The WDNR regulates municipalities, industrial facilities and significant animal waste operations discharging to surface waters or groundwater of the State of Wisconsin through the Wisconsin Pollution Discharge Elimination System (WPDES) Permit Program (See Runoff Management Section E3 for discussion of WPDES permits for stormwater and animal waste). No person may legally discharge to surface waters or the groundwater of the State without a permit issued under this authority. All permits issued under the WPDES permit program are either specific permits or general permits and may contain the following:

- Effluent limits for conventional pollutants and toxic substances in the discharge
- Limitations on the quality and disposal practices for sludge (biosolids) and by-products solids
- Pretreatment requirements, where applicable
- Compliance schedules for facility improvements
- Monitoring and reporting requirements
- Management practices that minimize the release of pollutants

Specific permits are issued to individual facilities that have unique, complex issues. WDNR imposes unique requirements where necessary, and tailors standard requirements to fi t circumstances as appropriate. General permits (GPs) are issued to cover a group of facilities with similar discharges which may be located anywhere in the State. Coverage under a general permit is conferred to each individual facility. The WDNR makes a determination on whether a particular facility is appropriately covered by a general or specific permit. There are 25 separate general permits that may be used to cover applicable discharges ranging from non-contact cooling water, to land application, to non-metallic mining operations. Approximately 5650 facilities are covered under all general permits. The newest general permits issued in 2011 were four pesticide GPs and a Large Dairy CAFO GP.

Timely Permit Issuance

Timely issuance of WPDES permits is an important goal for WDNR. However, in some instances staff are not able to reissue permits before the 5-year term expires. In 2011, new phosphorus and thermal regulations were adopted significantly increasing the complexity of WPDES permits. These regulations along with staff vacancies had an impact on WDNR's permit backlog. On January 1, 2012, the backlog of industrial and municipal permits, including both surface and groundwater discharges, was 34%. The goal of the WPDES permit program is to ensure that the Department does not exceed a statewide backlog of more than 10% at any time. WDNR has recently hired new staff to help meet the backlog, and they are in the process of learning the WPDES permit program. These resources have reduced the permit backlog to 29% as of February 13, 2014, and is expected to continue to decrease. Under Wisconsin law, any permit that has expired continues in effect until it is reissued or revoked. A facility with an expired permit, therefore, is still restricted in the amount of pollutants that it can discharge, as if the permit has not expired.

There are several reasons that a permit may not be issued prior to the expiration date, including: awaiting additional data from the permittee, public or other comment necessitating additional review,

or a permittee is not in substantial compliance with the terms of the expired permit, and enforcement action is underway.

Effluent Limitations

Each permit contains effluent limitations based on the type of facility or water quality-based effluent limitations calculated to meet water quality standards. Effluent limitations may regulate the allowable amounts of biochemical oxygen demand, suspended solids, pH, nutrients, chlorine, temperature, other toxic substances, or other conditions, depending on the type of facility and the water to which it is discharged. The need for whole effluent toxicity testing is evaluated for permits that discharge to surface waters.

Biosolids and Sludge Disposal

Most municipal in Wisconsin land apply their wastewater treatment biosolids (or treated sludge) on agricultural land as a soil conditioner or fertilizer. Biosolids either applied to farmland, or distributed for individual use as an exceptional quality product, are generated from approximately 98 percent of Wisconsin's permitted municipal facilities. In 2012, 213 facilities disposed of solids: 208 of these facilities either beneficially reused the material or hauled the material to a facility that beneficially reused it, one incinerated the material, and four disposed of the material by only disposing into a licensed landfill. In addition to these facilities that dispose of biosolids annually, there are 375 permitted facilities which treat wastewater in lagoon systems or other systems which only require removal of sludge on an infrequent basis (10-20 year cycles). Nearly all of the generators that infrequently dispose of their material land apply their biosolids.

Almost 50 percent of the costs incurred to construct, operate and maintain a municipal wastewater treatment facility are directly related to processing, handling, treating and recycling the wastewater sludges or biosolids. Phosphorus concentrations in biosolids have increased, and may continue to increase as Wisconsin continues to limit the concentration of phosphorus in the effluent that is discharged directly to surface waters. Removing the phosphorus in the effluent in wastewater transfers the phosphorus to the biosolids. It is therefore important that biosolids be managed in ways that keep biosolids on the land and minimize the potential for phosphorus runoff to surface waters. Regulations and permit conditions control the amount of biosolids that may be land-applied depending on the soil, slope, time of year, proximity to residences and wells, and other factors. Current application rates are limited by hydraulic rates and nitrogen agronomic needs of the crop to be grown, using 4-year soil testing results to establish baselines. While phosphorus application rates are not currently required by applicable biosolids code requirements, P-based nutrient management is encouraged and is being promoted as one alternative to more stringent effluent concentrations of phosphorus.

