

Triennial Water Quality Rules Amendments (2008-2011): Minn. R. chs. 7050 and 7052

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Minnesota's Water Quality Standards

Minn. R. chs. 7050 and 7052

Protect surface waters for designated beneficial uses or the uses that water resources and their associated aquatic communities provide for people (drinking water, fish consumption, aquatic life, wildlife, and recreation).

Water Quality Standards include classifications for beneficial uses, numeric and narrative standards to protect those uses, and nondegradation provisions.

Meet or exceed Federal Clean Water Act (CWA) requirements and are approved by the U.S. Environmental Protection Agency; CWA requires triennial reviews of state and tribal water quality standards.

Surface Waters have Multiple Beneficial Use Classifications.

Class 1 – Drinking water (ground and surface waters)

Class 2 – Aquatic life and recreation (can include drinking water and 7052 includes fish-eating wildlife)

Class 3 – Industrial use and cooling

Class 4A – Agricultural use, irrigation

Class 4B – Agricultural use, livestock, and wildlife watering

Class 5 – Aesthetics and navigation

Class 6 – Other uses

Class 7 – Limited resource value waters

Numeric and Narrative Standards

- **Numeric standards** represent safe concentrations in water that protect a specific beneficial use.
 - If the standard is not exceeded, the use should be protected
 - For example, acute and chronic Class 2 standards for metolachlor are 271 and 23 $\mu\text{g/L}$, respectively.
- **Narrative standards** are statements that prohibit unacceptable conditions in or upon the water, such as floating solids, visible oil film, or nuisance algae blooms.
 - Sometimes called “free froms”, because they help keep surface waters free from visible and basic types of water pollution.
 - Minn. R. ch. 7050 also has fish consumption narrative standards.

Nondegradation = Antidegradation (Federal Term) Provisions

- Policies and procedures by which states review activities that have the potential to lower water quality, include:
 - Protection of existing uses (Tier I);
 - Protection of high quality waters (waters where water quality is better than the standard) and associated decision-making process (Tier II);
 - Protection of exceptional waters – outstanding resource value waters (Tier III); and
 - Protection from thermal degradation (consistent with CWA Section 316).

History of MPCA Water Quality Standards Revisions:

- **1967 – First state-wide WQ rules for Intrastate and Interstate waters (WPC 14 and 15) adopted;**
- **1973 - Foundation of current rules Minn. R. chs. 7050 and 7053 (WPC 14, 15, 24, 25) completed;**
- **1981 - First “Modern” Triennial Review included Admin. Procedures Act (APA) process and:**
 - **Revised standards for dissolved oxygen, ammonia, and chlorine;**
 - **Added Class 7 Limited Resource Value Waters; and**
 - **Seasonal fecal coliform standard (disinfection).**

History (continued)

- **1984 - Separate rules for Intrastate and Interstate waters combined into Minn. R. ch. 7050:**
 - Adoption of the nondegradation provisions for Outstanding Resource Value Waters (ORVWs) Minn. R. 7050.0180; and
 - Total BOD5 effluent limits changed to five-day carbonaceous biochemical oxygen demand (CBOD5).
- **1988 - Adoption of the nondegradation provisions for all waters, Minn. R. 7050.0185;**
 - Added rule language stating Minn. R. ch. 7050 applies to both point and nonpoint source discharges.

