

FISCAL NOTE

PRIVATE COST

I. RULE NUMBER

Rule Number and Name	<i>10 CSR 20-7.015 Effluent Regulations</i>
Type of Rulemaking	<i>Proposed Rule Amendment</i>

II. SUMMARY OF FISCAL IMPACT

Estimate of the number of entities by class which would likely be affected by the adoption of the proposed rule:	Classification by types of the business entities which would likely be affected:	Estimate in the aggregate as to the cost of compliance with the rule by the affected entities:
Approximately 300 facilities	Private domestic and industrial wastewater treatment facilities	\$102,600

Affected Agency or Political Subdivision	Estimated Cost of Compliance in the Aggregate*
Private wastewater treatment facilities, Nutrient Monitoring required for one permit term	\$115,600
Private wastewater treatment facilities, Whole Effluent Toxicity (WET) Testing (large & medium facilities)	\$212,000
Private wastewater treatment facilities, Nitrate Monitoring	(\$225,000)
TOTAL	\$102,600 *Cost of Compliance in the Aggregate

*Aggregate cost of compliance is calculated by summing the annual costs in the worksheet tables from 2013 through 2018 for private domestic and industrial wastewater treatment facilities

* 3% inflation

III. WORKSHEET

In summary, the revisions to 10 CSR 20-7.015 *Effluent Regulations* will:

1. Update bacteria limits and monitoring requirements;

2. Revise language regarding “bypasses” to align with federal definition;
3. Require quarterly effluent monitoring of nutrient concentrations at large wastewater treatment facilities;
4. Provide clarification regarding whole effluent toxicity testing requirements;
5. Allow for electronic reporting via web-based systems (once available);
6. Include provisions for developing effluent limits with regard to several situations such as discharges to impaired waters, tiered limits which allow higher discharge concentrations during higher stream flow rates, and the use of local stream data to adjust effluent limits;
7. Reduce monitoring frequency for facilities that consistently comply with effluent limits;
8. Eliminate schedule to comply with phosphorus effluent limits for discharges to Table Rock Lake and Lake Tanycomo because the dates have already passed;
9. Require limits for the discharge of nitrates that may impact specific drinking water wells;
10. Specify that operating permits may include schedules of compliance in accordance with federal regulations;
11. Revert to pH effluent limits that were in a previous version of the regulation;
12. Allow alternate compliance points for discharges to subsurface waters; and
13. Reorganize and clarify several elements of the rule.

Summary of Costs						
Nutrient Monitoring	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
	\$3,000	\$9,200	\$15,800	\$22,800	\$30,200	\$34,600
FY2013 through FY2018	Nutrient Monitoring, multi-year aggregate total = \$115,600					
<p>52 private facilities will collect and analyze 4 samples each year to analyze for total nitrogen and phosphorus at a total cost of \$143 per sample = \$29,744. Operating permits are issued with 5-year terms, and the new monitoring requirements will only be incorporated into permits as they are renewed. Nutrient monitoring will only be required for one permit term, and will be discontinued in future operating permits. During the first full year it is assumed that one-fifth of the facilities will have permits up for renewal. Only one-half of the first year season falls within FY2013. Each year the analytical costs are estimated to increase by 3% for inflation.</p> <p>Therefore the FY2013 costs are estimated as: $\\$29,744 * (1/5) * (1/2) = \\$3,000$ (Results rounded to nearest \$100)</p> <p>For FY2014, an additional one-fifth of the facilities will have monitoring incorporated into their operating permit: $\\$3,000*(1.03) + (52)*(4)*(1/5) *(\\$143)*(1.03)^1 = \\$9,200$</p> <p>For FY2015, an additional one-fifth of the facilities will have monitoring incorporated into their permit: $\\$9,200*(1.03) + (52)*(4)*(1/5) *(\\$143)*(1.03)^2 = \\$15,800$</p> <p>For FY2016, an additional one-fifth of the facilities will have monitoring incorporated into their permit: $\\$15,800*(1.03) + (52)*(4)*(1/5) *(\\$143) * (1.03)^3 = \\$22,800$</p> <p>For FY2017, an additional one-fifth of the facilities will have monitoring incorporated into their permit: $\\$22,800*(1.03) + (52)*(4)*(1/5) *(\\$143)*(1.03)^4 = \\$30,200$</p> <p>For FY2018, the remaining facilities will have monitoring incorporated into their permit: $\\$30,200*(1.03) + (52)*(4)*(1/5) *(1/2)*(\\$143)*(1.03)^5 = \\$34,600$</p>						

Whole Effluent Toxicity (WET) Tests	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
	\$32,800	\$33,700	\$34,800	\$35,800	\$36,900	\$38,000
FY2013 through FY2018	Whole Effluent Toxicity, multi-year aggregate total = \$212,000					
<p>5 large private facilities (annual test) and 287 medium private facilities (one test every five years) will conduct WET tests at \$500 per test. Five percent additional testing is assumed because of potential industrial concerns at facilities that have industrial or commercial customers.</p> <p>$[(5) + (20\%)*(287)]*(1.05) *(\\$500) = \\$32,800$ per year. Each year the analytical costs are estimated to increase by 3% for inflation.</p>						
Reduced Nitrate Monitoring	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
	(\$34,800)	(\$35,800)	(\$36,900)	(\$38,000)	(\$39,200)	(\$40,300)
FY2013 through FY2018	Reduced Nitrate Monitoring, multi-year aggregate total = (\$225,000)					
<p>232 private facilities are currently required to monitor for nitrates. It is assumed that monitoring at half of these facilities will no longer be required. Monthly monitoring is assumed at a cost of \$25 per analysis. Each year the analytical costs are estimated to increase by 3% for inflation.</p> <p>$(232) * (1/2) * (12) * (25) = \\$34,800$ savings per year.</p>						
Upgrades for disinfection and ammonia treatment: please see Additional Considerations # 1 and Water Quality Standards, 10 CSR 20-7.031, fiscal notes	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
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Subtotal aggregates**	\$1,000	\$7,100	\$13,700	\$20,600	\$27,900	\$32,300
Multi-Year Aggregate Total = \$102,600						

**Rounded to the nearest hundred

Additional Considerations

1. Update for bacteria limits and monitoring requirements

In a concurrent rulemaking (10 CSR 20-7.031), many new waters are being designated for whole body contact. Prior to this proposed amendment, facilities that discharge to waters that are currently designated for whole body contact (A) & (B) and secondary contact recreational are required to disinfect and to meet long-term seasonal bacteria limits. In addition, facilities that discharge to losing streams are required to disinfect and meet daily limits.

Subparagraph (9)(B)1.E. establishes short-term bacteria limits; weekly average limits for Publicly-Owned Treatment Works (POTWs) and maximum daily limits for private facilities. Short-term limits are a federal requirement. The performance goal for effluent disinfection systems is complete kill or inactivity. These systems are constructed based on the peak flow of each facility, so the Department would not expect there to be costs associated with meeting short-term bacteria limits during typical operations for facilities that are already required to disinfect.

It is important to note that the bacteria limits for losing streams is being amended to state that discharges to losing streams shall be considered in compliance so long as no more than ten (10) percent of samples exceed one-hundred twenty-six (126) colony forming units per one hundred (100) ml daily maximum. This should eliminate some costs associated with continuous compliance. Even with this change the Department does expect a few of these facilities to have occasional difficulties meeting the short-term limits that may require some action. Typically these problems will arise during extreme wet weather events or during times in which a particular treatment plant experiences an upset. In some cases these problems may be addressed by improved operations. But some facilities may choose to modify their chlorination systems, add ultraviolet treatment capacity, or perhaps even build or expand basins to provide additional flow equalization. To accurately reflect any one facility's costs, an industrial engineering evaluation with detailed estimates of several work packages, combined with the work of price analysts and cost accountants, including prescriptions to address the treatment and collection system of each facility are needed.

A major element of the concurrent rulemaking for 10 CSR 20-7.031, Water Quality Standards, is the designation of considerably more waters as fishable and swimmable. The range of costs associated with the designation of these waters was developed in this concurrent rulemaking. Associated costs to designate these waters greatly surpasses the relatively minor costs associated with implementing short-term limits. For additional information regarding assumptions and the calculations please refer to the concurrent rulemaking published June 17, 2013. In many cases associated costs have already been incurred with respect to capital costs, operations and maintenance, upgrading facilities to meet both ammonia and bacteria limits at appropriate locations, adding disinfection and/or, replacement or upgrade of treatment plants to meet ammonia limits. Please refer to the fiscal note associated with the concurrent revision to 10 CSR 20-7.031.

2. Revise language regarding “bypasses” to align with federal definition

The existing rule language regarding bypasses is imprecise and includes incidents in which wastewater does not receive full treatment at the wastewater treatment plant, either because sanitary sewers overflow or because water is routed around treatment units in the wastewater treatment plant. The industry commonly refers to water that escapes sanitary sewers as Sanitary Sewer Overflows (SSOs), and in practice these should not be referred to as “bypasses.”

