

Missouri Clean Water Commission  
Department of Natural Resources  
Lewis and Clark State Office Building  
LaCharrette/Nightingale Conference Rooms  
1101 Riverside Drive  
Jefferson City, Missouri 65102

May 2, 2012

**Amendment to 10 CSR 20-7.031, Water Quality Standards  
Finding of Necessity**

**Issue:** Pursuant to Section 536.016, RSMo., staff is requesting the Commission find that an amendment to 10 CSR 20-7.031, Water Quality Standards, is necessary to carry out the purposes of Section 644.026, RSMo.

**Background:** Missouri Revised Statutes Section 644.026, paragraphs (2), (3), (7) and (8) grant authority to the Clean Water Commission to adopt, promulgate or repeal after notice and hearing, those regulations to enforce, implement and effectuate the responsibilities of Missouri's Clean Water Law. The Finding of Necessity does not commit the Commission to any particular outcome on the rulemaking, but is a legal requirement for the Department to begin the rule making process. Proposed rules will be presented for public hearing and decision before the Commission.

The purpose of the rulemaking is to update Missouri's water quality standards to make them functionally equivalent to federal standards and to improve the clarity, specificity and effectiveness of the rule. Several of the revisions are Department program development priorities, responses to decisions by the U.S. Environmental Protection Agency (EPA) and revisions as a result of petitions presented to the Commission.

There is considerable outside interest from state and federal regulatory agencies, environmental groups, and public/private entities affected by the rulemaking. The Department is committed to working with these stakeholders to promote wide-spread acceptance for the proposals contained within the rulemaking.

**Recommended Action:** Staff recommends the Commission approve a finding of necessity for an amendment to 10 CSR 20-7.031, Water Quality Standards.

**Suggested Motion Language:** "The Commission approves the finding of necessity for an amendment to 10 CSR 20-7.031, Water Quality Standards."

**List of Attachments:** Rulemaking Report



**Missouri Department of Natural Resources**  
**Water Protection Program**  
Rulemaking Report  
April 12, 2012

Affected Rule: Amendment to 10 CSR 20-7.031 Water Quality Standards

1. *What is the purpose of this rulemaking?*

This rulemaking includes revisions that ensure Missouri's water quality standards (WQS) are functionally equivalent to federal standards. These revisions improve the clarity, specificity and effectiveness of the rule. In summary, the revisions would include the following:

- **Clean Water Act Section 101(a) use designations.** The department is providing a recommendation which responds to the U.S. Environmental Protection Agency (EPA) request that Missouri expand its classification system to currently unclassified waters, or otherwise satisfy the rebuttable presumption of "fishable/swimmable" uses as required by Section 101(a) of the federal Clean Water Act. EPA notified the department of this deficiency by letter on September 8, 2000 following a previous triennial review. More recently, on February 16, 2012 federal court found that the water quality standards, as submitted in 2005, did not meet the requirements of the Clean Water Act.
- **Numeric nutrient criteria for lakes and reservoirs.** Numeric nutrient and chlorophyll criteria for lakes and reservoirs were disapproved by EPA on August 16, 2011. The proposed rule includes methods to determine numeric nutrient criteria based on certain lake characteristics. These criteria will apply to all lakes and reservoirs with the exception of lakes located in the Big River floodplains. Numeric nutrient criteria for these lakes, as well as streams, will be addressed in a future rulemaking;
- **Changes to Clean Water Act use designation definitions.** Use designations for the protection of aquatic life will be refined to support a tiered aquatic life protection framework. Tiered aquatic life protection uses will provide for better implementation and protection of aquatic communities in rule. No water body segments are being proposed for the new aquatic life use designations with this rulemaking. Additionally, the existing Human Health Protection – Fish Consumption use designation will be renamed to Human Health Protection with corresponding criteria re-categorized for the protection of organism only or protection of organism + water;
- **Addition of variance authorizing provisions.** This provision would provide the basis for recommending variances to WQS when standards are not achievable through traditional regulatory approaches;