Many industrial facilities such as paper mills and food processors recycle their wastewater and sludge to reuse nutrients and/or to improve soil conditions. Industrial sludges, by-product solids and industrial wastewaters are land applied providing use of nutrient rich and/or carbon based additives improving the

fertility of soils. Facilities conduct monitoring of wastewater streams and land apply after meeting stringent requirements.

Wisconsin also regulates all septage pumped from approximately 700,000 septic systems and approximately 30,000 holding tanks. Approximately 80% of the septic systems currently serviced are maintained pursuant to required maintenance schedules, while the other half of the septic systems will have required maintenance schedules prior to Oct of 2019. Septage removed from septic or holding tanks must either be taken to a wastewater treatment plant for further treatment, or directly land-applied following stringent treatment or barrier application methods. The same land application site criteria apply to septage as to sludge. Wisconsin uses a licensing and certification system for approximately 500 septage servicing businesses and nearly 1200 septic servicing personnel. Servicing businesses are required to maintain service and disposal records. Personnel are required to obtain continuing education.

Pretreatment

Pretreatment dischargers are industrial facilities that do not discharge their wastewater directly to the waters of the State, but instead discharge into a municipal sewerage treatment plant. The WDNR has been delegated the authority to administer this federal program. Twenty-six municipal governments in the State are responsible for meeting state and federal requirements for implementation of pretreatment requirements. These “control authorities” regulate discharges to their systems from 545 users through the issuance of permits and other local controls. Industrial discharges that are subject to the pretreatment requirements of the State, but are not within the systems of these municipal control authorities, must obtain permits directly from WDNR. There are a total of 144 facilities that receive permits directly from WDNR.

Compliance Maintenance Program

The Compliance Maintenance program is one of the successful cornerstones of the Wisconsin Department of Natural Resources regulatory municipal point source watershed management, and WPDES program. The only program of its kind in the country, the web-based Compliance Maintenance Annual Report (eCMAR) is a self-evaluation report and grading system for Wisconsin’s domestic wastewater treatment plants and sanitary sewer systems. Since its beginning in 1987, the compliance maintenance program has been extremely successful in achieving its purpose of “encouraging and, where necessary, requiring owners of publicly and privately owned domestic wastewater treatment works to take necessary actions to avoid water quality degradation, and prevent violations of WPDES permit effluent limits and conditions. Compliance maintenance has promoted an owner’s awareness and responsibility for wastewater conveyance and treatment needs; maximized the useful life and performance of treatment works through improved operation and maintenance, and initiated formal planning, design and construction to prevent WPDES permit violations”. Through a conventional and readily understandable grading system, the eCMAR brings awareness and understanding to governing officials about wastewater capital and management needs. Most importantly, it fosters communication among governing officials, operators, and the Department about the wastewater treatment plant and

collection system. Governing bodies must review each year's CMAR and pass a resolution regarding it. Low grades require recommendations or action plans by the community to address the cause of any problems or deficiencies, and improve the wastewater treatment system.

Owners of wastewater treatment facilities, as well as collection systems, including satellite systems, are required by the compliance maintenance requirements of ch. NR 208, Wis. Adm. Code, to electronically submit an annual report. The eCMAR has thirteen sections, a grading section, and resolution. Wastewater treatment plants complete various sections of the CMAR depending on their type of treatment system and their effluent limits. Satellite collection systems complete two sections of the CMAR: Sanitary Sewer Collection Systems, and Financial Management. Performance indicators and trend graphs are automatically generated as part of this section of the CMAR to help operators evaluate the success of their Capacity, Management, Operation & Maintenance (CMOM), or Operation & Maintenance (O&M) program. The questions in the collection system sections of the annual report are to guide operators in developing a CMOM program, and in the operation & maintenance, and financial management of their collection system.

Enforcement and Compliance Assistance

The WDNR monitors permitted discharges to assure permittees are complying with the terms and conditions of their permits. This "compliance assurance process" takes several forms and includes:

- Compliance maintenance - working with and assisting facilities to remain compliant
- Compliance assessment - conducting inspections of facilities and on-site assessments, reviews of discharge monitoring reports and other reports for compliance, follow-up on self-reported violations
- Enforcement - formal actions taken when a significant violation is identified, including notification of violation of a permit condition, formal enforcement conferences and/or contacts, and referral to the State Department of Justice (DOJ).

A SWAMP-based inspection checklist and detailed guidance were developed so that wastewater treatment plant inspections are done consistently, and documented in the Department database. A special computer program was developed and is being used that allows inspectors to write and package inspection reports including supporting documentation. Once completed, inspection reports are available to municipal officials and operators through the DNR *SwitchBoard*.