The amendment will serve to change the definition of bypass to align it with the federal definition. This will standardize and correct commonly used terminology, and it is intended to reduce confusion by aligning state requirements with federal. Utilizing the federal language will allow dischargers to concern themselves with meeting the existing federal requirements and eliminate concerns about how state rules may differ.

Because the rule essentially adopts existing federal requirements, there are no additional fiscal impacts to consider. Until recently, some stakeholders shared the opinion that the U.S. Environmental Protection Agency (EPA) had changed their interpretation regarding “bypassing,” and so the choice to align

Missouri's rule with the federal rule would result in implementation costs related to those changed interpretations. In particular, EPA had determined by policy that blending was considered bypassing. Blending is generally a diversion of peak wet-weather flows around biological treatment units and combining effluent from all processes prior to discharge from a permitted outfall. The discharge must still meet effluent limits. However, on March 25, 2013, the U.S. Eight Circuit Court of Appeals invalidated EPA's policy regarding blending (*Iowa League of Cities vs. Environmental Protection Agency*). The Court found that these EPA policies were functionally binding, and as such, they were subject to the notice and comment requirements, and since EPA did not engage in notice and comment procedures prior to issuing these policies, the court vacated them.

In summary, the amendment substantially adopts the federal definition of bypass and therefore there are no cost considerations.

3. Require quarterly effluent monitoring of nutrient concentrations at large wastewater treatment facilities

An online survey of costs for analyzing a wastewater sample for total nitrogen ranged from \$42 to \$85 and total phosphorus ranged from \$21 to \$58. The higher costs estimates (\$85 plus \$58 = \$143 per sample) are used. According to the *Missouri Clean Water Information System (MoCWIS)*, there are approximately 52 private wastewater treatment facilities that have a design of 100,000 gallons per day or greater. The rule will require quarterly sampling.

However, this requirement will be implemented through operating permits. Operating permit terms are five years. Please see the summary table for information on fiscal impact for future years. Nutrient monitoring are one-time costs required in the permit's term.

4. Provide clarification regarding whole effluent toxicity testing requirements

Whole effluent toxicity (WET) testing requirements have been included in operating permits for several years, so many private wastewater treatment facilities have already been incurring these costs. For the purposes of this fiscal note, however, the figures presented will estimate the total cost of WET testing. The current permitting approach is to require annual WET tests for all facilities that have a design flow of one million gallons per day or more (large facilities). For facilities that have design flows less than 22,500 gallons per day, WET testing is generally not required. For medium-sized facilities (design greater than 22,500 gallons per day and less than one million gallons per day) the general permitting policy is to require one WET test per permit cycle, which is typically once every five years.

In addition to these general flow guidelines, WET tests may be required for small private facilities in which the department has toxicity concerns. An example might be a very small community that has an industrial source that discharges to the plant. Toxicity concerns from industrial sources may also indicate the need for more frequent WET testing.

According to the *Missouri Clean Water Information System (MoCWIS)*, there are approximately 5 private wastewater treatment facilities that have a design flow of one million gallons per day and there are 287 medium sized private facilities. For the purposes of this fiscal note it is assumed that the "one test per permit cycle" WET tests are distributed so that twenty percent of the facilities are incurring the testing expense each year because of the five-year permit cycle. In addition, the estimate for the total number of tests has been increased by five percent to account for the additional tests that may be required to address concerns that industrial sources may be contributing to toxicity.

A survey of several WET test providers in Missouri indicates that the cost of a WET test ranges from \$300 to \$600. For the purpose of this fiscal note the cost was assumed to be \$500.

$[(5 \text{ large POTWs}) + (20\%)(287 \text{ medium POTWs})] * (1.05) * (\$500) = \$32,800 \text{ per year in FY2013}$

It is expected that the testing may indicate toxicity problems at a few facilities. It is not possible to know how many facilities will discover toxicity, nor is it possible to estimate the costs associated with a toxicity identification evaluation and subsequent toxicity reduction evaluation. Although expected to be relatively rare, there is the possibility that the failure of a series of WET tests may lead to the need for a facility to develop a toxicity reduction strategy. This fiscal note does not attempt to estimate these costs.

Lastly, the number of WET tests is expected to begin to diminish in the future. The overwhelming majority of facilities are expected to show that their effluent is not causing toxicity. With enough data it can be shown that there is no reasonable potential to expect effluent toxicity, and in those cases operating permits can include less frequent WET testing requirements.

5. Allow for electronic reporting via web-based systems (once available)

The existing regulation requires 24-hour reporting by phone followed by a five-day written report for all bypasses. Private wastewater systems are also expected to report Sanitary Sewer Overflows in a similar manner, and the standard conditions document that accompanies all operating permits is being revised to reflect this. The Department has developed an electronic reporting system, which is in the process of being improved and refined. The regulation is being amended to allow the reporting to be done electronically. This is expected to be more convenient and direct, and may save expense for some entities that report.

6. Include provisions for developing effluent limits with regard to several situations such as discharges to impaired waters, tiered limits which allow higher discharge concentrations during higher stream flow rates, and the use of local stream data to adjust effluent limits

These provisions are expected to marginally reduce costs to private wastewater treatment facilities. The current rule requires operating permits to be modified when a TMDL is finalized; the amendment allows these changes to be done during permit renewal so long as an urgent remedy is not necessary. Flow tiered limits will allow the Department to issue operating permits that have higher effluent limits during times when there is higher flows in the stream available for mixing. The use of local stream data, such as in-stream hardness for the development of less stringent site specific metals effluent limits likely cost less to meet while still protecting the stream's uses. Again, all of these provisions tend to allow for less stringent limits, and therefore are expected to result in a minor reduction in costs to private facilities.

7. Reduce monitoring frequency for facilities that consistently comply with effluent limits

Subparagraphs (2)(C)1.B., (3)(B)1.B., (4)(C)1.B., and (8)(B)1.B. allow operating permits to be written with reduced monitoring frequency of certain pollutants for facilities that have demonstrated their ability to routinely meet permit limits. It is impossible to predict how many facilities will have monitoring results that will lead to a conclusion that less monitoring is necessary, but this should certainly result in a cost savings for dozens of facilities.

8. Eliminate schedule to comply with phosphorus effluent limits for discharges to Table Rock Lake and Lake Tanycomo because the dates have already passed

This amendment to Subsection (3)(F) will eliminate schedules that have already passed. The schedules involved complying with phosphorus limits in the effected watersheds. There are no costs or cost savings associated with this change.

9. Require limits for the discharge of nitrates that may impact specific drinking water wells

For some time some operating permit writers have been including nitrate limits at the end of pipe in all operating permits that discharge to losing streams and in cases of subsurface wastewater disposal. The purpose of these limits is to protect aquifers for use as a source of drinking water. The approach of requiring nitrate limits in all settings is not prudent because in most cases it is very unlikely that drinking water wells will be affected at a level worthy of concern. The prudent approach is for operating permit writers to include a nitrate limits only in settings in which a concern exists regarding a particular well. The decision will be based on the size of the discharge, its proximity to the drinking water wells, and a concern that the geological conditions may allow the discharge to affect the quality of the well water.

According to the Missouri Clean Water Information System (MoCWIS), there are approximately 232 private wastewater treatment facilities or industrial facilities that are currently required to monitor for nitrates. Without evaluating each situation, for the purposes of this fiscal note, it is assumed that half of these facilities will not have to continue monitoring for nitrates because of this rule change. An online survey of the costs for analyzing a wastewater sample for nitrates ranged from \$24 to \$30. For the purposes of this fiscal note the analysis cost is assumed to be \$25 and the monitoring frequency is monthly.

$(232)(1/2)(\$25)(12) = (\$34,800)$ savings in FY2013

10. Specify that operating permits may include schedules of compliance in accordance with federal regulations

Existing language in Section (10) of 10 CSR 20-7.031 *Water Quality Standards* references the federal regulation regarding schedule of compliance (40 CFR 122.47). This amendment will relocate the schedule of compliance language from the Water Quality Standards rule into this rule. There are no fiscal ramifications from moving the location of this provision.

11. Revert to pH effluent limits that were in a previous version of the regulation

During the previous revision to the Effluent Regulation the pH range was revised from (6 to 9) to (6.5 to 9.0). This change was made as a result of a response to a comment from the U.S. Environmental Protection Agency. The purpose of this change was to align the Effluent Regulation with the Water Quality Standards rule. However, the Regulatory Impact Report (RIR) for this previous rulemaking did not address the costs associated with this change because the change was made subsequent to the RIR process during the response to comments phase of the rulemaking. In addition, the fiscal note did not address the costs.

Department is proposing to revise the pH portions of the rule to read as it did prior to the last revision, meaning the rule will require effluent to have a pH range of 6 to 9. The Department does not expect there to be any fiscal impact to returning to the previous pH range.

12. Allow alternate compliance points for discharges to subsurface waters

The existing rule requires facilities that have subsurface discharges to meet their effluent limits at a point ten feet below the surface. The purpose of specifying the “ten foot” compliance point was to allow compliance to be determined at some point below the surface but prior to typical entry into the aquifer. The proposed amendment will allow alternative compliance depths provided it is appropriate for the setting. Although not common, it is expected that a few facilities may see a marginal savings because they may not have to treat wastewater to quite as low a concentration prior to release. Because the savings are expected to be quite marginal and relatively rare, for the purposes of this fiscal note this change is assumed to have no fiscal impact.

