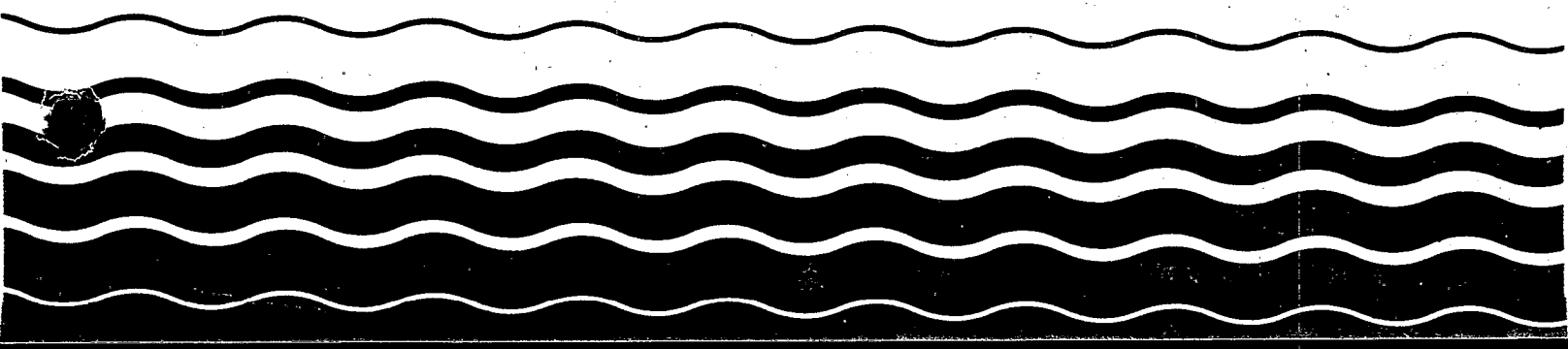


Water



State Water Quality Standards Summary: Minnesota



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The reader should consult the water quality standards of a particular State for exact regulatory language applicable to that State. Copies of State water quality standards may be obtained from the State's Water Pollution Control Agency or its equivalent.

Additional information may also be obtained from the:

Standards Branch
Criteria and Standards Division (WH-585)
Office of Water Regulations and Standards
U.S. Environmental Protection Agency
Washington, D.C. 20460
202-475-7315

This document may be obtained only from the National Technical Information Service (NTIS) at the following address:

National Technical Information Service
5285 Front Royal Road
Springfield, Virginia 22161
703-487-4650

The NTIS order number is: PB89-141907.

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Responsible Agency:

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520 North Lafayette Road

St. Paul 55155
612-296-6300

State Contact:

Mr. Jerry Winslow
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Program Development Section
520 North Lafayette Road

St. Paul 55155 612-296-7255

Standards Available From:

Documents Division, Dept. of Administration
117 University Avenue

State Contact:

St. Paul 55155
612-297-300 Fee: \$15.00 Mailing List: yes

State Narrative Language For: Antidegradation

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

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

Please refer to the "EPA Water Quality Criteria Summaries: A Compilation of State/Federal Criteria" for additional antidegradation language for Minnesota.

State Narrative Language For: Toxics

For contaminants other than heat, the 96-hour median tolerance limit for indigenous fish and fish food organisms should not be exceeded at any point in the mixing zone.

Toxic substances: None at levels acutely toxic to humans or other animals or plant life, or directly damaging to real property.

Unspecified substances shall not be allowed in such quantities or concentrations that will impair the specified uses of Limited Resource Value waters.

Questions concerning the permissible levels, or changes in the same, of a substance or combination of substances, of undefined toxicity to fish or other biota shall be resolved in accordance with the latest methods recommended by the US EPA. The agency shall consider the recommendations of the Quality Criteria for Water, US EPA 1986, in making determinations under this part. Toxic substances shall not exceed one-tenth of the 96-hour median tolerance limit (TLM) as a water quality standard except that other application factors shall be used when justified on the basis of available scientific evidence.

State Narrative Language For: Free From

No sewage, industrial waste or other wastes shall be discharged into any intrastate waters of the state so as to cause any nuisance conditions, such as the presence of significant amounts of floating solids, scum, oil slicks, excessive suspended solids, material discolorations, obnoxious odors, gas ebullition, deleterious sludge deposits, undesirable slimes or fungus growths, or other offensive or harmful effects.

