

STATUS REPORT ON THE 2018-2020 TRIENNIAL STANDARDS REVIEW (TSR)

PRIORITIZED WORKPLAN

*Wisconsin Department of Natural Resources (DNR) Water Quality Standards Program
July 2020*

The following topics were ranked during the 2018-2020 Triennial Standards Review (TSR). The list below shows the categories they were assigned to in 2018. Topics in Categories A and B were prioritized as part of the DNR's work plan for the 2018-2020 timeframe. The descriptions following the list provide a 2020 status report on the topics identified as priorities in these two categories.

Category A: Standards or guidance with revisions or development currently in progress

- Antidegradation Policy and Implementation Revision
- Bacteria Criteria Revision
- Biological Criteria Development
- Chloride Variance Streamlining
- Designated Uses Structure/Process Revision
- Phosphorus Site Specific Criteria (SSC) Guidance and Rules Development
- Phosphorus Assimilative Capacity Modeling in Great Lakes
- Wetlands Floristic Quality Assessment Numeric Benchmarks

Category B: Standards or guidance that are new priorities for the upcoming cycle

- Cyanobacterial Toxin and Cell Density Water Quality Criteria and/or Guidance for Recreational Exposure
- Human Health Criteria Revision/Development
- Mercury Variance Streamlining or Multi-Discharger Variance (MDV)
- Outstanding/Exceptional Resource Waters Process Revision
- PFOS/PFOA Criteria Development

Category C: Standards or guidance that are priorities, but progress will be limited due to insufficient resources at this time

- Aquatic Life Water Quality Criteria Revision/Development

Category D: Standards or guidance where barriers to development currently exist

- Ammonia Criteria Revision
- Arsenic Criteria Revision
- Chloride Criteria Revision
- Copper Criteria Revision
- Nitrate/Nitrogen Criteria Development
- Total Suspended Solids Criteria Development

Category E: Standards or guidance that are not priorities for the upcoming cycle

- Phosphorus Criteria Revision for Two-Story Fishery Lakes
- Arsenic Variance Process Development

CATEGORY A (AS LISTED IN 2018): STANDARDS OR GUIDANCE WITH REVISIONS OR DEVELOPMENT CURRENTLY IN PROGRESS

Antidegradation Policy and Implementation Revision

Status: On hold; Scope Statement expired

Antidegradation is a policy designated to protect high-quality waters from degradation due to new or increased discharges to surface waters. Updates to this policy and associated procedures are needed to clarify when antidegradation review is required and to make Wisconsin's rules consistent with federal antidegradation requirements. A Scope Statement was approved to begin work on these rules in 2016, and work was done during this timeframe but not completed. The Scope Statement expired in 2020. To continue work on this rule, the DNR plans to submit a new Scope Statement to the governor's office to seek approval for moving ahead. For more information, visit <http://dnr.wi.gov/topic/surfacewater/antidegradation.html>.

Bacteria Criteria Revision

Status: Complete/Promulgated

Revisions to the state's bacteria criteria were promulgated and became effective May 1, 2020. The rule revises Wisconsin's bacteria criteria to better protect recreation and public health. It changes the bacterial indicator from fecal coliform to *E. coli*, because *E. coli* better predicts the risk of human illness caused by exposure to human fecal contamination. The rule also revises the permit effluent limit calculation procedures for wastewater treatment facilities discharging bacteria.

Biological Criteria Development

Status: In Legislative Process

Biological criteria set expectations for the quality of aquatic communities such as fish, aquatic insects, plants and algae in lakes, streams and rivers. These expectations aid in the protection of waterbodies from damaging pollutants. The DNR developed a rule package that covers a range of topics related to assessing waterbodies using biological metrics, including narrative biological criteria, phosphorus response indicators, chlorophyll *a* criteria and oxythermal criteria for coldwater fishery lakes. A stakeholder advisory committee met from 2017 to 2019 to help develop the draft rules. Proposed rule language was finalized, and public hearings held in summer 2019. The rules were approved by the Natural Resources Board and submitted to the legislature in late 2019. However, in early 2020, the DNR recalled the rule package from the legislature to make revisions requested during the legislative process. The DNR expects to resubmit these rules at the beginning of the next legislative session in early 2021.

In a related project, the DNR is working with the EPA and TetraTech to review numeric thresholds for stream fish and aquatic insects. The DNR plans to revise previously applied thresholds and propose numeric biological criteria (to replace or in addition to the narrative criteria) in a future rule package.

Chloride Variance Streamlining

Status: In progress

The DNR and the EPA have implemented improvements and are continuing to identify several areas within the chloride variance process that could be improved or updated to help streamline the variance process for permittees, the DNR and the EPA. The DNR has developed documents to enable consistent review of Annual Reports and a general Source Reduction Measure (SRM) plan template (applicable to any substance, including chloride). Improvements currently in progress include updates to the facility specific data sheet and creation of SRM Annual report templates. Updates to the variance application have also been identified as an area for improvement.

