



## ASSOCIATION OF MISSOURI CLEANWATER AGENCIES

June 29, 2020

### **By Regulatory Action Tracking System (RATS)**

Missouri Department of Natural Resources  
Division of Environmental Quality  
Water Protection Program  
P.O. Box 176  
Jefferson City, MO 65102-0176

**RE: Draft Regulatory Impact Report: 10 CSR 20-7.031 (Water Quality Standards)**

Dear WQS Coordinator:

I am writing on behalf of the Association of Missouri Cleanwater Agencies ("AMCA") regarding 10 CSR 20-7.031 (Water Quality Standards). AMCA is a statewide association comprising owners and operators of public water, sewer, and stormwater utilities. AMCA strives to ensure that Federal and Missouri water quality programs are based on sound science and regulatory policy so that AMCA members can protect public health and the environment in the most affordable and cost-effective manner possible.

On behalf of the AMCA members we want to particularly convey our support for the three discharger-specific variances for Joplin, Salem, and Bolivar. These variances are temporary and, thereby, provide tailored regulatory relief rather than broader (water body variance) or more permanent (use attainability analysis) regulatory changes. The Department's decision to use these narrowly focused discharger-specific variances limits the temporary relief to these dischargers in light of background instream metals concentrations. It is everyone's hope that the upstream sources of metals will be successfully addressed so that these variances will no longer be necessary in the future. If that is not the case, we will all have significantly more information in the future to support a use attainability analysis or other appropriate regulatory process.

We commend the Department for its leadership in efficiently and appropriately addressing these background metals issues. These variances provide the maximum possible protection to aquatic life through the imposition of appropriate yet feasible metals limits in each dischargers' permit.

We hope these discharger-specific variances will serve as a template for similar circumstances so that DNR can focus its permitting resources where receiving stream metals concentrations are not driven by upstream irreversible man-made impacts.

Sincerely,



F. Paul Calamita  
General Counsel

C: AMCA Members



# Blue Springs, Missouri

## Public Works Department

June 24, 2020

Missouri Department of Natural Resources  
Division of Environmental Quality  
Water Protection Program  
Attn: Angela Falls, Water Quality Standards Coordinator  
P.O. Box 176  
Jefferson City, MO 65102

Re: Regulatory Impact Report for 10 CSR 20-7.031 Water Quality Standards

Ms. Falls,

The City of Blue Springs (City) would like to express our support for the Department's decision to approve our request to reestablish the site-specific dissolved oxygen criteria for Sni-A-Bar Creek during the upcoming water quality standards revision.

As you know, the City has been working cooperatively with the Department to resolve this issue since 2005. In that time, we have spent considerable resources documenting the chemical, physical, and biological conditions of Sni-A-Bar Creek and regional reference streams to demonstrate that the proposed site-specific criteria are appropriate and protective. We have also made significant investments to upgrade our wastewater treatment facility by installing tertiary filtration and enhancing effluent dissolved oxygen. These upgrades have resulted in a high quality effluent that consistently meets discharge permit limits.

The City greatly appreciates the Department's consideration and attention on this issue. Please contact me if you have any questions or would like to discuss these comments further.

Sincerely,

Christopher G. Sandie,  
Director of Public Works



400 N. Iron Street  
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June 26, 2020

Missouri Department of Natural Resources  
Division of Environmental Quality  
Water Protection Program  
Attn: Angela Falls, Water Quality Standards Coordinator  
P.O. Box 176  
Jefferson City, MO 65102

Re: Regulatory Impact Report for 10 CSR 20-7.031 Water Quality Standards

Ms. Falls,

The City of Salem (City) would like to express our support for the Department's efforts to approve and adopt the City's discharger-specific variance into rule during the water quality standards revision. This variance is an important tool that outlines a prioritized approach that will incrementally improve water quality in Spring Creek and allow the City to make critical, near-term improvements to our wastewater system. The variance also allows the City to avoid the substantial and widespread socioeconomic impacts that would occur if we were required to implement a highly advanced and unaffordable reverse osmosis treatment technology that would still not meet wasteload allocations outlined in the Spring Creek Total Maximum Daily Load study. Even with the approval of the variance, we estimate that user rates associated with the planned treatment upgrades could increase significantly (approximately 70% higher) compared to existing levels. Nevertheless, the City is committed to making the improvements through the adaptive process outlined in the variance report.

The City greatly appreciates the Department's consideration and attention on this issue. Please contact me if you have any questions or would like to discuss these comments further.

Sincerely,

A handwritten signature in black ink that reads "Ray Walden".

