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Triennial Review Work Plan and Responsiveness Summary 2018-2020

The triennial review work plan describes the priorities and goals for Iowa's water quality standards for the next three year period (2018-2020), and the process conducted to form them. Public input was gathered through public hearings which meets requirements as described in 40 CFR 131.20.

Background

The Department held three public hearings across the state of Iowa in January 2018. Comments were also submitted through mail and e-mail and then organized by issue and reviewed by the DNR for possible inclusion in future water quality standards efforts. For each issue, the Department considered: level of interest, resources available by the Department to address the issue, and the appropriateness for the issue to be handled through Iowa's water quality standards.

Results

Selected Items: These are the highest priorities for the Department in this triennial review period.

Use Attainability Analyses (UAAs)

An ongoing and important part of Iowa's water quality standards, UAAs allow for the recommendation of appropriate designations for Iowa's streams, and help ensure water quality is sufficient to support the different ways Iowans use our streams and rivers. Several different Iowa DNR program areas rely upon UAAs, but primarily they are conducted so that National Pollutant Discharge Elimination System (NPDES) permits can be renewed (See Iowa Code 455B.176A) and implement improved water quality protections.

Proposed stream designation changes are assembled as batches. Rule making for Batch 5 UAA's were completed in June of 2019, and Batch 6 UAAs are being drafted for rule making in 2020. As the triennial review period progresses, additional field work and data collection will be conducted for the purpose of writing UAAs for future batches. UAAs are a high priority for the DNR and work will continue through this triennial review period. As part of the next UAA rule making effort the department will also review the list of lakes submitted during the triennial review comment period to see if they need a recreational use designation.

Metals Criteria Update

This proposed rule making has two primary purposes: The first is to change the aquatic life criteria for metals (with the exception of aluminum) from a "total recoverable" value to a "dissolved" value. The second is to change the aquatic life criteria for aluminum to reflect a "bioavailable" value.

First, the aquatic life criteria for metals are proposed to be changed to "dissolved" because new data establishes that the dissolved portion of metals in the water column is the portion that is most easily absorbed by aquatic life and is therefore a better measure of toxicity.

Second, the aquatic life criteria for aluminum are proposed to be changed to a "bioavailable" value. Unlike other metals, some non-dissolved forms of aluminum can be toxic to aquatic life. The bioavailable portion for aluminum includes both dissolved aluminum and some non-dissolved forms which can be toxic to aquatic life. The proposed aluminum criteria takes into account new data which establishes that aluminum bioavailability is dependent upon ambient levels of certain chemical parameters in the receiving stream, like pH and dissolved organic carbon. The aluminum criteria proposed in this rule making is calculated using water chemistry parameters that are typical of Iowa streams and will also provide wastewater permittees the option of collecting data specific to their own receiving stream. These proposed changes provide greater flexibility to wastewater permittees and will ensure that Iowa's metals criteria protect aquatic life.

401 Certification

The proposed rule streamlines the procedure for the State of Iowa to provide water quality certifications pursuant to section 401 of the Clean Water Act for all United States Army Corps of Engineers (Corps) nationwide and regional permits. Previously the Iowa DNR has provided certification for the Corps' nationwide and regional permits through rule making. Such rule making is not required by state or federal law and is not the standard certification process used throughout the country. The use of rule making is unnecessarily burdensome and can delay the applicability of the benefits of the Corps' nationwide and regional permits to the citizens of Iowa. A public input process is retained by the proposed rule language.

Triennial Review Work Schedule

Year	Action Item
2018	Wasteload Allocation Procedure (WLAP) – Completed rule making for WLAP UAA – Rulemaking initiated for Batch 5 UAA – Conduct field work and draft UAA's for Batch 6 Metals Criteria– Conduct technical advisory committee and stakeholder meetings 401 Certification – Conduct stakeholder meeting
2019	UAA – Rulemaking for Batch 5 completed UAA – Draft Batch 6 UAAs UAA – Collect field data for Batch 7 UAAs Metals Criteria – Initiate rulemaking 401 Certification – Initiate rulemaking
2020	UAA – Initiate rulemaking for Batch 6 UAA – Collect field data and draft Batch 7 UAAs Metals Criteria – Complete rulemaking 401 Certification – Complete rulemaking

Responsiveness Summary

This is a summary of the most numerous and relevant comments received during the triennial review process. This provides a discussion of the issues raised during the comment period as well as the effect on the priorities during the triennial review period.

1. **Numeric Nutrient Criteria**

Comments:

The highest number of comments received were requesting the state adopt numeric nutrient criteria. Following is a summary of some of the key points made by commenters:

- Nutrient pollution in Iowa's surface waters is a widespread and growing issue in the state that causes potential health risks like harmful algal blooms and nitrate in drinking water. Nutrient pollution potentially incurs a cost to our communities by requiring additional treatment of drinking water. In addition nutrients from our state are a significant contributor to the hypoxic zone in the Gulf of Mexico. Numeric nutrient criteria would help to address these issues.

- Adoption of numeric nutrient criteria is not inconsistent with the state's Iowa Nutrient Reduction Strategy (INRS). The states INRS is currently not sufficient to address nutrient pollution in the state. Compliance with the INRS is voluntary and lacks benchmarks to determine success. The focus of statewide reduction of nutrients and lack of waterbody-specific standards make the INRS ineffective in addressing nutrient pollution in Iowa.

- Because Iowa lacks numeric nutrient criteria the only standard that addresses nutrient pollution is the state's narrative criteria. This is only triggered when conditions like "aesthetically objectionable conditions" and "nuisance aquatic life" occur. At that point the water quality is significantly impaired and it is much more difficult to improve water quality. Numeric nutrient criteria will allow the state to be proactive and address the issue before these conditions persist.