13. Reorganize and clarify several elements of the rule

Rule reorganization and clarification is not expected to result in any fiscal impacts.

V. ASSUMPTIONS

The duration of the proposed rule is indefinite. There is no sunset clause. Costs imposed by the proposed rule for monitoring and wet tests are shown on an annual basis in the table summaries. The total estimated cost of compliance in the aggregate, for all private and domestic wastewater treatment facilities, is \$102,600 through 2018.

The proposed amendment will cost private wastewater treatment facilities (domestic and industrial) in the aggregate \$1,000 in fiscal year 2013, \$7,100 in fiscal year 2014, \$13,700 in fiscal year 2015, \$20,600 in fiscal year 2016, \$27,900 in fiscal year 2017, and \$32,300 in fiscal year 2018. The costs associated with nutrient monitoring for nitrogen and phosphorus are expected to decrease after 2018 as many facilities will have completed their monitoring obligation within their specific permit terms. The costs associated with whole effluent toxicity testing, or WET Tests, after 2018 are expected to decline significantly in future years as most facilities will demonstrate that their effluent is not toxic and monitoring can be reduced or eliminated. The savings for nitrate are a result of reduced monitoring frequency and, are expected to continue into future years.

Total aggregate cost savings for nitrate monitoring are expected to be \$40,300 in FY2018 due to reduced monitoring and, beyond with reduced monitoring and on-going compliance.

**Title 10—DEPARTMENT OF NATURAL RESOURCES
Division 20—Clean Water Commission
Chapter 7—Water Quality**

ORDER OF RULEMAKING

By the authority vested in the Clean Water Commission under section 644.026, RSMo Supp. 2013, the Clean Water Commission amends a rule as follows:

10 CSR 20-7.031 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on June 17, 2013 (38 MoReg 939-1069). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held September 11, 2013, and the public comment period ended September 18, 2013. At the public hearing, Watershed Protection Section staff explained the proposed amendment and fifteen (15) comments were made. The department also received ninety-two (92) written comments from individuals, municipalities, and organizations during the public comment period. Several of the comment letters were signed by multiple individuals or organizations and a few submitted more than one (1) comment letter. Multiple comment letters from the same entity were counted as one (1) comment but addressed separately, where appropriate. The department's responses to these comments have been categorized as general and specific, and are located following the fifteen (15) comments provided during the public hearing.

COMMENT #1: Steve Mahfood, citizen, urged the Clean Water Commission to support the proposed water quality standards regulation. Mr. Mahfood commented that while this rule is just the beginning of needed changes and that there are other water quality standards issues to address, this rule is long overdue and is a major step toward achieving the goals of the Clean Water Act. He further noted that in crafting this rule the department has worked with a number of stakeholders with different views, and that this rule will provide assurance and known standards to the agricultural community and all citizens of the state.

RESPONSE: The department appreciates Mr. Mahfood's encouragement and support, and agrees that while the proposed Water Quality Standards amendment would go a long way toward providing needed assurance and regulatory consistency, continued refinement of the rule will be necessary as the state works toward fully achieving the goals of the Clean Water Act.

COMMENT #2: Kevin Perry, REGFORM, described the proposed amendment to the water quality standards as important and urged the commission to adopt this rule out of concern that if Missouri does not take the matter into our own hands, EPA may promulgate their own rule for us. Mr. Perry requested that the commission remove language from three (3) sections of the rule that he characterized as either vague, unnecessary, or too prescriptive: the proposed sulfate and chloride criteria language at 10 CSR 20-7.031(5)(L); the parenthetical reference to rare and endangered species in the definition of Exceptional Aquatic Habitat at 10 CSR 20-7.031(1)(C)1.D.; and the variance language at 10 CSR 20-7.031(12)(B) referring to the factors provided in 40 CFR 131.10(g). Mr. Perry also requested that the commission insert a blanket acknowledgement into the rule that any conveyances or man-made treatment structures found in the Missouri Use Designation Dataset are there by error and should be removed; and he requested that the commission incorporate language, which he would provide to them with his written comments, stating that the rule would not become effective until the commission also adopted a

use attainability analysis protocol. Finally, he urged the commission to adopt this rule at the November 6, 2013 commission meeting, even in the event that department staff recommend that it be withdrawn.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates Mr. Perry's support of the proposed Water Quality Standards amendment, and agrees that it is in the state's best interest to adopt this rule to avoid promulgation at the federal level.

In light of the substantial and conflicting comments from Mr. Perry and others regarding the sulfate and chloride criteria, the department has removed all revisions pertaining to sulfate and chloride from the proposed amendment and will propose alternate amendment language following a decision from EPA on the department's most recent submittal on this issue. The department recognizes the need for clarification on how to implement these criteria, and will continue to work with stakeholders to develop such procedures in a future rulemaking. Any action taken by EPA on this part of the previous rule will be taken into consideration at that time.

Comments from other stakeholders regarding the proposed Exceptional Aquatic Habitat use go beyond Mr. Perry's comment that the reference to rare and endangered species is unnecessary, and suggest that the entire designated use itself is redundant and unnecessary and should be removed. While the department feels that there is value in keeping the Exceptional Aquatic Habitat use designation, the department agrees that additional clarification is needed in the rule, and that existing requirements should prevent the degradation of high quality aquatic habitat. For these reasons, the department has removed the Exceptional Aquatic Habitat designated use definition from the proposed amendment pending further discussion.

The department notes that EPA has been clear in its expectations that variances from water quality standards can be approved, provided the state demonstrates that meeting the standard is unattainable based on one (1) or more of the factors outlined in 40 CFR 131.10(g), and does not believe that the proposed requirement to address attainability per 40 CFR 131.10(g) is unduly limiting or incongruent with state statute at 644.061, RSMo. The department does agree, however, that other factors may be taken into consideration and has revised the proposed variance language accordingly.

Without evidence that man-made stormwater and wastewater conveyances or treatment structures were not constructed in waters of the U.S., and without establishment of a use attainability analysis, the department is not able to categorically remove these streams from the Missouri Use Designation Dataset. In addition, the department notes that any rule language making approval and implementation of the proposed amendment contingent upon completion of an aquatic habitat use attainability analysis protocol would not be approvable by EPA. As a result, such language will not be added to the proposed amendment.

COMMENT #3: Robert Brundage, Newman, Comley & Ruth, P.C., commented that the Clean Water Commission has complete authority to either adopt or not adopt the proposed water quality standards rule, but stated that it is a very important rule and urged them to vote in favor of it, pending his suggested changes. Mr. Brundage noted that both the Missouri Use Designation Dataset and the use attainability analysis protocol as referenced in this rule are incomplete at the present time, and suggested that the commission may wish to not adopt either of these into this rule. He further emphasized that a protocol focusing on factor 2 of 40 CFR 131.10(g) is a priority for him and that he will remain involved in the process. He strongly supports the proposed tiered aquatic life use framework at paragraph (1)(C)1., but requests that the Exceptional Aquatic Habitat use be removed. He also requests that the language at paragraph (2)(G)1. discouraging sub-segmentation of streams and rivers as a result of a demonstration of use attainability be revised or removed, and that the definition of "sufficient" when referring to hydrologic and biological data necessary for assigning designated uses at paragraph (2)(D)3. be clarified. Finally, Mr. Brundage commented that the department's proposed methods for calculating hardness, sulfate, and chloride values at 10

CSR 20-7.031(5)(L) for use in the equations in Table A are not scientifically defensible, and suggests that the department instead adopt default values for hardness and sulfate from the department's own *Water Pollution Control Permit Manual*.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates Mr. Brundage's support of the proposed Water Quality Standards amendment. The department also appreciates Mr. Brundage's continued support of the development of a use attainability analysis protocol, and notes that at the suggestion of Mr. Brundage and others, the department has removed reference to the aquatic habitat use attainability analysis protocol from the proposed amendment, including language discouraging sub-segmentation of streams. The use attainability analysis protocol reference has been replaced with a reference to the federal regulations at 40 CFR 131.10(g) for removing or modifying a designated use. The Missouri Use Designation Dataset, however, is the digital geospatial dataset that provides the basis for assigning water quality standards to waters in the state and, as such, must be referenced in the proposed amendment.

While the department feels that there is value in keeping the Exceptional Aquatic Habitat use designation, the department agrees that additional clarification is needed in the rule, and that existing requirements should prevent the degradation of high quality aquatic habitat. For these reasons, and because of comments by Mr. Brundage and others, the department has removed the Exceptional Aquatic Habitat designated use definition from the proposed amendment pending further discussion.

The department agrees that the definition of "sufficient", when referring to hydrologic and biological data at paragraph (2)(D)3., is unclear. In response to comments by Mr. Brundage and others, the department has revised this section of the amendment to allow the designation of uses on a case-by-case basis to waters that fall within the jurisdiction of the Missouri Clean Water Law but may not have otherwise been captured in paragraph (2)(D)1. but that are not demonstrated to be exclusions at paragraph (2)(D)3. Any case-by-case determination of designated uses would be brought to the commission for approval following a public notice and comment period.