Ray Walden  
City Administrator

**MAYOR**  
Brad Nash

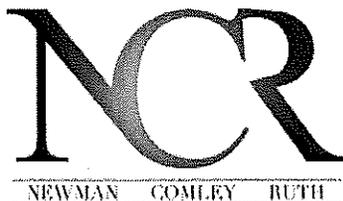
**CITY ADMINISTRATOR**  
Ray Walden

**ALDERMEN**  
Kim Steelman  
Rachel Hinderliter  
Kevin James  
Greg Parker

**CITY CLERK**  
Mary D. Happel MRCC/CMC

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OF COUNSEL  
MARK W. COMLEY

June 30, 2020

ATTN: WQS Coordinator  
Missouri Department of Natural Resources  
Water Protection Program  
P.O. Box 176  
Jefferson City, MO 65102-0176

To the WQS Coordinator:

I am writing on behalf of Associated Industries of Missouri (AIM). I would like to provide comment on the proposed changes to the acute cadmium criteria. As you may recall, on July 10, 2012, AIM submitted to the Missouri Clean Water Commission a petition asking the commission to revise the cadmium criteria based on current science. In April 2016, EPA published its final recommended aquatic life ambient water quality criteria for cadmium. The Missouri Clean Water Commission adopted EPA's recommended chronic criteria for cadmium in an order of rulemaking published in the Missouri Register on March 15, 2018.

Over the last several years, on behalf of AIM, I have collaborated with LimnoTech to provide scientific information to the Water Protection Program supporting acute cadmium criteria. Unfortunately, the department has chosen to adopt EPA's proposed cadmium criteria as Missouri's acute cadmium criteria. As explained in the comments below, the department's proposed acute cadmium criteria are overly restrictive and are not supported by sound science. AIM urges the department and the Missouri Clean Water Commission to revise acute cadmium criteria as recommended by AIM in previous submissions to the department of information and documents prepared by LimnoTech.

The Regulatory Impact Report is comprised of 13 different sections. I have copied the headings for the 13 sections below and provided AIM's comments under each section.

1. A report on the peer-reviewed scientific data used to commence the rulemaking process.

No comment.

2. A description of persons who will most likely be affected by the proposed rule, including persons that will bear the costs of the proposed rule and persons that will benefit from the proposed rule.

The Department states that the effect of the proposed rule is unique to each facility, and therefore the Department is unable to determine the precise extent of impact from the

proposed revised criteria. The Department provides a summary of existing NPDES permits with cadmium requirements, and indicates that most permit limits are driven by the chronic criterion, rather than the acute criterion proposed for revision. However, this does not mean that there will be no additional costs of the proposed rule. There will likely be increased costs to facilities that do not currently have cadmium limits.

According to the Department's analysis, of the 118 permits with cadmium requirements, 83 have monitoring only. It does not appear that the Department attempted to use those monitoring data to assess the potential impacts of the revised criterion. For example, of the 83 permits with monitoring requirements, 20 are refuse systems, which seem likely to be intermittent stormwater or leachate discharges that would be regulated with the acute criterion. It is likely that at least some of these would be subject to new cadmium limits. The Department should evaluate the potential for such additional facilities that do not currently have limits to be affected by the new criteria.

The Department, in previously published materials<sup>1</sup>, has suggested that it is reasonable to use the revised criteria, despite the technical shortcomings described elsewhere in these comments, because few facilities will be impacted. The number of facilities affected should not affect whether sound scientific rationale is used to develop water quality criteria.

3. A description of the environmental and economic costs and benefits of the proposed rule.

The Department evaluated potential compliance with revised limits for existing facilities with limits that are based on the acute criteria. There are nine permits in Missouri with cadmium limits driven by the acute criterion; the Department determined that these facilities could comply with new cadmium limits, based on current and future operations. The Department determined that there are "no new anticipated costs" associated with the revised criterion because no facilities with potential compliance issues were identified. However, as noted above, the Department did not evaluate potential impacts on the 83 facilities with monitoring requirements. Some facilities, such as those with stormwater discharges, are likely to receive limits based on the more stringent revised acute criterion. A more extensive evaluation should be conducted to assess the potential costs of the proposed rule.

The Department has also not described the benefits of the proposed rule.

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<sup>1</sup> MDNR, 2019. Acute Cadmium Criteria, Aquatic Life Protection, Part 2 – Recommendation. Water Quality Standards Triennial Review 2019-20 Workgroup Meeting. Sally Zemmer presentation, 13 2019.

4. The probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenue.

No comment.

5. A comparison of the probable costs and benefits of the proposed rule to the probable costs and benefits of inaction, which includes both economic and environmental costs and benefits.

No comment.

6. A determination of whether there are less costly or less intrusive methods for achieving the proposed rule.

Associated Industries of Missouri (AIM) has proposed a more accurate, tiered approach for cadmium acute criteria that is protective of the designated uses of Missouri waters. The RIR is deficient for not addressing AIM's proposed approach that is less costly and less intrusive. AIM's approach would be protective of Missouri waters, and ensure that any limits that might be developed would not be more stringent, and therefore more costly, than necessary. AIM's approach utilizes the existing designated use classifications of Missouri waters (including a distinction between cold-, cool-, and warm-water fish habitat) and thus would not create additional cost for the Department to implement. The method would therefore be less costly for affected permittees at the same cost to the Department.