- **New or revised Clean Water Act Section 304(a) numeric water quality criteria.** Additions and/or revisions to individual state water quality criteria based on a review of federal criteria developed pursuant to Section 304(a) of the federal Clean Water Act. These modifications would bring Missouri's WQS up-to-date with the latest version of most federal Section 304(a) criteria;
- **Addition of Missouri Department of Conservation and Other Lakes.** This revision would add 8 lakes managed by the Missouri Department of Conservation (MDC), and 38 other lakes with existing uses identified by the department, to the classified waters in Table G;
- **Changes to the designation of Whole Body Contact Recreation and Secondary Contact Recreation as a result of Use Attainability Analyses.** These changes are results from the last series of Use Attainability Analyses (UAAs) conducted in 2007 and 2008 that were either disapproved or required additional action following Missouri's 2009 WQS triennial review. This action would include adding whole body contact recreation (WBC) use to stream segments where this use is attainable or existing, designating secondary contact recreation (SCR) to stream segments where existing SCR uses were observed, and removing the WBC use on stream segments where this use is unattainable;
- **Revised delineation and mileages of water body segments.** These improvements use more accurate Geographic Information System (GIS) data to refine delineations of start and end points of water body segments and recalculate stream mileages; and
- **Correction of Typographical Errors.** These changes would correct several typographical errors discovered after the effective date of the revisions to the WQS in 2009.

2. *Why is the rulemaking being proposed now?*

As part of the delegation agreement with EPA, and in accordance with federal regulations at 40 CFR 131.20, the department is required to perform a review of the state's water quality standards at least once every three years. Following these reviews, the state should adopt new or modified standards as necessary to ensure the state's standards are functionally equivalent to the federal standards or guidance. The latest change to the state's WQS will become effective June 30, 2012. This report establishes the rule amendments scheduled for presentation to the Clean Water Commission in 2012-2013 that were either disapproved items from the 2009 triennial review or not included in the 2012 triennial review.

3. *Will the rulemaking incorporate any document by reference, rather than state the language within the rulemaking?*

Two proposed revisions incorporate Clean Water Commission approved documents by reference: "Final Guidelines for Water Body Classification, March 2, 2005" and

“Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol, December 19, 2007.” All revisions are consistent with guidance issued by EPA and consistent with federal criteria developed under Section 304(a) of the Clean Water Act. Other changes follow EPA’s rules or guidance, such as federal rule 40 CFR 131.10(g) for recreational use attainability analyses.

4. *Is a Regulatory Impact Report required for this rulemaking?*

Yes. A regulatory impact report (RIR) will be prepared for review by September, 2012 as directed by the Missouri Clean Water Commission at its March 9, 2012 meeting. The RIR will be made available for a 60-day public review period in conjunction with a description of the proposed changes to the standards.

5. *What authority does DNR have to carry out this rulemaking?*

Missouri Revised Statutes Section 644.026, paragraphs (2), (3), (7) and (8) grant authority to the Clean Water Commission to adopt, promulgate or repeal after notice and hearing, those regulations to enforce, implement and effectuate the responsibilities of Missouri’s Clean Water Law.

The rulemaking is necessary to carry out the intent of the authorizing statute. EPA has requested that Missouri expand its classification system to currently unclassified waters, or otherwise satisfy the rebuttable presumption of “fishable/swimmable” uses as required by Section 101(a) of the federal Clean Water Act. More recently, on February 16, 2012 federal court found that the water quality standards, as submitted in 2005, did not meet the requirements of the Clean Water Act. Resolving this deficiency is a department and EPA priority to ensure the department continues to serve as the delegated Clean Water Act authority in the state. With this rulemaking the department also intends to address disapproved items (e.g., numeric nutrient criteria) contained in EPA’s August 16, 2012 letter to the department regarding Missouri’s 2009 WQS triennial review. Other proposed revisions will ensure that state WQS are functionally equivalent to federal standards and improve the clarity, specificity and effectiveness of the rule.

6. *What does the rulemaking require and how does it produce benefits?*

This rulemaking does not establish new requirements above those already established by the federal Clean Water Act and most of the benefits are described in response to Question 1 regarding the purpose of the rulemaking. Generally, these amendments will improve the manner in which the standards are implemented; including making them more understandable, more effective at achieving the water quality goals, more administratively efficient, or allowing relief from overly-protective requirements.