In light of the substantial and conflicting comments from Mr. Brundage and others regarding the sulfate and chloride criteria, the department has removed all revisions pertaining to sulfate and chloride from the proposed amendment and will propose alternate amendment language following a decision from EPA on the department's most recent submittal on this issue. The department recognizes the need for clarification on how to implement these criteria, and will continue to work with stakeholders to develop such procedures in a future rulemaking. Any action taken by EPA on this part of the previous rule will be taken into consideration at that time.

COMMENT #4: Peter Goode, Washington University Environmental Law Clinic and Missouri Coalition for the Environment, commented that the proposed water quality standards rule amendment and Missouri Use Designation Dataset do not provide default protections for all waters of the United States as required under the federal Clean Water Act; he also commented that waters not currently in the dataset should be presumed to be attaining default uses outlined in the Clean Water Act without needing a use attainability analysis to be added. Mr. Goode also noted that the amendment still contains no numeric criteria for protection of designated uses in wetlands, and suggested that the department assign the warm water aquatic habitat designated use to wetlands on public lands as a first step to broader protections for wetlands. Finally Mr. Goode noted that there are terms proposed in the rule, such as Exceptional Aquatic Habitat, Modified Aquatic Habitat and Class E, that do not appear to be utilized and whose impact is unknown; he suggests that these be better defined and their intent clarified.

RESPONSE AND EXPLANATION OF CHANGE: The department acknowledges Mr. Goode's concerns with the proposed Water Quality Standards amendment and the Missouri Use Designation

Dataset. In response to comments by Mr. Goode and others, the department has revised this section of the amendment to allow the designation of uses on a case-by-case basis to waters that fall within the jurisdiction of the Missouri Clean Water Law but may not have otherwise been captured in paragraph (2)(D)1. but that are not demonstrated to be exclusions at paragraph (2)(D)3. Any case-by-case determination of designated uses would be brought to the commission for approval following a public notice and comment period. Furthermore, the department notes that all waters of the state, whether classified or not, are currently protected by general water quality criteria, and those supporting aquatic life on at least an intermittent basis are subject to the acute toxicity criteria in Tables A and B of the standards. With the addition of over twenty-six thousand (26,000) acres of lakes and nearly eighty-five thousand (85,000) additional miles of streams receiving Clean Water Act default uses under the proposed Water Quality Standards amendment, this rule represents a major step toward ensuring full protection for all waters in the state within the jurisdiction of Missouri Clean Water Law and the federal Clean Water Act.

The department agrees with Mr. Goode's comment that the establishment of a set of wetland-specific numeric water quality criteria is important for achieving full protection of waters under the Clean Water Act. However, data on wetland water quality and functioning sufficient to characterize appropriate use designations and numeric criteria for wetlands are currently lacking in Missouri. To that end, the department recently applied for, and was awarded, a three- (3-) year EPA Wetland Program Development Grant in order to collect water quality and other data, and develop a method for determining candidate reference site conditions for Missouri wetlands. The goal of this project is to ultimately establish a set of water quality-based reference wetlands in Missouri that can provide a scientific foundation for the development of wetland water standards, including designated uses and numeric criteria to protect those uses.

While the department feels that there is value in keeping the Exceptional Aquatic Habitat use designation, the department agrees that additional clarification is needed in the rule, and that existing requirements should prevent the degradation of high quality aquatic habitat. For these reasons, the department has removed the Exceptional Aquatic Habitat designated use definition from the proposed amendment pending further discussion.

Based on comments by Mr. Goode and others, the definitions for the Modified Aquatic Habitat use designation and the Class E hydrologic class have been revised and clarified. The department revised the definition of the Modified Aquatic Habitat use designation in the proposed rule amendment in an attempt to clarify that this use applies to waters lacking an expected diversity of aquatic biota as a result of being modified in some way, thereby satisfying the requirements of 40 CFR 131.10(g) factor 3. The intent of the proposed ephemeral hydrologic class was to establish habitat conditions that may not support aquatic life for the entirety of an aquatic organism's life cycle. The department agrees with other comments it received that continuous flow or pooling for the ninety-six (96)-hour duration is no guarantee of the presence of aquatic life before, during or after the precipitation event. Since the intent of the change was to establish ephemeral aquatic habitat protection, the department has modified this definition and also added an "Ephemeral Aquatic Habitat" designated use at 10 CSR 20-7.031(1)(C)1.d.

COMMENT #5: Steve Meyer, City of Springfield and Association of Missouri Cleanwater Agencies (AMCA), commented that the proposed amendment to the Water Quality Standards is a good one, and urged the Clean Water Commission to adopt it. He suggested that the Missouri Use Designation Dataset be time-stamped, and also commented that forty-eight (48) of the streams contained within this proposed dataset in the Springfield area are man-made stormwater or wastewater conveyances. He noted that since language in the proposed amendment exempts such conveyances, they should be removed from the dataset. Finally, given the lack of a completed use

attainability analysis protocol, Mr. Meyer suggested that the amendment reference the federal regulations at 40 CFR 131.10(g) for removing or modifying a designated use.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates Mr. Meyer's support of the proposed amendment. As a result of comments by Mr. Meyer and others that the Missouri Use Designation Dataset be time-stamped, reference to this dataset in the proposed amendment will be clarified to identify the date of November 6, 2013.

The department has revised the language at paragraph (2)(D)4. of the proposed amendment to address concerns by EPA and stakeholders that newly captured water body segments receive appropriate Clean Water Act protections. Changes were made to the proposed amendment to ensure waters outside the jurisdiction of the federal Clean Water Act or Missouri Clean Water Law do not receive presumed Section 101(a) "fishable/swimmable" uses. The proposed amendment also contains revised language that would preclude presumed use designation to man-made structures designed for the treatment of wastewater and stormwater following review and determination by the department.

The department appreciates the photographs submitted by the city of Springfield for consideration as exclusions from application of presumptive beneficial uses. Given the proposed language in paragraph (2)(D)3. has not yet been promulgated, entities requesting that specific waters be excluded from presumptive "fishable/swimmable" designated uses may resubmit such requests following the effective date of the rule. The department will provide a written determination and, where such requests involve changes to water quality standards, will submit the determination as a water quality standards change during the next review.

At the suggestion of Mr. Meyer and others, the department has removed reference to the aquatic habitat use attainability analysis protocol from subsection (2)(G) of the proposed amendment and replaced it with a reference to the federal regulations for removing or modifying a designated use at 40 CFR 131.10(g).

COMMENT #6: Trent Stober, HDR Engineering, commented that the current proposed amendment represents a very positive change over the various version of this rule that have been proposed over the past ten (10) years. Mr. Stober agrees with Peter Goode that some clarifications could be made to the tiered aquatic life uses outlined at 10 CSR 20-7.031(1)(C)1., in particular that ephemeral waters be addressed as a designated use, but separate from the Modified Aquatic Habitat use.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates Mr. Stober's support of the proposed Water Quality Standards amendment, and agrees that some clarifications are needed to the tiered aquatic life uses outlined in paragraph (1)(C)1. of the rule. In response to this and other comments, the department has added a distinct Ephemeral Aquatic Habitat use designation at 10 CSR 20-7.031(1)(C)1.d to address ephemeral waters that have not been physically or hydrologically modified.

COMMENT #7: Ed Galbraith, Barr Engineering, commented regarding the proposed Water Quality Standards amendment that stakeholders on one (1) side of the issue feel that it goes too far, while those on the other side feel that it doesn't go far enough. He also noted that EPA's public statements on the amendment have indicated that the 1:100,000 scale use designation dataset is an acceptable framework, provided that additional waters can be easily added. Mr. Galbraith feels that it is a good rule that represents a compromised position, and he supports it going forward. He added, however, that he would support a trigger mechanism that would make commission approval and implementation of the rule dependent on completion of an aquatic habitat use attainability analysis protocol.

RESPONSE: The department appreciates Mr. Galbraith's support and his acknowledgement that the proposed rule is an attempt to reach a compromise position satisfactory to all interested parties.

However, any rule language making approval and implementation of the proposed amendment contingent upon completion of an aquatic habitat use attainability analysis protocol would not be approvable by EPA. The department is willing to discuss and work with interested entities to develop structured, scientific use attainability analyses to determine the attainment of aquatic habitat protection uses as the need arises.

COMMENT #8: Phil Walsack, Missouri Public Utilities Alliance, commented that recent cost estimates for the rule are more robust than they had initially been, and that this is very important in the Clean Water Commission's decision making. Mr. Walsack also commented that the use attainability analysis protocol is very important and that it needs to be finished by November, even if this means that department senior management become involved to make sure it gets done.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates Mr. Walsack's support of the Regulatory Impact Report and agrees that the fiscal impacts of this proposed amendment are an important consideration for the commission. The department also agrees that developing a use attainability analysis protocol is very important, and is committed to continuing refinement of its current draft protocol for presentation at the November commission meeting. However, in light of comments requesting greater flexibility to conduct use attainability determinations, the department has removed the reference to use attainability analysis protocols from the proposed amendment at 10 CSR 20-7.031(2)(G)1.-4. and instead refer to the UAA factors found in federal regulation at 40 CFR 131.10(g).