7. A description of any alternative method for achieving the purpose of the proposed rule that were seriously considered by the Department and the reasons why they were rejected in favor of the proposed rule.

The Department acknowledged that AIM petitioned for a revision to the criteria that included different acute criteria for warm- and cool-water fisheries than for cold-water fisheries. AIM's proposed criterion was intended to establish a criterion that was protective of aquatic life in Missouri waters based on the best available science. The intent was not to allow more cadmium into the environment, but to develop a science-based value that is both protective of aquatic life and practically achievable for regulated entities.

US EPA guidance for the development of water quality criteria to protect aquatic life<sup>2</sup> uses a statistical procedure that calculates criteria that will be protective of 95% of the

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<sup>2</sup> US EPA, 1985. *EPA Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and their Uses*. <https://www.epa.gov/sites/production/files/2016-02/documents/guidelines-water-quality-criteria.pdf>

organisms living in the water body. In cases where the calculated criteria are greater than the toxicity values that would be protective of a commercially or recreationally important species, the guidance indicates that the toxicity value for that more sensitive species should be used in deriving the criteria. Based on this guidance, EPA's criteria, which the Department proposes adopting for all Missouri waters, were lowered to explicitly protect rainbow trout, which are considered commercially and recreationally important. Rainbow trout are a cold-water species; toxicity test data for other species indicate that cool- and warm-water species are less sensitive to cadmium than rainbow trout. AIM therefore proposed alternative criteria for cool- and warm- waters that do not support coldwater species such as rainbow trout.

The Department indicates that the AIM proposal was rejected because it did not lower the acute criterion to explicitly protect temperate basses (native white bass, *Morone chrysops* and non-native striped bass, *Morone saxatilis*) in the same way that EPA lowered the criterion to protect rainbow trout. The Department indicates that *Morone spp.* represent important sport fishes. Toxicity data are not available for the native white bass, which are broadly distributed throughout Missouri. Limited toxicity data are available for the non-native striped bass, which are limited to only a few large waterbodies in Missouri. These data are of questionable quality. A comprehensive cadmium criteria review by the US Geological Survey<sup>3</sup> did not use these data because of their shortcomings.

With regard to the lowering of criteria to protect commercially or recreationally important species, the EPA guidance states, "If for a commercially or recreationally important species the geometric mean of the acute values from flow-through tests in which the concentrations of test material were measured is lower than the calculated Final Acute Value, then that geometric mean should be used as the Final Acute Value instead of the calculated Final Acute Value." (EPA, 1985, emphasis added). The striped bass toxicity data that the Department maintains should override the calculated cool- and warm-water criteria were from a single study that did not meet the standards described in the EPA guidance. Cadmium concentrations were not measured during the toxicity tests, and thus the true concentrations of cadmium causing toxicity are unknown. The test was also a static test, rather than a flow-through test. In deriving recommended updated cadmium criteria, the US Geological Survey (2010) did not use the striped bass data because of concerns regarding data quality.

Based on the limited and questionable data, it would not be appropriate to lower the criterion to protect temperate basses. However, if the existing striped bass data were used, and the cool- and warm- water criterion were lowered to explicitly protect the temperate basses, the resulting acute criterion would be nearly 60% higher than the Department's

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<sup>3</sup> Mebane, C.A., 2006 (2010 rev.), *Cadmium risks to freshwater life: Derivation and validation of low-effect criteria values using laboratory and field studies (version 1.2)*: U.S. Geological Survey Scientific Investigations Report 2006-5245, 130 p. <http://pubs.usgs.gov/sir/2006/5245/pdf/sir20065245.pdf>

proposed acute criterion, which would apply criteria designed to protect cold-water rainbow trout to all waters of the state. Incorporating a separate cool- and warm-water acute criterion would achieve the purpose of protecting fish species, but at lower cost to permittees.

While not explicitly stated in the RIR, the Department has previously stated<sup>4</sup> that rainbow trout are a proxy for highly sensitive cool- and warm-water species, such as darters and sculpins. Because these species are among the more sensitive to cadmium, the Department proposed using the rainbow trout-based criterion for all waters in Missouri. However, the available darter and sculpin data do not justify lowering the criteria for all Missouri waters to the level required to protect rainbow trout, for several reasons.

