



**Minnesota
Pollution
Control
Agency**

Municipal Division

Municipal
Wastewater
Section

NPDES:

National Pollutant
Discharge Elimination
System

SDS:

State Disposal System

**Minnesota River
Basin General
NPDES Phosphorus
Phase I Permit** is also
referred to as the
**General Phosphorus
Permit**

TMDL:

Total Maximum Daily
Load project – a water
quality study that
addresses a specific
pollutant exceeding
water quality

MPCA Area Offices

Brainerd:

218/828-2492

Detroit Lakes:

218/847-1519

Duluth:

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320/214-3786

NPDES Phosphorus Phase I Permit

Continuous Dischargers with Design Capacity for Less than 1,800 Pounds of Phosphorus Discharge Per Year

Water Quality/Basins #3.12, Updated April 2007

This factsheet provides an overview of the requirements in the Minnesota River Basin General NPDES Phosphorus Phase I Permit for existing, continuously discharging wastewater treatment facilities (WWTF)s with a calculated phosphorus discharge of less than or equal to 1,800 pounds per year.

The goal of the permit is to protect water quality in the basin according to state and federal rules and statutes. Under current practices approximately 1,240 pounds of phosphorus is projected to be generated during May-September low flow conditions. The TMDL goal is to reduce the amount to 752 pounds.

The General Phosphorus Permit covers the five-year timeframe 2005-2010. The permit represents the first phase of implementation of the wastewater discharge requirements detailed in the Lower Minnesota River Low Flow Dissolved Oxygen TMDL project.

This General Phosphorus Permit is separate from a wastewater treatment facility's existing individual NPDES/SDS operating permit. If there is a conflict between the requirements of the General Phosphorus Permit and a WWTF's individual permit, the more stringent requirements apply.

Wastewater facilities in this category are separated by geographic location. Facilities that discharge upstream of the City of Jordan (currently, 21 have been identified) are listed in Appendix C of the General Phosphorus Permit. Facilities that discharge between the City of Jordan and the City of Shakopee (5 at this time) are listed in

Appendix D, Part 2. Although the facilities are listed in two separate sections of the General Phosphorus Permit, the requirements are the same for both.

Requirements for WWTFs covered by this Factsheet

The General Phosphorus Permit does not impose a phosphorus limit for these facilities as they were not given individual wasteload allocations in the TMDL report. However, the General Phosphorus Permit does require that they conduct monitoring and develop Phosphorus Management Plans. The permit also requires that these facilities meet any phosphorus limits that may be contained in their existing individual NPDES/SDS permit.

Phosphorus Management Plan

A phosphorus management plan (PMP) details a facility's strategies to reduce the amount of phosphorus leaving a wastewater treatment plant by reducing the amount coming in or through treatment modifications.

Identifying and Reducing Sources of Phosphorus

Sources that contribute phosphorus to wastewater treatment facilities include commercial, industrial and institutional operations such as agricultural co-ops, car/truck washing facilities, dairies, food processing plants, meat packing and locker plants, metal finishing facilities, municipal drinking water treatment plants, nursing



homes, restaurants, schools and other institutions. Wastewater treatment facility operators should identify all sources and work to reduce phosphorus contributions wherever possible.

Five-Steps to Building a PMP

1. Measure influent and effluent phosphorus concentrations.
2. Evaluate phosphorus reduction potential.
3. Set phosphorus reduction goals.
4. Evaluate the phosphorus reduction potential of contributing sources.
5. Create an implementation plan to meet phosphorus reduction goals.

Phosphorus Management Plan Factors

Because every facility and its service community is different, the amount of detail needed to complete a useful—and acceptable—PMP will vary. Factors to consider include:

- Number of residential users served.
- Number and types of businesses served (e.g., single versus multiple, industrial or commercial).
- Level of phosphorus generated by users.
- Potential for phosphorus reduction among users.
- Variation in daily, weekly, seasonal or annual phosphorus contributions.
- Potential for new phosphorus contributions from domestic or business sources or growth of existing sources.
- Effluent discharge rate or volume from facility.
- Sensitivity of the receiving water.

Phosphorus Monitoring and Reporting Requirements

Phosphorus monitoring and recordkeeping should be performed according to requirements in a facility's individual or general NPDES/SDS permit. Requirements typically include: continuous measurement of flow, sampling for phosphorus at locations specified in the operating permit, use of 24-hour flow proportional composite samples, use of a certified lab, and use of required sample preservation and test procedures.

For More Information

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MPCA phosphorus strategy available on the Web at www.pca.state.mn.us/water/phosphorus.html

TMDL program information on the Web at www.pca.state.mn.us/water/tmdl/index.html

Additional information about the Minnesota River Basin General NPDES Phosphorus Phase I Permit is available in the following factsheets on the MPCA Web site: www.pca.state.mn.us.

- Minnesota River Basin General NPDES Phosphorus Phase I Permit
- Minnesota River Basin General NPDES Phosphorus Phase I Permit - Phosphorus Trading Overview
- Minnesota River Basin General NPDES Phosphorus Phase I Permit – Continuous Dischargers with Design Capacity to Discharge Over 1,800 Pounds per Year
- Minnesota River Basin General NPDES Phosphorus Phase I Permit – Continuous Dischargers with Design Capacity to Discharge Under 1,800 Pounds per Year
- Minnesota River Basin General NPDES Phosphorus Phase I Permit – Pond Facilities
- Minnesota River Basin General NPDES Phosphorus Phase I Permit – New and Expanding Facilities