COMMENT #9: Joseph Bachant, citizen, noted many past and present water quality issues facing both the nation and the state of Missouri. Mr. Bachant further commented that the proposed Water Quality Standards amendment is a fine step forward and that the commission should pass it so that we can then move on and begin tackling more pressing water-related issues in the state.

RESPONSE: The department appreciates Mr. Bachant's support of the proposed Water Quality Standards amendment, and agrees that addressing water quality and other water-related issues in the state remains a continuing concern.

COMMENT #10: Eric Karch, River des Peres Watershed Coalition, commented that the constituency he represents supports default aquatic life protections for all streams in Missouri, but recognizes that there are differing opinions and negotiation is necessary. Mr. Karch expressed concern that it may be very easy to downgrade a designated use with the draft use attainability analysis protocol, but that it may be more difficult to add a stream that is not currently in the Missouri Use Designation Dataset. He wants there to be a fair standard applied to both sides. Mr. Karch also expressed concern that the proposed amendment continues to consider and manage streams as individual segments, rather than from a watershed perspective.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates Mr. Karch's concern that the process for adding waters to the Missouri Use Designation Dataset be a fair one. In response, the department has revised the section of the amendment which involves designating uses to waters on a case-by-case basis that are not otherwise represented in Tables G and H, or in the Missouri Use Designation Dataset. The revised, simplified language specifies that uses may be designated when such waters fall within the jurisdiction of the Missouri Clean Water Law.

In response to Mr. Karch's support for establishment of default aquatic life protections for all streams in Missouri, the department notes that all waters of the state, whether classified or not, are currently protected by general water quality criteria, and those supporting aquatic life on at least an intermittent basis are subject to the acute toxicity criteria in Tables A and B of the standards. With the addition of over twenty-six thousand (26,000) acres of lakes and nearly eighty-five thousand (85,000) additional miles of streams

receiving Clean Water Act default uses under the proposed Water Quality Standards amendment, this rule represents a major step toward ensuring full protection for all waters in the state within the jurisdiction of Missouri Clean Water Law and the federal Clean Water Act.

COMMENT #11: Holly Neill, Missouri Stream Team Watershed Coalition, acknowledged the need to strike compromise between multiple competing interests when creating rules to protect water resources. Ms. Neill also commented that her group supports the proposed amendment to the Water Quality Standards, recognizing it as a huge step in the right direction.

RESPONSE: The department appreciates Ms. Neill's support of the proposed Water Quality Standards amendment, as well as her acknowledgement that the rule attempts to strike a compromise between multiple competing interests.

COMMENT #12: Danelle Haake, River des Peres Watershed Coalition and Litzsinger Road Ecology Center for Education and Research, commented that while environmental organizations had been part of the Water Classification and Small Streams workgroups in 2009, the same environmentally-focused stakeholders were not brought to the table to work on the current proposed Water Quality Standards amendment; consequently, the rule language was altered from the previous rulemaking in a way that undermines protections for urban streams. In particular, Ms. Haake pointed to language allowing exemptions for waters defined as man-made conveyances, as well as language allowing for lesser protections for waters designated as Modified Aquatic Habitat. She was concerned that waters assessed as impaired by a pollutant for aquatic life protection could be downgraded into the Modified Aquatic Habitat category, and she asked that this use designation be removed from the proposed rule. Finally, Ms. Haake asked the commission to follow direction set by EPA and the example set by citizens, and fully protect all streams, rivers, and wetlands in the state.

RESPONSE AND EXPLANATION OF CHANGE: The department notes that all meetings of the Water Classification Workgroup for development of the proposed Water Quality Standards amendment were open to the public and posted to the meetings calendar on the department's Water Protection Forum web page, as were the agenda, attendance sheet, and notes for each meeting. Furthermore, meeting announcements were distributed by email to all individuals who voluntarily registered to receive issue updates on the Water Protection Forum and Water Quality Standards web pages.

It is not the department's intention that the Modified Aquatic Habitat use designation be used as a general category in which to place all urban streams, nor is it the goal that such a designation would ever be applied to waters on the basis that they were assessed as impaired by a pollutant. As a result of this comment and others, the department has revised language in the proposed rule amendment, and has added additional language, in order to clarify that this use applies to waters lacking an expected diversity of aquatic biota as a result of being modified in some way, thereby satisfying the requirements of 40 CFR 131.10(g) factor 3.

The department notes that all waters of the state, whether classified or not, are protected in the current Water Quality Standards rule by general water quality criteria, and those supporting aquatic life on at least an intermittent basis are subject to the acute toxicity criteria in Tables A and B of the standards. With the addition of over twenty-six thousand (26,000) acres of lakes and nearly eighty-five thousand (85,000) additional miles of streams receiving Clean Water Act default uses under the proposed Water Quality Standards amendment, this compromise rule represents a major step toward ensuring full protection for all waters in the state within the jurisdiction of Missouri Clean Water Law and the federal Clean Water Act.

COMMENT #13: Todd Sampsell, The Nature Conservancy, commented that although there is still work to be done to protect water

resources, the proposed amendment to the Water Quality Standards is a step in the right direction, and he urged the commission to adopt these standards. He said that incorporating waters on the National Hydrography Dataset into the rule, as well as adopting a more refined set of aquatic habitat designations, will help increase protections for waters in the state. He cautioned, however, that implementation of the use attainability analysis protocol should be held to a high standard to ensure that threatened and endangered aquatic species are protected. Finally, Mr. Sampsell noted that sediments and nutrients remain a threat to the integrity of our waters, and should be addressed with the next triennial review of state water quality standards.

RESPONSE: The department appreciates Mr. Sampsell's support of the proposed Water Quality Standards amendment, and agrees that implementation of the use attainability analysis protocol should be held to a high standard to ensure the protection of threatened and endangered aquatic species.

Regarding Mr. Sampsell's comment that sediment and nutrient standards be addressed in the next triennial review, the department notes that it has been working toward the development of state water quality standards for nutrients for some time, establishing nutrient standards for lakes in a previous rulemaking that were subsequently disapproved by EPA. It is the department's goal to continue this work and develop and submit nutrient water quality standards for both lakes and streams in a future water quality standards review.

COMMENT #14: Steve Nagle, River des Peres Watershed Coalition, St. Louis Regional Open Space Council, and Missouri Parks Association, commented that two (2) important rivers and their tributaries that deserve recognition and protection under the Clean Water Act are the Meramec River and the River des Peres; and that it's critically important that all rivers, streams, wetlands, and lakes within our Missouri State Parks system be healthy enough to support swimming and protection of aquatic life. Mr. Nagle also stated that all three (3) of the organizations he represents support the proposed Water Quality Standards amendment.

RESPONSE: The department appreciates Mr. Nagle's support of the proposed Water Quality Standards amendment, and agrees that waters within the Missouri State Parks system, along with the Meramec River and River des Peres and their tributaries, deserve protection under the Clean Water Act. The department notes that both the Meramec River and River des Peres and most of their tributaries are currently classified waters with designated uses in Missouri's Water Quality Standards, and as such are protected by both numeric and general water quality criteria. Furthermore, all waters of the state, whether classified or not, are protected by general water quality criteria, and those supporting aquatic life on at least an intermittent basis are subject to the acute toxicity criteria in Tables A and B of the standards. With the addition of over twenty-six thousand (26,000) acres of lakes and nearly eighty-five thousand (85,000) additional miles of streams receiving Clean Water Act default uses under the proposed Water Quality Standards amendment, this compromise rule represents a major step toward ensuring full protection for all waters in the state within the jurisdiction of Missouri Clean Water Law and the federal Clean Water Act.

COMMENT #15: Karen Bataille, Missouri Department of Conservation, commented that her organization supports the proposed Water Quality Standards amendment, particularly the attempt to provide protections for currently unclassified waters using an enhanced 1:100,000 scale National Hydrography Dataset, and the use of the Missouri Aquatic GAP project to implement a tiered aquatic life protection framework. She stressed the importance of continued development of a use attainability analysis protocol to ensure that aquatic habitat protections are appropriately applied, and said that her department will continue to participate in the process and provide data and technical support. Ms. Bataille also expressed support for the revised wetlands definitions proposed in the rule, and strongly encouraged the

department to continue work toward the development of wetland-specific water quality criteria. Finally, she stated that increased water quality protections may benefit the resources and the citizens of the state in the future, noting in particular the proposed Exceptional Aquatic Habitat designated use.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates Ms. Bataille's support of the proposed Water Quality Standards amendment, as well as her offer of continued support in the development of a use attainability analysis protocol. The department agrees that such a protocol is important, and is committed to continuing refinement of its current draft protocol for presentation at the November commission meeting. The department also agrees with Ms. Bataille that the establishment of a set of wetland-specific water quality criteria is important. However, data on wetland water quality and functioning sufficient to characterize appropriate use designations and numeric criteria for wetlands are currently lacking in Missouri. To that end, the department recently applied for, and was awarded, a three- (3-) year EPA Wetland Program Development Grant in order to collect water quality and other data, and develop a method for determining candidate reference site conditions for Missouri wetlands. The goal of this project is to ultimately establish a set of water quality-based reference wetlands in Missouri that can provide a scientific foundation for the development of wetland water standards, including designated uses and numeric criteria to protect those uses. While the department feels that there is value in keeping the Exceptional Aquatic Habitat use designation, the department agrees with other stakeholder comments that additional clarification is needed in rule. For this reason, the department has removed the Exceptional Aquatic Habitat designated use definition from the proposed amendment pending further discussion. The department welcomes the Department of Conservation's continued participation and support of this effort.

