–500 provided that: "The President shall undertake to enter into international agreement to apply uniform standards of performance for the control of the discharge and emission of pollutants from new sources, uniform controls over the discharge and emission of toxic pollutants, and uniform controls over the discharge of pollutants into the ocean. For this purpose the President shall negotiate multilateral treaties, conventions, resolutions, or other agreements, and formulate, present, or support proposals at the United Nations and other appropriate international forums."

NATIONAL POLICIES AND GOAL STUDY

Section 10 of Pub. L. 92–500 directed President to make a full and complete investigation and study of all national policies and goals established by law to determine what the relationship should be between these policies and goals, taking into account the resources of the Nation, and to report results of his investigation and study together with his recommendations to Congress not later than two years after Oct. 18, 1972.

EFFICIENCY STUDY

Section 11 of Pub. L. 92–500 directed President, by utilization of the General Accounting Office, to conduct a full and complete investigation and study of ways and means of most effectively using all of the various resources, facilities, and personnel of the Federal Government in order to most efficiently carry out the provisions of this chapter and to report results of his investigation and study together with his recommendations to Congress not later than two hundred and seventy days after Oct. 18, 1972.

SEX DISCRIMINATION

Section 13 of Pub. L. 92–500 provided that: ''No person in the United States shall on the ground of sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal assistance under this Act [see Short Title note above] the Federal Water Pollution Control Act [this chapter], or the Environmental Financing Act [set out as a note under section 1281 of this title]. This section shall be enforced through agency provisions and rules similar to those already established, with respect to racial and other discrimination, under title VI of the Civil Rights Act of 1964 [section 2000d et seq. of Title 42, The Public Health and Welfare]. However, this remedy is not exclusive and will not prejudice or cut off any other legal remedies available to a discriminatee.''

CONTIGUOUS ZONE OF UNITED STATES

For extension of contiguous zone of United States, see Proc. No. 7219, set out as a note under section 1331 of Title 43, Public Lands.

PREVENTION, CONTROL, AND ABATEMENT OF ENVIRONMENTAL POLLUTION AT FEDERAL FACILITIES

Ex. Ord. No. 12088, Oct. 13, 1978, 43 F.R. 47707, set out as a note under section 4321 of Title 42, The Public Health and Welfare, provides for the prevention, control, and abatement of environmental pollution at federal facilities.

EXECUTIVE ORDER NO. 11548

Ex. Ord. No. 11548, July 20, 1970, 35 F.R. 11677, which related to the delegation of Presidential functions, was superseded by Ex. Ord. No. 11735, Aug. 3, 1973, 38 F.R. 21243, formerly set out as a note under section 1321 of this title.

EX. ORD. NO. 11742. DELEGATION OF FUNCTIONS TO SECRETARY OF STATE RESPECTING THE NEGOTIATION OF INTERNATIONAL AGREEMENTS RELATING TO THE ENHANCEMENT OF THE ENVIRONMENT

Ex. Ord. No. 11742, Oct. 23, 1973, 38 F.R. 29457, provided:

Under and by virtue of the authority vested in me by section 301 of title 3 of the United States Code and as President of the United States, I hereby authorize and empower the Secretary of State, in coordination with the Council on Environmental Quality, the Environmental Protection Agency, and other appropriate Federal agencies, to perform, without the approval, ratification, or other action of the President, the functions vested in the President by Section 7 of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92–500; 86 Stat. 898) with respect to international agreements relating to the enhancement of the environment.

RICHARD NIXON.

DEFINITION OF ''ADMINISTRATOR''

Section 1(d) of Pub. L. 100–4 provided that: ''For purposes of this Act [see Short Title of 1987 Amendment note above], the term 'Administrator' means the Administrator of the Environmental Protection Agency.''

§ 1252. Comprehensive programs for water pollution control

(a) Preparation and development

The Administrator shall, after careful investigation, and in cooperation with other Federal agencies, State water pollution control agencies, interstate agencies, and the municipalities and industries involved, prepare or develop comprehensive programs for preventing, reducing, or eliminating the pollution of the navigable waters and ground waters and improving the sanitary condition of surface and underground waters. In the development of such comprehensive programs due regard shall be given to the improvements which are necessary to conserve such waters for the protection and propagation of fish and aquatic life and wildlife, recreational purposes, and the withdrawal of such waters for public water supply, agricultural, industrial, and other purposes. For the purpose of this section, the Administrator is authorized to make joint investigations with any such agencies of the condition of any waters in any State or States, and of the discharges of any sewage, industrial wastes, or substance which may adversely affect such waters.

(b) Planning for reservoirs; storage for regulation of streamflow

(1) In the survey or planning of any reservoir by the Corps of Engineers, Bureau of Reclamation, or other Federal agency, consideration shall be given to inclusion of storage for regulation of streamflow, except that any such storage and water releases shall not be provided as a substitute for adequate treatment or other methods of controlling waste at the source.

(2) The need for and the value of storage for regulation of streamflow (other than for water quality) including but not limited to navigation, salt water intrusion, recreation, esthetics, and fish and wildlife, shall be determined by the Corps of Engineers, Bureau of Reclamation, or other Federal agencies.

(3) The need for, the value of, and the impact of, storage for water quality control shall be determined by the Administrator, and his views on these matters shall be set forth in any report or presentation to Congress proposing authorization or construction of any reservoir including such storage.

(4) The value of such storage shall be taken into account in determining the economic value of the entire project of which it is a part, and costs shall be allocated to the purpose of regulation of streamflow in a manner which will insure that all project purposes, share equitably in the benefit of multiple-purpose construction.

(5) Costs of regulation of streamflow features incorporated in any Federal reservoir or other impoundment under the provisions of this chapter shall be determined and the beneficiaries identified and if the benefits are widespread or national in scope, the costs of such features shall be nonreimbursable.

(6) No license granted by the Federal Energy Regulatory Commission for a hydroelectric power project shall include storage for regula-