- The Iowa DNR has worked on developing numeric nutrient criteria in the past. There have been several science advisory committees that made recommendations for criteria. The Iowa DNR had a proposal in 2011 to adopt nutrient standards for recreational lakes that was later dropped.

- Iowa is the only state in the Upper Mississippi River basin that has made zero progress recently on adopting numeric nutrient criteria. Minnesota, Wisconsin, Illinois, and Missouri have all set numerical criteria for at least one type of waterbody in their state.

The following comments were made in opposition to adoption of numeric nutrient criteria:

- The science is not established enough to develop numeric nutrient criteria that is appropriate for Iowa's surface waters. An arbitrary standard will dilute resources and take away from the state's other efforts to address the issue like the INRS.

- The INRS commits to continued work on the complex scientific issues of nutrients, but also pragmatically gets to work on choosing priorities for limited resources, using adaptive management principles and partnering with willing participants to solve problems. Numeric nutrient criteria would divert resources, both scientific and financial, from a greater understanding of nutrient impairments and the best solutions to solve these challenges.

- Other states who have adopted numeric nutrient criteria have either applied them to a narrow subset of waters, adopted waivers and variances to address the difficulties of implementation, or the states are in arid climates without arable soils. Iowa learned from this and adopted the INRS that allows for flexibility to address this complex issue.

- The report from the Nutrient Science Advisers presented in February 2008 (Burkhart Report) was the basis for the states recommendations for lake numeric nutrient standards. The recommendations were flawed, as there was no consideration given for geographic location and other variables. The data analyzed in the report was not meant for developing nutrient criteria. The samples were not collected randomly and the lakes chosen for sampling were not chosen randomly raising questions about the statistical validity of the data.

Iowa DNR Response:

The Iowa DNR agrees that nutrient loading into the states surface waters is an ongoing water quality challenge. The Iowa DNR is a partner with numerous state and federal agencies, educational institutions, nongovernmental associations, corporations, and private citizens to address nutrient loading to Iowa's waterways. The focus of the state's efforts to address nutrient loading are through the Iowa Nutrient Reduction Strategy (INRS). The INRS is a science and technology-based framework to assess and reduce nutrients to Iowa waters and the Gulf of Mexico. It is designed to direct efforts to reduce nutrients in surface water from both point and nonpoint sources in a scientific, reasonable and cost effective manner. The INRS emphasizes implementation of technology-based nutrient reductions in the near-term, with continued assessment and development of suitable nutrient criteria as a long-term goal.

To that end, the IOWA DNR continues to collect and analyze lake nutrient data as part of the ambient lake monitoring and the lake restoration programs. The development of quantitative indicators of lake health, including nutrient status, remains a high priority within these programs. Iowa, along with the states of Utah, Connecticut, and Oklahoma, continue to partner with EPA to provide data for and to test new nutrient models that were developed using national datasets. After expressing interest in participating, Iowa was selected as one of the case studies given the extensive datasets available for Iowa Lakes and the commitment in the NRS for the continued assessment and development of suitable nutrient criteria as a long term goal.

Progress to date includes using national and Iowa data to estimate chlorophyll-a and microcystin relationships. Preliminary results have shown that combining state and national data can improve the performance of these new models. The documentation and review of the underlying science is now completed and the research behind this effort, titled "Combining national and state data improves predictions of microcystin concentration," was published in 2019..1 EPA is expecting to release the draft lake numeric nutrient criteria in early 2020 that incorporates this research in addition to other pending research publications.

[1] Lester L. Yuan, Amina I. Pollard. (2019). Combining national and state data improves predictions of microcystin concentration. Elsevier, Harmful Algae 84(2019), 75-83.

2. **Metal Criteria:**

Comments:

Most of the comments in regards to metals agreed that the update should be a priority. One commenter suggested that because the Environmental Protection Agency (EPA) has not released the latest recommendation for aluminum criteria the expenditure of staff time to develop a standard would be a duplicative effort.

Iowa DNR Response:

Since these comments were received EPA released its final recommendation for aluminum criteria and the Department updated its recommended criteria accordingly. The Department has finalized its update to metals criteria and is moving ahead with rulemaking efforts.

3. **Use Attainability Analysis – Lake Recreational Use Designation Clean-Up Comments**

Comments:

Most of the comments received regarding UAA's were in agreement that it should be a priority. One commenter felt the rebuttable presumption and the USGS perennial streams data that is referenced in our water quality standards inaccurately designates general use streams as A1 and B(WW-1). The commenter felt either UAA's should be completed for all streams covered by the rebuttable presumption in the upcoming triennial review or the rebuttable presumption should be repealed. Another commenter submitted a list of lakes that the DNR had identified as recreational lakes that do not have a recreational use designation.

Iowa DNR Response:

While it is true the rebuttable presumption does offer protection for uses that many streams cannot attain, it is a legislative requirement that a use attainability analysis is completed before a discharge permit is renewed (Iowa Code 455B.176A). This prevents facilities from needing to meet water quality based limits based on the rebuttable presumption when their permit is renewed.

The Department will also review the list of lakes identified as recreational lakes and make appropriate changes during its next batch of recommended designation changes.

4. **Antidegradation Comments:**

Comments:

A comment was received requesting the state review its antidegradation policy with a focus on: chemical exemptions, public notification improvements, and de minimus exemption values. Another commenter expressed concern over the Tier 2 designation and the allowance of water quality to be lowered for economic and social development under certain circumstances.

Iowa DNR Response:

This will not be a priority in this triennial review period as other rulemaking activities are higher priority. However, the Department has had internal discussions on potential improvements to antidegradation for potential inclusion in a future triennial review plan.