GENERAL WRITTEN COMMENT #1—Support for the Water Quality Standards Rulemaking: The vast majority of the written comments received contained support for the proposed amendment to the water quality standards rule at 10 CSR 20-7.031. Environmental protection and resource conservation organizations (e.g., Audubon Missouri, Mill Creek Watershed Coalition, Missouri River Communities Network, Missouri Sierra Club, Missouri Stream Team Watershed Coalition, The Open Space Council, River des Peres Watershed Coalition, South Grand River Watershed Alliance, and Missouri Coalition for the Environment (Comments 1-3)) see the rulemaking as a positive step but comment that the rulemaking does not extend "fishable/swimmable" use designations to enough waters, including headwater streams and wetlands. This sentiment is shared by the overwhelming majority of citizen comments that used language similar to that found on the Missouri Coalition for the Environment's water quality advocacy web page. Municipal and Industrial Organizations (Barr Engineering et al., City of Springfield, Metropolitan St. Louis Sewer District, and REGFORM) provided comments supportive of the proposed amendment, but also included concerns and alternate amendment language that are addressed in subsequent comments.

RESPONSE: The department appreciates the wide spectrum of stakeholder support for the proposed amendment and thanks all those who have been involved in its development.

With this rulemaking, the department in conjunction with stakeholders has developed a proposed amendment that addresses a significant water quality standards deficiency identified by EPA in September 2000, and confirmed by federal court in February 2012. Federal court decisions and guidance have yet to identify with sufficient detail the characteristics and tools necessary to identify "waters of the United States". The department believes the current proposal to designate "fishable/swimmable" uses to all perennial rivers and streams, all streams with permanent pools, and all rivers and streams included in the 1:100,000 scale National Hydrography Dataset (NHD), as well as the many lakes that intersect these waters, is a

much needed step forward in water quality protection. As the department has noted previously, all waters of the state, including wetlands and headwaters, are currently protected by general water quality criteria, and those supporting aquatic life on at least an intermittent basis are subject to the acute toxicity criteria in Tables A and B of the standards. With the addition of over twenty-six thousand (26,000) acres of lakes and nearly eighty-five thousand (85,000) additional miles of streams receiving Clean Water Act default uses under the proposed amendment, this rule represents a major step toward ensuring full protection for all waters in the state under Missouri Clean Water Law at section 644.011, RSMo and the federal Clean Water Act at Section 101(a).

The department acknowledges that additional work will be needed to fully bring headwater streams and wetlands into Missouri's water quality standards. The current tiered aquatic habitat designated use definitions and ongoing efforts to characterize appropriate use designations and numeric criteria for wetlands and headwaters will help Missouri move into the forefront in addressing these issues within its water quality standards. To support these efforts, the department has retained grants and established partnerships with the Missouri Department of Conservation and University of Missouri to collect water quality and other data that will be used to characterize appropriate use designations and water quality criteria for wetlands and headwaters in the state. These data and information will allow the state to choose appropriate reference conditions and criteria for these waters so that appropriate water quality standards will be assigned and protected. Future rulemaking efforts will address wetland classification, use designation, numeric criteria, and antidegradation requirements in greater detail.

The department appreciates the comments regarding stakeholder support for the Missouri Use Designation Dataset and is committed to ensuring the highest level of data quality assurance and control throughout the process.

GENERAL WRITTEN COMMENT #2—Reference to Missouri Resource Assessment Partnership (MoRAP) Aquatic Gap Project (10 CSR 20-7.031(1)(C)1.): Barr Engineering et al. (Comments 1 & 6); Missouri Farm Bureau-Missouri Corn Growers Association; and Newman, Comley & Ruth P.C. (Comment 2) provided comments requesting that reference to the MoRAP Aquatic Gap project in the proposed amendment be removed since the project was not intended to be used as a regulatory tool or to be incorporated into regulation. Although the commenters supported the use of hydrological and physical stream data contained in the MoRAP Aquatic Gap Project for the purpose of establishing the extent of presumptive beneficial uses, they did not believe the biological data contained in the project should be used for that purpose and provided alternate language for the department's consideration.

RESPONSE AND EXPLANATION OF CHANGE: The department agrees that the biological data contained in the MoRAP Aquatic Gap Project may contain some uncertainty and that those data should not serve as the basis for regulation. However, as acknowledged by the commenters, the hydrological and physical data contained within the project provide additional data upon which the spatial extent of presumptive beneficial use designations can be made. The department appreciates the alternate language provided by Barr Engineering et al., and Missouri Farm Bureau-Missouri Corn Growers Association in this regard. As a result of these comments, the department has removed reference to "biological" data and the MoRAP Aquatic Gap Project at 10 CSR 20-7.031(1)(C)1. and (2)(D)1.

GENERAL WRITTEN COMMENT #3—Tiered Aquatic Life Designated Use Framework (10 CSR 20-7.031(1)(C)1.): Barr Engineering et al. (Comment 2) and city of Springfield (Comment d) commented in support of the tiered aquatic life designated use framework in the proposed amendment and recommend adding the subcategories of waters found in the warm water aquatic habitat definition to the cool and cold water habitats as well. Newman, Comley & Ruth

P.C. (Comment 3) provided a comment requesting clarification on the location in rule of the proposed “lakes and reservoirs” habitat type.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates the support for a tiered aquatic life designated use framework and agrees the subcategories of water bodies found in the warm water aquatic habitat definition should be added to the cool and cold water aquatic habitat definitions as well. All subcategories have been added to those designated use definitions with the exception of “Great Rivers” which are not present in the state for cool and cold water habitats. The lakes and reservoirs habitat type is included in each water temperature class and is the last habitat listed under each definition.

Another minor change made to tiered aquatic life designated use definitions was the restoration of the phrase “naturally-occurring” before water quality and habitat conditions. This language is found in the existing and effective rule and was inadvertently removed from the definitions in the proposed amendment.

The department believes the proposed tiered aquatic habitat protection framework (i.e., warm, cool, and cold water aquatic habitat – ephemeral aquatic habitat – modified aquatic habitat – limited aquatic habitat) will provide a much needed improvement to the way in which Missouri protects its unique water resources. The department appreciates stakeholder participation on this very important topic and welcomes continued input as the framework is implemented.

GENERAL WRITTEN COMMENT #4—Exceptional Aquatic Habitat (10 CSR 20-7.031(1)(C)1.D.): Barr Engineering et al. (Comment 2); city of Springfield (Comment e); Newman, Comley & Ruth P.C. (Comment 5); and REGFORM (Comment 3) commented that the Exceptional Aquatic Habitat designated use definition proposed at 10 CSR 20-7.031(1)(C)1.D. may be unclear, not addressed in other parts of the regulation, and redundant since many of these waters should already be captured under the existing Outstanding National and State Resource water designations. Commenters recommended the definition be removed from the proposed amendment. The Missouri Coalition for the Environment (Comment 4) also commented on the Exceptional Aquatic Habitat designated use and questioned how this use would be applied.

RESPONSE AND EXPLANATION OF CHANGE: The department agrees that additional clarification is needed to define the type of aquatic life that may reside in exceptional aquatic habitat and the procedures necessary to designate a water body in this aquatic habitat tier. The department also agrees that existing antidegradation requirements in the water quality standards, and outstanding state and national resource water designations, should prevent the degradation of high quality aquatic habitat and water bodies in the state. However, there is value in having an exceptional aquatic habitat designated use for those high quality waters that may not meet the criteria for designation as an outstanding national or state resource water. Due to the complexity and uncertainty that still exists for this revision, the department has removed the exceptional aquatic habitat designated use definition at 10 CSR 20-7.031(1)(C)1.D. from the proposed amendment pending further discussion.

GENERAL WRITTEN COMMENT #5—Ephemeral Aquatic Habitat and Class E waters (10 CSR 20-7.031(1)(C)1.D. and 10 CSR 20-7.031(1)(F)7.): Barr Engineering et al. (Comment 2); city of Springfield (Comments f & g (labeled “b” on page 3)); Missouri Coalition for the Environment (Comment 4) and Newman, Comley & Ruth P.C. (Comment 6) provided comments on the proposed language to include an ephemeral water class at 10 CSR 20-7.031(1)(F)7. Some commenters requested that reference to ninety-six (96)-hour period of flow or pooling in response to precipitation events be removed due to concerns that the duration had no relationship to the criteria the class was intended to protect. Some commenters also recommended that the final rule amendment include an

Ephemeral Aquatic Habitat designated use in addition to, or instead of, an ephemeral hydrologic class. Finally, Barr Engineering et al. and city of Springfield requested clarification regarding the criteria that would apply to ephemeral aquatic habitat and recommended the department make revisions to section (4), and subsections (4)(I) and (5)(A), as necessary.