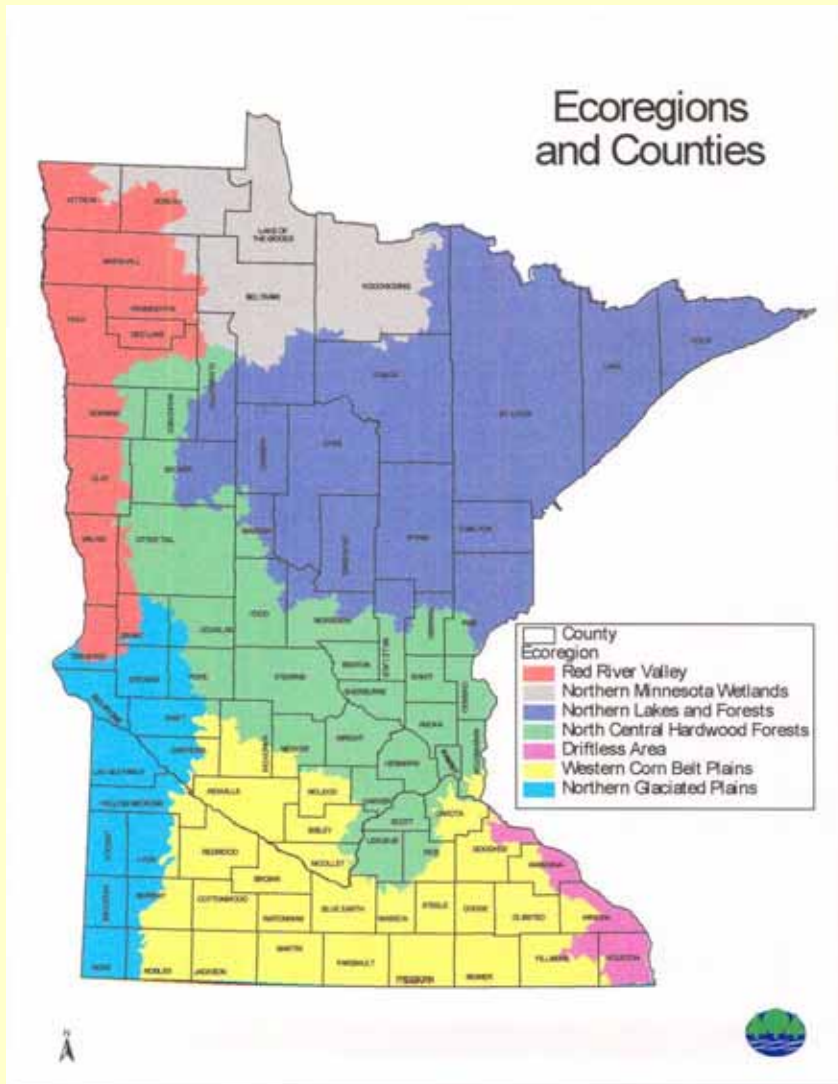
History (continued)

- **1990 - Toxics Rule (required by the 1987 amendments to the Clean Water Act) added:**
 - Numeric standards for 56 toxics; and
 - Improved procedures for calculating standards for:
Aquatic Toxicity
Fish-eating Wildlife, and
Human Health.
- **1994 – Standards for Wetlands (Minn. R. 7050.0186) main focus:**
 - Added definition of wetlands and defined uses;
 - Wetland protection sequence established;
 - Narrative and numeric wetland standards added.

History (continued)

- **2000 – WQSAC Amendments**
 - Water Quality Standards Advisory Committee met from 10/1996 to 12/1997 on 21 issues and developed 14 consensus recommendations.
- **2003 – Assessment Factors**
 - Response to Petition from CGMC (Lakes);
 - Expanded narrative standards (e.g. Index of Biological Integrity (IBIs)).
- **2007 – Session Law Rulemaking**
 - Additional rules governing the water quality assessment process.

2008 Triennial Rule Revision Completed



- Added:
 - **Eutrophication (nutrient) Lake Standards** by ecoregion and lake type;
 - Numeric standards for acetochlor and metolachlor; and
 - Fish tissue mercury standard.
- Split off new rule:
 - Minn. R. ch. 7053 w/ expansion of Phosphorus Effluent Limits

Minn. R. ch. 7052

Great Lakes Initiative (Lake Superior Basin)

- Adopted 1998, required by 1990 amendments to Clean Water Act;
- Consistent standards for all 8 Great Lakes states;
- Focus on bioaccumulative pollutants;
- Improved methods for developing human health and wildlife standards.



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Minnesota Pollution Control Agency

Class 2

Water Quality Standards

Aquatic Toxicity-based – protect aquatic animal and plant communities from acute and chronic toxic effects

Human Health-based – protect people that:
Eat sport- caught fish
Use surface waters for drinking

Wildlife – protect wildlife that eat aquatic organisms (L. Superior basin only)