The designation of “fishable/swimmable” uses to currently unclassified waters will expand protection of aquatic life and recreational uses to more waters in the state. This action satisfies the rebuttable presumption and protection of “fishable/swimmable” uses as required by Section 101(a) of the Clean Water Act. In addition, this action addresses a

water quality standard item in need of attention as noted by EPA in their September 8, 2000 letter to the Department. It will also address the February 16, 2012 federal court ruling that found the water quality standards, as submitted in 2005, did not meet the requirements of the Clean Water Act. The addition of several lakes managed by MDC, and other lakes with existing uses, will ensure the public's use of these lakes is protected in rule by applicable water quality criteria.

The proposed rulemaking sets numerical standards for total nitrogen, total phosphorus and chlorophyll in Missouri's lakes and reservoirs. The values assigned to nutrient parameters vary with the location of the lake within the state (ecoregion) and its size, depth and in-flow residence time. The proposed criteria were written to protect three uses that may be impaired by excessive nutrients:

- Aquatic life is impacted by nutrient loading, increasing fish kills due to oxygen depletion and undermining aquatic diversity by creating conditions favorable to certain fast growing species, such as carp and benthivores, at the expense of other species, (Edgertson and Downing, 2004).
- Drinking water supply problems are frequently attributed to specific species of algae, producing a range of toxicity and resulting in taste and odor problems, risks to human health, livestock and wildlife (Downing et al. 2001).
- WBC may be impaired due to reduced water clarity associated with algae growth, affecting the attractiveness of the water body and prompting safety concerns due to reduced water clarity.

Adoption of federal Section 304(a) criteria will ensure state standards are as protective as federal standards. These revisions will also ensure that permits written against state standards are protective of the beneficial uses in the receiving stream, which will prevent objections from EPA on the grounds that the state's standards were not as stringent as the federal standards, or that permits written against the lesser state standards are not protective of the beneficial water uses in the receiving stream.

The addition or removal of a use designation through a UAA supports the proper application of water quality criteria for pathogen control. Pathogen control in effluent from wastewater treatment systems to the level of protecting WBC will not increase or decrease risks to public health when no direct and complete human contact occurs with the stream. Streams that are not capable of supporting a use do not pose a risk to public health if no human contact occurs. In those instances, the public can avoid the expense of pathogen control as well as the introduction of other contaminants associated with pathogen treatment (such as chlorine from chlorination or trihalomethanes from dechlorination). Clearly, where a WBC use is existent or attainable, a WBC use designation and application of appropriate pathogen control is appropriate for protecting public health, especially where streams have a significant connection to groundwater.

Most of the delineation and mileage changes to Tables G and H serve only to clarify the data within the tables and are not intended to change how water quality standards apply

to classified waters. The benefit of these changes is simply to increase the understanding and efficient use of the WQS.

No additional regulatory requirements will be created through changes to correct typographical errors.

7. *Who is most likely affected by the rulemaking?*

Affected parties include the department, which must implement and administer WQS through regulatory processes, and permitted facilities that must comply with water quality standards through discharge permits. The designation of additional stream miles for “fishable/swimmable” designated uses will improve the protection of these resources, but affect facilities with discharge permits that may have new effluent requirements as a result of the designations. The addition of variance authorizing provisions to the rule will give the department and any affected permitted facilities flexibility when WQS are not achievable through traditional regulatory approaches.

This rule may also impact any activity or process that delivers significant amounts of nutrients to a lake or reservoir such that one or more designated uses are threatened or impaired. There are nearly 2,000 permitted wastewater facilities located within the watersheds of currently classified lakes and reservoirs. More than 85 percent of these facilities are within the watersheds of the ten largest reservoirs in the state. There are about 140 publicly owned treatment works and over 360 subdivisions with wastewater treatment systems that may be affected by the rule. Many of the facilities are within the watershed of the Lake of the Ozarks and Table Rock Lake. In addition, some individual mobile home parks, campgrounds, resorts, motels, restaurants, and schools may be affected by this rulemaking. An updated number of facilities affected by these changes, and the positive or negative impact such changes may have in regard to costs and benefits, will be contained in the regulatory impact report that accompanies the draft rule. Several non-point sources may also be responsible for elevating the nutrients in lakes. The best known sources are cropland fertilizers and livestock manure. Various federal and state incentives exist to help apply best management practices on activities that result in nutrients entering waters through storm water runoff. The implementation of the rule is expected to eliminate or prevent impairments of aquatic life protection and recreational uses as well as reduce or eliminate taste and odor problems caused by increased algae within lakes serving as drinking water sources.