RESPONSE AND EXPLANATION OF CHANGE: The intent of the proposed ephemeral hydrologic class was to establish habitat conditions that may not support aquatic life for the entirety of an aquatic organism’s life cycle. The ninety-six (96)-hour duration for period of flow or pools in response to precipitation events was intended to separate those water body conditions requiring protection by acute criteria (less than ninety-six (96)-hour duration) from those requiring protection by chronic criteria (greater than ninety-six (96)-hour duration). The department agrees that continuous flow or pooling for the ninety-six (96)-hour duration is no guarantee of the presence of aquatic life before, during or after the precipitation event. As a result of the comment, the proposed amendment language referencing “96-hr duration” has been removed from the amendment. Since the ultimate intent of the change was to establish ephemeral aquatic habitat protection rather than a hydrologic class, an “Ephemeral Aquatic Habitat” designated use has been included at 10 CSR 20-7.031(1)(C)1.D. These revisions should address the concerns raised by the comments regarding the ephemeral class definition and the need for an ephemeral aquatic habitat designated use.

In the drafting the ephemeral aquatic habitat definition at 10 CSR 20-7.031(1)(C)1.D., the department used language provided in the comments to define the hydrologic conditions for the use. Because the other proposed aquatic habitat use designation definitions include some mention of the biological condition expected to be present, additional language was included to define the biological conditions expected for the ephemeral aquatic habitat designated use.

The department agrees that application of chronic criteria to ephemeral water bodies, where chronic exposure to toxic pollutants does not exist, is not appropriate. These water bodies should be protected through narrative and acute numeric criteria under section (4) and subsection (4)(I) of the rule. Additional clarification that the requirements of (4)(I) apply to ephemeral waters was included in the revised amendment as a result of this comment. The department agrees that additional clarification is also needed in the proposed amendment at subsection (5)(A) to clearly state that chronic toxicity criteria do not apply to ephemeral waters or those waters where a use attainability analysis has demonstrated less stringent criteria apply. A change to the proposed amendment at subsection (5)(A) has also been made as a result of this comment.

GENERAL WRITTEN COMMENT #6—Presumed Designated Uses (10 CSR 20-7.031(2)(A)): Barr Engineering et al. provided comments and alternate amendment language for the department’s consideration regarding the extent to which presumed designated use should be applied (Comment 3).

RESPONSE: The department appreciates the comment and alternate amendment language presented by Barr Engineering et al. The intent of the proposed rule language at subsection (2)(A) is to apply presumed, “fishable/swimmable” uses to all perennial rivers and streams, all streams with permanent pools and all rivers and streams included within the 1:100,000 scale National Hydrography Dataset (NHD). As detailed during stakeholder discussions, the intent of the rule language was not to apply the presumed uses only to those waters on the NHD with perennial flow or permanent pools. Biological data collected by the department and Missouri Department of Conservation indicate that presumed “fishable/swimmable” uses are attainable for the spatial extent and type of waters proposed to receive these uses. In this sense, the proposed spatial extent of presumed uses is supported by peer-reviewed data and information of attainability. Other spatial extents may or may not have data available that can be used to determine attainability of presumed uses. Waters in the proposed rule that do not attain “fishable/swimmable” uses could have those uses removed,

where they are not an existing use, using the Use Attainability Analysis (UAA) provisions in federal regulation at 40 CFR 131.10(g) and as provided in the proposed amendment. No changes were made as a result of this comment.

GENERAL WRITTEN COMMENT #7—Use Designation and Administration (10 CSR 20-7.031(2)(A) – (D)): Barr Engineering et al.; Newman, Comley & Ruth P.C.; REGFORM; and United States Environmental Protection Agency commented on the language in the proposed amendment that would designate and administer presumed uses in Missouri. Newman, Comley & Ruth requested that reference to the use attainability analysis (UAA) process be referenced in the section pertaining to non-Section 101(a) designated uses (Comment 8) and that the title of subsection (2)(D) be changed (Comment 9). Barr Engineering et al. (Supplemental Comment, October 11, 2013) and REGFORM (Comment 4) requested that language be retained or refined so that water bodies that meet the description of those found in paragraph (2)(D)4. of the proposed amendment would be excluded from receiving default Clean Water Act Section 101(a) uses in the rule and use designation dataset. EPA provided alternate use designation language for the department's consideration and indicated that language excluding certain waters from Section 101(a) Clean Water Act protection would be problematic and not approvable (Comment 2). River des Peres Watershed Coalition also provided comments in opposition of proposed amendment language that would exempt man-made stormwater conveyances from Clean Water Act protections.

RESPONSE AND EXPLANATION OF CHANGE: The designation of non-Section 101(a) designated uses to a water body (i.e., designated uses other than protection and propagation of fish, shellfish, and wildlife, recreation in and on the water, and human health protection) do not require a use attainability analysis. However, it is the expectation of the department that a structured, scientific assessment of the water body and its uses would be conducted, and made available for public comment, prior to any designation of a non-Section 101(a) use to the water body. No changes were made as a result of this comment.

The department agrees that the title of subsection (2)(D) could be changed to be more clear. As a result of this comment, subsection (2)(D) has been changed from "Administration" to "Use Designation" in order to more clearly depict the intent of the section.

The department has revised the language at paragraph (2)(D)4. of the proposed amendment to address concerns by EPA and stakeholders that newly captured water body segments receive appropriate Clean Water Act protections. Changes were made to the proposed amendment to ensure waters outside the jurisdiction of the federal Clean Water Act or Missouri Clean Water Law do not receive presumed Section 101(a) "fishable/swimmable" uses. The proposed amendment also contains revised language that would preclude presumed use designation to man-made structures designed for the treatment of wastewater and stormwater following review and determination by the department.

REGFORM provided new language that would establish that the narrative exclusions found in the proposed amendment at paragraph (2)(D)4. would take precedence over any line work that may represent these exclusions in the 1:100,000 scale NHD. Through stakeholder discussions, the department is proposing new, revised language in the rule at paragraph (2)(D)3. which would take precedence over the line work should there be a discrepancy. The department has inserted additional language to make it clear that for any blue lines within the dataset where reasonable evidence is presented to the department that an exclusion is applicable, such stream segments would not be presumed to be fishable/swimmable, even though the department would retain the ability to add any use designations that may be appropriate. Any such refinements within the dataset would be made at the soonest opportunity, and would generally not be considered water quality standards changes since these features should not have received presumed uses in the first place. Any new use designations or other revisions considered to be changes to water quali-

ty standards would be brought to the commission for approval following a public notice and comment period, prior to submittal to EPA.

GENERAL WRITTEN COMMENT #8—Missouri Use Designation Dataset (10 CSR 20-7.031(2)(D) & (E)): Newman, Comley & Ruth P.C. and United States Environmental Protection Agency provided comments regarding the geospatial dataset that will be created with this rulemaking to track existing and newly designated waters and uses. Newman, Comley & Ruth P.C. commented that reference to the enhanced National Hydrography Dataset and Use Designation Dataset should be removed from the rule at 10 CSR 20-7.031(2)(D) & (E) (Comments 10 & 11). EPA recommends that the terms "National Hydrography Dataset (NHD)" and "Use Designation Dataset" be defined in rule to ensure clarity of purpose and reference (Comment 3). EPA also provided comments and alternate amendment language for the department's consideration when referencing the new definitions at 10 CSR 20-7.031(2)(A)3., (2)(E) and in Tables G & H (Comments 4–6).

RESPONSE AND EXPLANATION OF CHANGE: The department agrees that inclusion of a definition for "National Hydrography Dataset" and "Use Designation Dataset" will provide clarity of purpose and reference for these terms in the proposed amendment. The department has therefore established definitions for "Missouri Use Designation Dataset" and "National Hydrography Dataset" at 10 CSR 20-7.031(1)(P) and (R), respectively. These definitions will enable the department to have consistency of usage and reference of these two (2) terms throughout the standards. By providing definitions for these terms should also remove the ambiguity of what constitutes an "enhanced" dataset for the purposes of the rule. Because the Missouri Use Designation Dataset is of central importance in establishing and administering water quality standards, reference to the dataset must remain in rule.

The department also considered and incorporated the intent of the alternate language and recommendations provided in EPA's comments 4–6 to ensure that the proposed amendment contains appropriate reference to the Missouri Use Designation Dataset. Incorporating the Missouri Use Designation Dataset by reference into the water quality standards allows the state to use the geospatial database for Clean Water Act purposes. Proposed changes to the dataset will be documented into the administrative record and made in subsequent versions of the dataset through the water quality standards review process.

GENERAL WRITTEN COMMENT #9—Determination of Use Attainability (10 CSR 20-7.031(2)(F)): Barr Engineering et al. (Comment 4); Newman, Comley & Ruth P.C. (Comment 12); and United States Environmental Protection Agency (Comment 7) provided comments and suggested revisions regarding the proposed language at 10 CSR 20-7.031(2)(F) that describe when use attainability analyses are needed.