Class 2- Considerations for Amendments

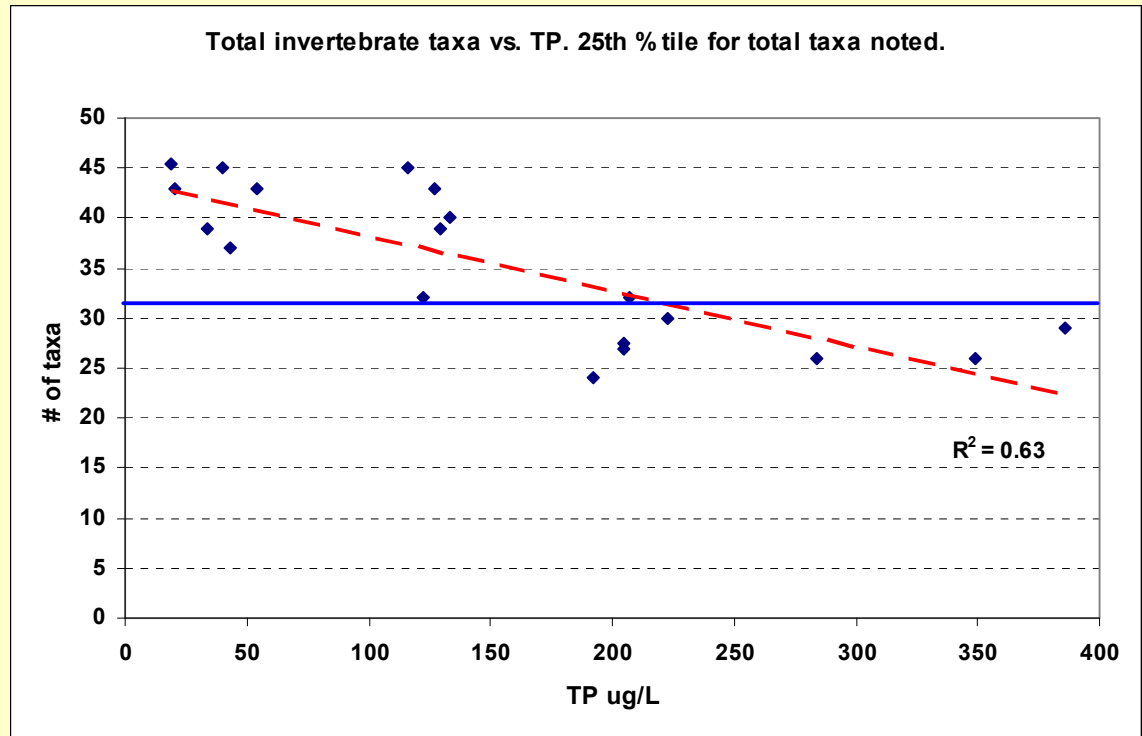
- Adding New River Nutrient Criteria

- Joint effort between Water Monitoring Section & Water Assessment & Environmental Reporting Section;
- A primary focus of the 2011 triennial water quality rules revision.

- Algae (chlorophyll), combined with fish and invertebrate metrics and water chemistry provide primary bases for establishing the criteria.

- Reports are available:

<http://www.pca.state.mn.us/water/biomonitoring/bio-streams-algae.html>



Class 2

Considerations for Amendments

- Revising turbidity standard:
 - Generally, listed state-wide standard of 25 NTU.
 - Measure of how light penetrates water;
 - In excess, can stress aquatic organisms, such as fish and mayflies.
 - Standard as written poses problems when addressing impairments in the TMDL (Total Maximum Daily Load) program:
 - Surrogate for aquatic organism health; and
 - Not in units of concentrations, which is essential for developing pollutant reduction goals.
 - Being evaluated for appropriateness and may lead to modifications or completely new criteria.

Class 2-

Considerations for Amendments

- Add two-three new numeric standards:
 - U.S. EPA National Ambient Water Quality Criteria
 - i.e. nonylphenol, diazinon, etc.
 - MPCA derived standards for pesticides or other pollutants of concern.
 - Final decisions based on occurrence in surface waters near criteria/benchmarks, availability of data, and staff resources.

Class 2-

Considerations for Amendments

Children's Exposure and Risk Considerations – Minnesota Dept. of Health (MDH)



**Extensive research by
MDH staff including
public input.**

- MDH is in process of amendments to Health Risk Limits (HRLs) that address:
 - Drinking Water - Higher intake rates;
 - Early developmental effects in infants;
 - Greater Cancer potency for critical exposure early in life.
- Planned for completion in late 2008.
- Consistency in water quality stds.

<http://www.health.state.mn.us>

Class 3 and 4 Numeric Standards Considerations for Amendments

- **Class 3 Industrial Consumption**

- Includes standards for: Chlorides, Hardness, and pH.

- **Class 4 Agriculture and Wildlife**

- Class 4A – Irrigation-based standards include:

- Bicarbonates, Boron, pH, Specific Conductance, Total Dissolved Salts, Sodium, Sulfates, and Radioactive Materials.

- Class 4B – Wildlife and Livestock Watering cover:

- Total Salinity, pH, Radioactive Materials, and Toxic substances.

Schedule –

July - September 2008

- ***State Register***: Requested written comments on scope of revision on or before September 26th.
- Public Meetings held: Sept. 8, 9, and 15th.

Fall 2008

- Finalize scope of triennial revisions (publish in *State Register*);
- Begin technical work on supportive documentation and draft rules.

2010

- Hold public hearings and other APA process steps.
- Goal is to have final rule by May 2011.

MPCA Web Pages

MPCA Home: <http://www.pca.state.mn.us>

MPCA Triennial Water Quality Rule Revision

<http://www.pca.state.mn.us/water/standards/rulechange.html>

MPCA Water Quality Standards – general info.

<http://www.pca.state.mn.us/water/standards/index.html>

MDH HRL rule

<http://www.health.state.mn.us/divs/eh/groundwater/hrlgw/index.html>

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**Minnesota Pollution
Control Agency**