

# Wisconsin's DRAFT Water Monitoring Strategy 2015 to 2020

## Section 3.6 Monitoring Strategy for WPDES Program

**Table 25: WPDES Monitoring Needs**

Study	Purpose	Supports: FAL, REC, PHW
WPDES Specific Monitoring including special studies, background, compliance, and enforcement/spills/kills	<b>Effluent Limit Determination</b> <ul style="list-style-type: none"> <li>Complex (and simple) downstream point of standard application issues including pollutant decay or wetland attenuation studies.</li> <li>Site specific phosphorus criteria development - This work may involve a joint DNR/WPDES permittee data collection effort. Guidance is underway.</li> </ul>	WPDES permit decisions, policy determination / guidelines for statewide programs.
	<b>Background Concentrations</b> Upstream chemistry sampling to determine background concentration involving more than minimal effort water quality sampling.	WQBEL, WPDES permit limits
	<b>Baseflow data collection</b> Collection of flow measurement to refine 7Q10 estimates critical for effluent limit calculations as well as for protecting or managing surface and groundwater resources.	WQBEL, WPDES permits, site specific criteria
	<b>Permit Compliance</b> Evaluate effect of existing discharges on receiving waters (e.g. upstream/downstream studies).	WPDES Program evaluation, permit effectiveness evaluation
	<b>Enforcement</b> Investigation monitoring to determine the extent and severity of stochastic events including onsite WPDES permit or runoff management violations, accidental spills and situations where fish kills has occurred. These are custom studies. Enforcement, Spills and Kills [special studies]	Site specific evaluation for runoff events, permit effectiveness, and related

### Study Descriptions

#### Permit Compliance, Innovation in Effluent Limit Determination

Monitoring conducted by WPDES permittee or DNR to determine if WPDES limits (or permit decision) are sufficient to protect or maintain water quality standards. These are custom studies.

#### Background Concentrations

Monitoring conducted by DNR or Permittee to determine background concentrations of specific ambient contaminants for the purpose of calculating effluent limits and potential synergistic effects. Here is an example of a background concentration study. The purpose of this project is to collect background phosphorus data for the development of water quality based effluent limitations. <http://dnr.wi.gov/water/projectDetail.aspx?key=39277395>

#### Baseflow data collection

Collection of flow measurement by DNR or Permittee to refine 7Q10 estimates critical for effluent limit calculations as well as for protecting or managing surface and groundwater resources. Baseflow characteristics are used to calculate effluent limits and WQBELs. Historic information recorded here:

#### Permit Compliance

Evaluate WPDES dischargers to determine effect on receiving waters (e.g. upstream/downstream studies).

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## Enforcement, Spills and Kills

Investigation monitoring to determine the extent and severity of stochastic events including onsite WPDES permit or runoff management violations, accidental spills and situations where fish kills has occurred. These are custom studies. Enforcement, Spills and Kills [special studies]

## Section 3.7 Monitoring Strategy for the Mississippi River Program

**Table 26: Mississippi River Monitoring Studies**

Study	Purpose	Supports
Wisconsin's Long Term Trend (LTT) program	Wisconsin's Long Term Trend (LTT) program monitors at Locks and Dams 3 (Red Wing, MN), 4 (Alma, WI), 8 (Genoa, WI) and 9 (Lynxville, WI).	Provides site specific condition assessment and attainment. Provides large scale view of major constituent loading and broad perspective on landscape such as climate change.
Environmental Management Program (EMP) Long Term Resource Monitoring Program (LTRMP)	Bimonthly and monthly fixed station sampling and quarterly stratified random sampling (SRS) of water quality of Pool 4 (Sampled by Minnesota WDNR) and Pool 8. SRS provides a comprehensive pool-wide evaluation of aquatic areas including main channel, side channels, impounded and backwater areas. Monitoring components included water quality, fish, invertebrates (1992-2004 only), and aquatic vegetation. Periodic aerial photo interpretation measurements of changes in land use and land cover.	National program datasets and river system specific data provides trend, long-term change and current status information.
U.S. EPA's Great Rivers Ecosystems Environmental Monitoring and Assessment Program (EMAP-GRE)	Probabilistic sampling design with sites selected randomly within pre-defined study reaches. There are a total of 33 sites sampled each year in Wisconsin waters of the Mississippi River.	National program datasets and river system specific data provides trend, long-term change and current status information.
Zebra Mussels Longitudinal Studies	Longitudinal zebra mussel sampling began in 1998, with water quality and bacteria added in 2004.	Resource specific program with results shared regionally and locally.
Large River Soft Sediment Macroinvertebrate Sampling	Multi-agency soft-sediment macroinvertebrate sampling in selected backwater areas is conducted during the fall period.	National program datasets and river system specific data provides trend, long-term change and current status information.
Habitat Project Evaluation	Evaluation of habitat rehabilitation projects constructed as part of EMP or Channel Maintenance Plans is conducted using general limnological (DO, temperature, conductivity, transparency, velocity) and hydrologic (velocity/discharge) monitoring (Weaver Bottoms, Pool 5).	National program datasets and river system specific data provides trend, long-term change and current status information.
Clean Water Act Monitoring Strategy	WDNR use the results from the planned pilot program with Minnesota, and when will those results be available.	To be determined.