Revising existing water quality criteria to comply with federal 304(a) criteria will affect permitted facilities that have reasonable potential to cause or contribute to exceedances of these criteria. The number of facilities that may be affected by these changes, and the positive or negative impact such changes may have in regard to costs and benefits, will be contained in the regulatory impact report that accompanies the draft rule.

Clarifications made to Tables G and H, and the addition of several lakes managed by MDC and those with existing uses, will ensure that the public's beneficial uses of these waters are protected by applicable water quality criteria. The addition of classified segments will expand protection of aquatic life and recreational uses to all waters of the state. This action will ensure appropriate protection of these waters under the federal

Clean Water Act. As a result of these increased protections, a number of permitted facilities may receive additional permit conditions and requirements that ensure protection of downstream beneficial uses. The number of facilities that will be affected by the rule will also be contained in the regulatory impact report that accompanies the draft rule. These facilities include permitted domestic (public and private) wastewater treatment facilities discharging above segments on which WBC is a designated use, either through classification or a UAA. These facilities would be required to provide pathogen control on their effluent after designation of the use. The potential annual cost by these facilities should disinfection be required is approximately \$10,000 to \$1,700,000 per facility, depending on the current plant design. Possible increases to sewer rates to cover disinfection costs may range from less than \$1.00 per month to nearly \$7.00 per month.

The correction of typographical errors is not expected to positively or negatively affect any public or private entity.

8. *What impact will the rulemaking have on small businesses? (A small business is defined by statute as a for-profit enterprise with fewer than 50 full-time or part-time employees.)*

While the department has not yet completed its identification of all streams, lakes and reservoirs affected by this rule, estimates of the number of facilities, including small businesses, that may be affected have been made. These estimates were made during previous rulemaking cycles and will be updated for the regulatory impact report that accompanies the draft rule. It is likely that some of the facilities will meet the definition of a small business. Examples include campgrounds, resorts, motels and restaurants. These businesses are likely to experience a savings in treatment costs where disinfection is determined to be unnecessary as a result of the removal of a WBC use designation from the stream. Conversely, these businesses may experience an increase in treatment costs where disinfection is determined to be necessary due to expansion of stream classification or UAA. Regarding numeric nutrient criteria, approximately 2,000 permits cover the discharge of nutrients into watersheds of classified lakes. Some of those facilities likely meet the definition of a small business (see examples above) and it is likely that some of these businesses will be required to upgrade their wastewater treatment to comply with new nutrient criteria. Costs will vary depending on the type of treatment system currently operated. Additional discussion regarding the impact of this rulemaking on small businesses will be addressed in the small business impact statement.

9. *What are the probable costs for the department or any other public agency in the implementation and enforcement of the rulemaking?*

Implementation and enforcement of the rulemaking will increase demands on department resources. The department will be required to review operating permits for facilities affected by the rulemaking to determine whether additional regulatory requirements are needed to protect aquatic life and recreational uses. This additional review will result in an increase in staff time issuing state operating permits. Enforcement of the proposed rulemaking has the potential to increase demands on enforcement and inspection staff time where permit violations increase. In addition, the rulemaking will necessitate the

need for increased water quality monitoring and assessment resources to ensure implementation and enforcement of the rulemaking are having the desired effect. Due to the increase in the number of water bodies where assessment will be needed, there will likely be an increase in the number of impaired waters and those needing Total Maximum Daily Loads to address water body impairments. Because water quality data are not available for many of the potentially affected water bodies, an estimate for the number of potentially impaired waters cannot be developed at this time.

10. *What is the anticipated effect of the rulemaking on state revenue?*

None of the amendments proposed will effect the collection of state revenues.

11. *Who was/will be involved in developing the rulemaking?*

The majority of the revisions contained in this rulemaking have been discussed and presented to interested stakeholders and the public through the Water Protection Forum and meetings of the Missouri Clean Water Commission (Commission). The Water Protection Forum includes representation from agricultural, industry and municipal groups as well as environmental groups and the general public. Representation in the forums and at Commission meetings has included the department, MDC, EPA Region 7, Washington University, the Sierra Club, the Missouri Coalition for the Environment, the Missouri Public Utility Alliance, Missouri Farm Bureau and representatives from regulated entities, environmental groups, agricultural interests and the general public.