Point and nonpoint sources

State Narrative Language For: Low Flow

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

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

State Narrative Language For: Mixing Zones

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

- (a) Mixing zones in rivers shall permit an acceptable passageway for the movement of fish;
- (b) The total mixing zone(s) at any transect of the stream should contain no more than 25% of the cross-sectional area and/or volume of flow of the stream, and should not extend over more than 50% of the width;
- (c) Mixing zone characteristics shall not be lethal to aquatic organisms;
- (d) For contaminants other than heat, the 96 hour median tolerance limit for indigenous fish and fish food organisms should not be exceeded at any point in the mixing zone;
- (e) Mixing zones should be as small as possible and not intersect spawning or nursery area, migratory routes, water intakes, nor mouths of rivers; and
- (f) Overlapping of mixing zones should be minimized and measures taken to prevent adverse synergistic effects. This provision shall also apply in cases where a Class 7 water is tributary to a Class 2 water.

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Classifications:

Domestic Consumption

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

Fisheries and Recreation

To include all interstate waters which are or may be used for fishing, fish culture, bathing or any other recreational purposes, and for which quality control is or may be necessary to protect aquatic or terrestrial life, or the public health, safety or welfare.

Criteria on the next 2 pages that are followed by an (A) apply to waters that support salmonid populations. Criteria followed with a (B) apply to waters that do not support salmonid populations.

Industrial Consumption

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

Agriculture and Wildlife

To include all interstate waters which 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 or the public health, safety or welfare.

Aesthetic Enjoyment and Navigation

To include all intrastate waters which are or may be used for any form of water transportation or navigation, or fire prevention, and for which quality control is or may be necessary to protect the public health, safety or welfare.

Other Uses

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

Limited Resource Value Waters

This class includes surface waters of the state which are of limited value as a water resource and where water quantities are intermittent. 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.

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	All Classes	Domestic Consum..	Fisheries and	Industrial
Physical				
pH				
Upper Value		9.0		9.0
Lower Value		6.5		6.0
Dissolved Oxygen				
Lower Value		7(A)	5(B)	mg/L
Temperature				
Upper Value		86	F	
Secondary Upper Limit		90	F	
Temperature Change				
Upper Value		+5	F	
Secondary Upper Limit		+3	F	
Turbidity				
Upper Value	5	10		5
Secondary Upper Limit	25	25		
Chlorides				
Upper Value	250 mg/L	50	mg/L	Narr.
Sulfates				
Upper Value	250 mg/L			
Total Dissolved Solids				
Upper Value	500 mg/L			
Nutrients				
Ammonia (un-ion as N)				
Upper Value		0.016	mg/L	
Secondary Upper Limit		.04(B)	mg/L	
Nitrates				
Upper Value	10.0	mg/L as N		
Toxic Metals				
Arsenic				
Upper Value	0.01	mg/L		
Secondary Upper Limit	0.05	mg/L		
Cadmium				
Upper Value	0.01	mg/L		
Chromium - Total				
Upper Value		.02(A)	mg/L	
Secondary Upper Limit		.05(B)	mg/L	
Chromium - Hexavalent				
Upper Value	0.05	mg/L		
Copper				
Upper Value	1	mg/L	0.01	mg/L
Cyanide				
Upper Value	0.01	mg/L	0.02	mg/L
Secondary Upper Limit	0.2	mg/L		mg/L
Iron				
Upper Value	0.3	mg/L		
Lead				
Upper Value	0.05	mg/L		

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	All Classes	Domestic Consum..	Fisheries and	Industrial
Zinc				
Upper Value		5	mg/L	
Barium				
Upper Value		1	mg/L	
Manganese				
Upper Value		0.05	mg/L	
Selenium				
Upper Value		0.01	mg/L	
Silver				
Upper Value		0.05	mg/L	
Pesticides				
Organics				
Phenol				
Upper Value		0.001	mg/L	0.01 mg/L
Bacteria				
Fecal Coliform				
Upper Value				Narr.
Total Coliform				
Upper Value		1	MPN/100 ml	

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Agriculture and Aesthetic Enjoy.. Other Uses Limited Resourc..

Physical

pH

Upper Value

8.5

9.0

9.0

Lower Value

6.0

6.0

6.0

Sulfates

Upper Value

10 mg/L

Total Dissolved Solids

Upper Value

700 mg/L

Nutrients

Toxic Metals

Boron

Upper Value

0.5 mg/L

Pesticides

Organics

Bacteria

Fecal Coliform

Upper Value

Narr.