

Minnesota Wetlands Water Quality Standards

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Environmental Analysis & Outcomes Division

Water Assessment & Environmental Information Section

Biological Monitoring Unit

Wetlands are valuable landscape components, in part because they provide many beneficial water quality uses. These beneficial uses include but are not limited to those that wetlands are generally recognized as providing; aquatic habitat and floodwater retention are examples. To better assure these water quality uses are fully recognized and adequately maintained, the Minnesota Pollution Control Agency (MPCA) in 1994 adopted narrative wetland standards into the state's water quality standards and use-classification rule, Minn. R. ch. 7050. These narrative standards clarify the relevancy and importance of maintaining wetland water quality in several ways as explained below.

Wetland Definitions

Minnesota water quality standards clearly identify wetlands as waters of the state and define "wetlands" in the following way:

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

- a) a predominance of hydric soils;
- b) inundated or saturated by surface water or ground water at a frequency and duration sufficient to support a prevalence of hydrophilic vegetation typically adapted for life in a saturated soil condition; and

- c) under normal circumstances support prevalence of such vegetation.

Beneficial Uses

Water quality standards recognize and designate beneficial uses provided by water bodies, including wetlands. With few exceptions, individual waters meeting the definition of wetlands are classified in Minn. R. 7050 as Class 2D, 3D, 4C, 5 and 6 waters.

Class 2D uses are those which support aquatic life/biological diversity and recreational opportunities.

Class 3D uses are for general industrial needs.

Class 4C uses provide for agricultural and wildlife needs, including erosion control, ground water recharge, low-flow augmentation, stormwater retention, and stream sedimentation.

Class 5 water uses are aesthetic enjoyment and navigation.

Class 6 water uses are other unspecified uses which may be recognized by other jurisdictions.

A few wetlands are listed in Minn. R. 7050 as Class 7 waters, which are limited-use waters. Class 7 limited-resource-value waters have been assessed by the MPCA as having limited aquatic-life and recreational uses and have a limited potential for



achieving these beneficial uses. Actions affecting any water body given a Class 7 designation are not required to maintain expected aquatic life or recreational uses.

Discharge into Wetlands

Minnesota state water quality standards include narrative standards which prohibit discharging into wetlands, such that the discharge will result in the impairment of any wetland designated uses.

An example is the placement of fill or disposal of snow and ice in a wetland which were removed from areas such as roads and parking lots in quantities which may disrupt the ecological integrity of the wetland and result in adverse effects on one or more wetland designated uses. Wetland conditions shall be protected from chemical, physical, biological or radiological changes to prevent significant adverse impacts to designated uses.

Mitigation Sequence

State water quality standards establish a mitigation sequence of first avoiding, next minimizing, and lastly compensating the loss of any designated use due to a physical alteration to a wetland. A physical alteration to a wetland includes dredging, filling, draining, or permanently inundating a wetland. Restoring a degraded wetland by re-establishing its hydrology does not constitute physical alteration.

Mitigation sequencing review and adequacy are applied through Section 401 Water Quality Certification or permit review under the National Pollutant Discharge Elimination System (NPDES) or State Disposal System (SDS). In cases where an action reviewed under one of these water quality compliance programs would cause a physical alteration to a wetland, the permit applicant must adequately demonstrate compliance with the mitigation sequencing requirements of Minn R. ch. 7050.0186. Activities which are wetland-dependent are required to comply with all mitigation sequence steps except the avoidance step.

Numeric Standards

State water quality standards contain numeric chemical standards for many compounds and elements. These standards include chemical concentrations which are not

to be exceeded in ambient surface waters. Maintaining these numeric standards help assures that waters of the state will maintain their designated uses. These standards are used as a baseline to calculate and set effluent limits in NPDES/SDS permits which will ensure that designated uses for the receiving waters are not adversely affected.

Numeric chemical standards are generally based on use-support data for lakes and streams, more than for wetlands. The water chemistry of wetlands is not as clearly understood or as easily defined, in part due to the often complex hydrologic regimes and geologic settings of wetlands. There are several wetland chemical attributes that often differ naturally from the ambient standard for surface waters. These chemical attributes include dissolved oxygen, pH, temperature, chlorides, hardness (Ca + Mg as CaCO_3) hydrogen sulfide as S, and settleable solids. Except for dissolved oxygen and settleable solids, these chemical attributes are intended to be maintained at background levels. If the background level of dissolved oxygen is less than 5.0 milligrams per liter (mg/l) as a daily minimum, then the background level should be maintained. Settleable solids shall not be allowed in concentrations that will adversely affect one or more wetland designated uses.

“Maintain background” means to keep the concentration of these attributes within levels which are similar to expected natural concentrations, such that no designated use will be adversely affected. Background levels represent the wetland at its best expected condition. Data collected through monitoring the wetland in question, or from similar reference wetlands, will be used to determine background levels. In the absence of these data, best professional judgment will be used to determine background conditions. The need for monitoring background levels is made on a case-by-case basis considering the scale and potential for impact from a proposed activity.

For more information

For more information, call the MPCA Customer Assistance Center at (651) 297-2274 or (800) 646-6247 and ask to speak with staff who work with wetland water quality standards.