Since January 2009, the Water Protection Forum has met five times to discuss revisions to Missouri's Water Quality Standards (10 CSR 20-7.031) and Effluent Regulations (10 CSR 20-7.015). During that same period, the Water Classification Workgroup of the Water Protection Forum met five times to develop and provide a recommendation that would extend "fishable/swimmable" uses to currently unclassified waters. Composition of the Water Classification Workgroup was similar to that of the Water Protection Forum as a whole. With this rulemaking, the department intends to re-engage stakeholders through the Water Protection Forum to develop a framework for "fishable/swimmable" designated uses (i.e., tiered aquatic life protection uses) and protocols for determining appropriate aquatic life protection use designation.

From 2005 through 2009, the Nutrient Criteria Workgroup met to discuss numeric nutrient criteria for lakes and reservoirs, usually on a monthly basis. Participants included staff from agencies at the local, state, and federal levels, as well as advocacy groups for both environmental protection and for the regulated communities. Starting in January 2007, a technical subcommittee began meeting to refine the rule. The technical subcommittee included representation from the department, the Department of Conservation, the University of Missouri-Columbia, Washington University, EPA Region 7, and several environmental consultants. Details of the meetings can be found on the Lakes of Missouri Volunteer Program web site at the following link: <http://www.lmvp.org/nutrientcriteria/index.htm>. In January 2009, numeric nutrient criteria for lakes were presented to the Commission as part of the 2009 Water Quality Standards triennial review. The rule containing numeric nutrient criteria for lakes was subsequently submitted to EPA Region 7 for review and approval. In August 2011, EPA

disapproved most of the nutrient rule, with the opinion that the criteria were not sufficiently protective and did not tie the criteria to a designated use. This disapproval must now be addressed with an alternative approach. The technical subcommittee has been reconvened for this purpose, and when a revised rule is agreed on it will be presented to the larger stakeholder group.

Outside of the stakeholder Clean Water Forum and Nutrient Criteria Workgroup process, no public involvement has occurred with this proposal to date. Public comments on the proposed rule amendments will be accepted during the appropriate phases of the rulemaking process.

12. *How has/will the development of the rulemaking been/be shared with interested parties and the public at large?*

This question is answered in conjunction with the response to the previous question (Question 11).

13. *Who may I contact to either ask questions or provide input on this rulemaking?*

Mr. John Madras, Director  
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14. *What are the expected dates for the comment period and public hearing?*

The conclusion of this triennial review is expected in 2013. Department staff will engage stakeholders in discussions on the various proposals and keep stakeholders informed of changes that may occur, as well as progress made. The department believes sufficient evidence exists to proceed with the rulemaking and will present a Finding of Necessity to the Clean Water Commission at its May 2, 2012 meeting. The Commission has directed the department to provide a Regulatory Impact Report (RIR) and proposed amendment no later than its September 5, 2012 meeting.

The expected date for the public hearing is March 6, 2013. The formal comment period for this rule begins with the publication in the Missouri Register December 17, 2012 and ends on March 13, 2013.

Meetings with Stakeholders	April 2, 2012 – July 20, 2012
Published Meetings Water Protection Forum	<a href="http://www.dnr.mo.gov/env/wpp/">http://www.dnr.mo.gov/env/wpp/</a>
Signed Finding of Necessity	May 2, 2012 CWC Meeting
Interagency Coordination	July 25, 2012 – Aug. 27, 2012

RIR Public Noticed	Sept. 1, 2012 – Oct. 31, 2012
File with Small Business Regulatory Fairness Board, Joint Committee on Administrative Rules and Secretary of State	Nov. 15, 2012
Publication in the Missouri Register	December 17, 2012
Public Comment Period	December 17, 2012
Public Hearing	March 6, 2013
End of Comment	March 13, 2013
Response to Comment & Adoption	May 1, 2013
Order of Rulemaking Filed with the Joint Committee on Administrative Rules	May 2–10, 2013 File May 10, 2013 (May 12, Sun. = 60 days)
Order of Rulemaking Filed with Secretary of State	June 10 or 11, 2013 must file (June 11 = 90 days)
Order of Rulemaking Published in Missouri Register	July 17, 2013
Rule Published in Code of State Regulations	July 31, 2013
Rule Effective	August 30, 2013