First, the available darter toxicity data were based on a single test that did not meet EPA's data quality guidelines and was not used in EPA's development of the 2016 criteria<sup>5</sup>. This test result suggested that darters are less sensitive to cadmium than rainbow trout, with acute toxicity values approximately 40% higher than for rainbow trout. Therefore, it is not necessary to use the stringent rainbow trout-based criterion to protect darters. The darter data also do not meet the EPA condition for lowering the criteria, because (a) darters are not commercially or recreationally important, and (b) the tests were not flow-through tests.

Second, the sculpin data indicated that sculpins are also less sensitive to cadmium than rainbow trout, so using a statewide criterion protective of rainbow trout results in a criterion more stringent than needed to protect sculpins. The available sculpin toxicity data were included in the database that AIM used to develop the proposed cool- and warm-water acute criterion, but had little effect on the resulting criterion, due to the statistical procedure specified by US EPA guidance. The sculpin toxicity data indicate that sculpins are approximately 20% less sensitive to cadmium than rainbow trout, and thus a higher criterion would achieve the purpose of the proposed rule, without imposing unnecessarily stringent criteria in other waterbodies in the state. The Department has noted that there is a federally listed species, the grotto sculpin, that resides in specific waterbodies (five caves and two streams) in Missouri. If necessary to ensure protection of the grotto sculpin, more stringent criteria could be designated for those waters, ensuring protection of sensitive species without additional unnecessary costs for dischargers statewide.

8. An analysis of both short-term and long-term consequences of the proposed rule.

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<sup>4</sup> MDNR, 2019. Reference and Recommendations for Acute Cadmium Criteria for Aquatic Life Protection. Water Quality Standards Unit Water Quality Standards Triennial Review 2019-2020

<sup>5</sup> US EPA, 2016. *AQUATIC LIFE AMBIENT WATER QUALITY CRITERIA CADMIUM – 2016*. EPA 820-R-16-002. <https://www.epa.gov/sites/production/files/2016-03/documents/cadmium-final-report-2016.pdf>

The Department states that the short-term and long-term consequences of the proposed rule are the same: “the protection of aquatic habitat without imposing unnecessary costs to the regulated community.” However, as noted above, the more stringent proposed acute cadmium criterion may, in fact, impose unnecessary costs to the regulated community because the criterion is more sensitive than needed to protect cool- and warm-water species.

The Department also states that, where revised criteria are more stringent than existing criteria, modified permit limits “may cause the permittee to evaluate their current operation and treatment processes to comply with the new permit requirement.” While not noted by the Department, such an “evaluation” may result in significant costs to permittees in the form of additional treatment.

9. An explanation of the risks to human health, public welfare or the environment addressed by the proposed rule.

The Department refers to EPA’s criteria development materials for further information, and does not directly explain how the proposed criteria address risks to the environment. As discussed above, EPA’s suggested acute criterion, based on protecting rainbow trout, overestimates the risks to warm water species, but the Department does not explain this.

10. The identification of the sources of scientific information used in evaluating the risk and a summary of such information.

The Department cites the EPA (2016) criteria materials. However, materials previously published by the Department suggest that information was obtained from additional sources not summarized in the RIR, such as USGS and Missouri Department of Conservation publications. Since the department’s Regulatory Impact Report did not cite to any USGS or Missouri Department of Conservation publications, please confirm that the department did not rely on this information when preparing this Regulatory Impact Report.

11. A description and impact statement of any uncertainties and assumptions made in conducting the analysis on the resulting risk estimate.

The Department indicates that information on uncertainties and assumptions can be obtained from the EPA criteria document. However, given the questionable quality of some of the toxicity data, as noted above, the Department must include a discussion of the uncertainties.

A significant assumption is that rainbow trout are an appropriate proxy for cool- and warm-water species such as sculpins. This assumption has a significant effect on the criteria, but is not described nor assessed in the RIR.

12. A description of any significant countervailing risks that may be caused by the proposed rule.

No comment.

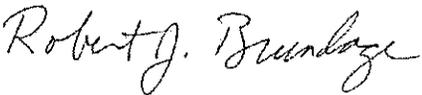
13. The identification of at least one, if any, alternative regulatory approaches that will produce comparable human health, public welfare or environmental outcomes.

The Department says state water quality standards must be as protective as federal standards, and that the Department has not identified any alternative regulatory approaches that would produce comparable results. The RIR is deficient for not addressing AIM's alternative regulatory approach that recommends scientifically defensible separate cadmium acute criteria for warm water and cold water species. It is not necessary to reduce the acute criterion to protect rainbow trout for all waters of the state; an alternative calculation would provide comparable environmental outcomes.

On behalf of Associated Industries of Missouri, thank you for the opportunity to comment.

Sincerely,

NEWMAN, COMLEY & RUTH P.C.

By: 

Robert J. Brundage  
[rbrundage@ncrpc.com](mailto:rbrundage@ncrpc.com)

RJB/la

c: Associated Industries of Missouri  
LimnoTech