Designated Uses Structure/Process Revision

Status: On hold; Scope Statement expired

Under the Clean Water Act, the DNR assigns all waterbodies a set of designated uses to protect human health and aquatic life. The DNR has been working on a rule package to update the state's designated use classification system for aquatic life. This rule package would revise the categories to better capture the various types of waters found in Wisconsin. Draft rule language was prepared, and the DNR met with an advisory committee of stakeholder representatives from 2017 to 2019 to obtain feedback on the proposed rule changes. However, in early 2019, the DNR determined that due to legislative deadlines and staff workload, the designated uses rule would need to be put on hold in order to focus on completing the biocriteria and phosphorus site-specific criteria rules before their Scope Statements expired. Therefore, the designated uses rule effort was allowed to expire in February 2020. As part of its prioritization process, the DNR is considering whether to continue work on the designated uses rule soon, which would require approval of a new Scope Statement by the governor's office.

Designated use review and revision for specific waterbodies

Status: Not begun

Several specific waterbodies were highlighted in the 2018-2020 TSR as needing designated use classification revisions. In its 2018 prioritized workplan, the DNR indicated that these would be addressed once the DNR revised its process for determining and revising designated uses, for which a rule package was in progress (see above). That rule package was put on hold and the Scope Statement expired in February 2020. It is unclear at this time whether the DNR will be able to address designated use updates for individual waters in the near future.

Phosphorus Site Specific Criteria (SSC) Guidance and Rules Development

Status: In Legislative Process

The DNR developed a rule package to establish a process for developing phosphorus site-specific criteria in cases where a less- or more-stringent criterion is appropriate than the statewide phosphorus criteria. The package defines circumstances in which site-specific criteria may be appropriate and outlines what factors to consider when developing new criteria.

A stakeholder advisory committee met from 2017 to 2019 to help develop the draft rules. The site-specific criteria rules were developed in conjunction with the biological criteria rules discussed above, as the SSC rule package refers to certain biological assessments contained in

the other package. Proposed SSC rule language was finalized, and public hearings held in summer 2019. The rules were approved by the Natural Resources Board and submitted to the legislature in late 2019. However, in early 2020, the DNR recalled the biological criteria rule package from the legislature to make revisions requested during the legislative process, and therefore also had to recall the SSC rule that referenced it. The DNR expects to resubmit both of these rule packages at the beginning of the next legislative session in early 2021.

Phosphorus Assimilative Capacity Modeling in Great Lakes

Status: Complete (project led by UW-Milwaukee, Hector Bravo & Harvey Bootsma)

With DNR collaboration, the UW-Milwaukee School of Freshwater Sciences completed work on an assimilative capacity model for phosphorus in the Great Lakes. The intent of this model was to help the DNR set appropriate phosphorus effluent limits for discharges to these waters. The computer model simulates how offshore and near shore regions respond to changes in phosphorus loading with the objective of defining a phosphorus load that is optimal for supporting offshore fish populations while mitigating the growth of nuisance algae in the near shore zone. This increases understanding of the dynamics of phosphorus, plankton and near shore benthic algae in response to phosphorus loading from point sources discharging to Lake Michigan. Additional work could be done in the future to further enhance model outputs for application to developing discharge limits. A conference paper (2017) and paper in the Journal of Great Lakes Research (2019) were published reporting the results of this work.

Wetlands Floristic Quality Assessment Numeric Benchmarks

Status: Complete

Floristic Quality Assessment Benchmarks metrics are a measure of biological integrity as reflected in the plant community of a wetland. They are determined both by the quantity and proportional cover of plant species with varying tolerances to disturbance. Surveys were conducted at over 1,000 sites across the four major EPA Omernik Level III ecoregions of Wisconsin. Provisional benchmarks are now available for all common wetland plant community types as of December 2019. Additionally, a new project is underway to explore the potential for creation of benchmarks for wetland plant communities of lesser extent (rare and unique communities).

CATEGORY B (AS LISTED IN 2018): STANDARDS OR GUIDANCE THAT ARE NEW PRIORITIES FOR THE UPCOMING CYCLE

Cyanobacterial Toxin and Cell Density Water Quality Criteria and/or Guidance for Recreational Exposure

Status: Review complete; guidance to be developed

The EPA released human health recreational ambient water quality criteria or swimming advisory values for microcystin and cylindrospermopsin in May 2019. The criteria are for use as the basis for swimming advisories for notification purposes and are designed to protect children from the harmful effects of chronic exposure to microcystin and cylindrospermopsin. States may apply the recommendations as advisory levels or may adopt them as state water quality standards.

The DNR completed a review of the EPA's recommendations and determined to apply the values as swimming advisories rather than as statewide criteria. This decision was made because harmful algal blooms that result in algal toxins are often a response to other water quality impairments/issues for which criteria already exist or are potentially forthcoming (i.e., phosphorus, chlorophyll, nitrogen). The DNR recommends that local and tribal public health agencies use these swimming advisories for notification purposes in recreational waters to protect the public. The DNR plans to develop guidance to assist with implementation of these recommendations.

Human Health Criteria Revision/Development

Status: In progress

The DNR has begun a review of recent EPA recommendations on how states should calculate human health criteria (HHC) — i.e., water quality standards that protect human health while swimming or eating locally-caught fish. This review encompasses multiple efforts, including: 1) making updates to Wisconsin's existing HHC based on the latest toxicological information, 2) adopting HHC for chemicals which the EPA has criteria and/or a drinking water standard for and Wisconsin does not, 3) evaluating the most appropriate fish consumption rates to be protective of all state and tribal fish consumers, and 4) updating water consumption rate and average body weight to be consistent with the EPA's latest recommendations.

Work is currently underway on all four efforts described above. Revisions to existing criteria were first prioritized based on the magnitude of the proposed changes, and each of the revised criteria are being individually evaluated. The DNR received fish consumption information from tribal representatives, environmental justice organizations and the Great Lakes Consortium for Fish Consumption Advisories and conducted a literature search to gather information on fish consumption rates. The DNR has also worked with the Department of Health Services (DHS) to gather body weight data.

Due to the broad scope and large effort that goes into each of these tasks, criteria revisions (efforts 1 and 2) and exposure parameter revisions (efforts 3 and 4) will be accomplished in two separate rulemaking efforts, which will likely begin in 2021.

Mercury Variance Streamlining or Multi-Discharger Variance (MDV)

Status: In progress

Mercury, mainly from air deposition, has accumulated in fish tissue so that there are fish consumption advisories in place for many Wisconsin waterbodies. Individual mercury variances for facilities discharging wastewater have been processed for 10-15 years, using a 1997 report to say that no economically feasible treatment exists. A streamlined variance process is currently under development that would include an updated justification for variances and standardize the factors used for variance approvals statewide. A pollutant minimization plan (PMP) would continue to be required for all facilities with a mercury variance.

Outstanding/Exceptional Resource Waters Process Revision

Status: Not begun

Federal law requires states to identify and protect “High Quality Waters.” In Wisconsin, these waters are referred to as Outstanding or Exceptional Resource Waters (ORW/ERWs) and are enumerated in sections NR 102.10 and NR 102.11, respectively. Waterbodies that are assigned the special ORW/ERW designation have additional protections afforded them that are not automatically provided for waterbodies not given these designations. The DNR has not standardized the ORW/ERW designation process. The department’s existing guidance on classifying waters as ORW/ERW is outdated, and these methods should be updated so that the process is clear and based on current scientific understanding. However, the DNR was not able to begin this process during this cycle due to other workload and priorities.

Per-and polyfluoroalkyl substances (specifically PFOS/PFOA) Criteria Development

Status: In progress

The DNR is working on developing surface water quality criteria for two types of per- and polyfluoroalkyl substances to protect human health: perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). These manmade substances have been used to repel oil and water in a variety of industrial and consumer products, such as carpet and clothing treatments, food packaging and cookware. They are also contained in firefighting foams. They are extremely persistent in the environment and bioaccumulate in humans and wildlife. Health-based advisories or screening levels have been developed by EPA and other states.

A Scope Statement to begin work on PFOS/PFOA surface water criteria was approved in November 2019. This work included review of toxicological data in partnership with DHS in order to develop toxicity values for PFOS and PFOA. These toxicity values form the basis of both the DNR’s surface water criteria and the DHS’s recommended groundwater standards. The DNR is also using data on PFAS in fish and water samples collected from Wisconsin and other Great Lakes states to develop bioaccumulation factors (BAFs) for PFOS and PFOA. The rule will also include updates to the procedures for implementing the new criteria in Wisconsin Pollutant Discharge Elimination System (WPDES) permits.

Stakeholder meetings are being held regularly throughout the rule development process, which is likely to continue through 2022. More information about this rulemaking effort can be found at <https://dnr.wi.gov/topic/SurfaceWater/NR105.html>.

Site-specific phosphorus criteria for lakes in the Wisconsin River Basin

Status: Complete/promulgated

Note: This rule was not identified in the 2018-2020 TSR but is included here because it is a water quality standards change that took place during this period.

Site-specific phosphorus criteria for three lakes in the Wisconsin River Basin were promulgated and became effective June 1, 2020. The three waterbodies are: Petenwell Lake located in Wood, Juneau and Adams Counties; Castle Rock Lake located in Adams and Juneau Counties; and Lake Wisconsin located in Columbia and Sauk Counties. Analyses during the development of the Wisconsin River Basin Total Maximum Daily Load (TMDL) concluded that the statewide phosphorus criteria that had applied to Petenwell Lake and Castle Rock Lake were more restrictive than needed to protect the lakes’ recreation and aquatic life designated uses, and the

statewide phosphorus criterion that had applied to Lake Wisconsin was not sufficiently protective of its designated uses.

CATEGORIES C TO E

As anticipated, no topics in Categories C to E were begun during the 2018-2020 TSR cycle.