RESPONSE AND EXPLANATION OF CHANGE: The intent of the proposed language was to provide clarification regarding when use attainability analyses are needed pursuant to federal regulation at 40 CFR 131.10(j). The department agrees with Barr Engineering and EPA that the revised language should clearly reflect federal regulation and appreciates the proposed revisions submitted by both commenters. The department acknowledges that the proposed amendment language may be confusing and has revised the proposed language to more closely reflect federal requirements at 40 CFR 131.10(j). The department also recommends that specific reference to Section 304(a) criteria at 10 CSR 20-7.031(2)(F)3. be dropped and be replaced with more generic language as recommended by Newman, Comley & Ruth P.C.

GENERAL WRITTEN COMMENT #10—Reference to Use Attainability Analysis Protocols (10 CSR 20-7.031(2)(G)): Newman, Comley and Ruth P.C. provided comments on language at 10 CSR

20-7.031(2)(G)1. that prohibits segmentation of a water body when conducting use attainability analyses (Comment 13). AMCA (Comment 1); Barr Engineering et al. (Comment 5); city of Springfield (Comment c); Newman, Comley & Ruth P.C. (Comment 14) and United States Environmental Protection Agency (Comment 9) commented on the appropriateness of the reference in rule at 10 CSR 20-7.031(2)(G)3. to the “Missouri Aquatic Habitat Use Attainability Analyses: Water Body Survey and Assessment Protocol” currently in development. United States Environmental Protection Agency (Comment 8) also commented on the appropriateness of the rule reference at 10 CSR 20-7.031(2)(G)2. to the “Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol”. AMCA provided additional comments on the potential for alternate approaches to use attainability analyses at 10 CSR 20-7.031(2)(G)4. AMCA (Comment 1); Barr Engineering et al. (Comment 5); Kansas City Water Services Department (Comment 2); and REGFORM (Comment 5) provided the department with options to maintain flexibility in referencing and adopting use attainability analysis methods and procedures. Barr Engineering et al. (Comment 7) and United States Environmental Protection Agency (Comment 10) both provided comments on amendment language at 10 CSR 20-7.031(2)(G)4. that would require EPA approval of protocols and procedures and use demonstrations.

RESPONSE AND EXPLANATION OF CHANGE: The comments and alternatives provided by AMCA, Barr Engineering et al., city of Springfield, Newman, Comley & Ruth P.C. and EPA are appreciated. The department recognizes that while predictability and process are important, flexibility to adapt Use Attainability Analysis (UAA) procedures and methods to site-specific situations will be necessary for successful implementation of the rule. While referencing a specific UAA protocol in the water quality standards rule may add predictability, the action of the rule referencing the protocol in the water quality standards will open the protocol up for review by EPA as water quality standards. The department does not believe that listing the draft protocol for aquatic habitat UAAs will limit the use of other structured, scientific analyses of the attainment of aquatic habitat uses. However, it is recognized that greater flexibility to draft site-specific sampling and assessment methods is needed. To that end, the department recommends removing the reference to use attainability analysis protocols from the proposed amendment at 10 CSR 20-7.031(2)(G)1.-4. and instead refer to the UAA factors found in federal regulation at 40 CFR 131.10(g). This approach has been suggested by stakeholders and the recommended place for such language is in the preceding section at 10 CSR 20-7.031(2)(F) where use attainability is discussed. By referencing the federal regulation, instead of a specific protocol, the department avoids the problems and issues that may arise with rule-referenced protocols. Specific details regarding water body survey techniques, segmentation and data collection requirements should be included in these protocols rather than in rule. The protocols should also explain the applicable factors and process for modifying or removing tiered aquatic habitat protection uses. Following existing and future UAA protocols developed by the department and adopted by the commission will give interested parties the greatest chance for success in designated use modification or removal. However, these protocols need not be the final word in UAA design and implementation and the department will continue to review and collaborate with stakeholders interested in conducting UAA studies that may differ from the developed protocols but that still satisfy all the appropriate state and federal requirements.

Both Barr Engineering et al. and REGFORM provided recommended rule language that would delay implementation of the proposed amendment until such time a UAA protocol is available for use. Any proposed rule language preventing or delaying implementation of the proposed amendment would not be approvable by EPA. The department is willing to discuss and work with interested entities to develop structured, scientific analyses to determine the attainment of aquatic habitat protection uses as the need arises.

Both Barr Engineering et al. and United States Environmental Protection Agency commented on proposed amendment language that would require approval of protocols and procedures used for use determinations. The department agrees that the proposed amendment language goes against the intent of the language for streamlined and effective determinations of use attainment. Since reference to use attainability analysis protocols is being removed for the proposed amendment, this section of the rule is no longer necessary and has been deleted.

GENERAL WRITTEN COMMENT #11—Sulfate and Chloride Criteria (10 CSR 20-7.031(5)(L)): Barr Engineering et al. (Comment 9); REGFORM (Comment 2); and Newman, Comley & Ruth P.C. (Comment 15) all provided comments suggesting that proposed clarifications to the Sulfate and Chloride Limit for Protection of Aquatic Life at 10 CSR 20-7.031(5)(L) be either modified or eliminated. While the specific comments varied, they all raised issues with the proposed means to calculate values for hardness, sulfate and chloride to be used in the sulfate and chloride criteria equations in Table A.

All three (3) commenters disagreed with the department’s proposal to use the lower quartile (25th percentile) of hardness data to calculate a hardness value, and to use the upper quartile (75th percentile) of sulfate and chloride data to calculate values for these parameters. Furthermore, two (2) of the three (3) commenters felt that the department should go beyond merely describing a means to calculate these values, but rather, should calculate and publish the actual regional default values for hardness, sulfate, and chloride using existing data. The third commenter felt that in the absence of EPA action on the previous rule, the proposed language in the current draft rule was presumptuous and unnecessary, and should be eliminated altogether.

RESPONSE AND EXPLANATION OF CHANGE: The intent of the proposed language had been to address implementation of the sulfate and chloride criteria that had been adopted with Missouri’s previous water quality standards rule, published May 31, 2012. To date, EPA has neither approved, disapproved, nor formally commented on these criteria. However, it had been suggested during conversations with EPA staff and other stakeholders that incorporating a mechanism to implement these criteria would strengthen this part of the rule, and may improve the likelihood that EPA would ultimately approve the criteria.

In light of the significant and substantial changes proposed by commenters to this part of the rule, as well as a general lack of agreement among commenters on how the department should proceed, the department recommends that the proposed language for Sulfate and Chloride Limit for Protection of Aquatic Life at 10 CSR 20-7.031(5)(L) be removed at this time. The department still recognizes the need for clarification on how to implement these criteria, and will continue to work with stakeholders to develop such procedures in a future rulemaking. Any action taken by EPA on this part of the previous rule will be taken into consideration at that time.

GENERAL WRITTEN COMMENT #12—Variance Authorizing Provisions (10 CSR 20-7.031(12)): AMCA (Comment 3); Barr Engineering et al. (Comment 8); city of Springfield (Comment h (labeled “c” on page 3) ; Kansas City Water Services Department (Comment 1); Newman, Comley & Ruth P.C. (Comment 7); REGFORM (Comment 1); and United States Environmental Protection Agency (Comment 18) provided comments on the variance authorizing provisions contained in the proposed amendment at 10 CSR 20-7.031(12) and/or the variance definition at 10 CSR 20-7.031(1)(X). Barr Engineering et al., city of Springfield, Kansas City Water Services Department and REFORM believe the variance provisions are more limiting than found in state statute and subject entities to the same tests for performance of a Use Attainability Analysis (UAA). These commenters believed a wider consideration of flexibility offered by state statute at 644.061, RSMo, including limits of

treatment technology, should be considered in the rule. Barr Engineering et al. and city of Springfield further commented that the rule should reference state statute for public participation purposes and include language requiring state attorney general certification, in lieu of rulemaking, prior to submitting variances to EPA for approval. AMCA commented that section 12(a)(3) relating to prohibitions of variances for narrative criteria was vague and must be deleted. Kansas City Water Services Department and Newman, Comley & Ruth were concerned the variance definition at 10 CSR 20-7.031(1)(X) contained language requiring EPA approval. The United States Environmental Protection Agency is supportive of variance authorizing provisions that offer short term relief to permit holders when a water quality standard can't be achieved due to one or more of the factors identification in federal regulation at 40 CFR 131.10(g).

RESPONSE AND EXPLANATION OF CHANGE: The department included variance authorizing provisions in the proposed amendment to ensure that variances result in improvements in water quality, gain efficiencies in the permitting and water quality standards administration process, and add general clarification of applicability to the rule. The proposed variance authorizing provisions provide permitted facilities the opportunity to seek a temporary modification to the designated use and associated water quality criteria that would otherwise be applicable without the variance. A variance is a temporary relaxation of water quality standards and is granted for a specific pollutant and beneficial use and does not otherwise modify the underlying water quality standard for the receiving water. The allowed reasons for a variance are the same as for beneficial use changes under a use attainability analysis.

Federal regulation at 40 CFR 131.13 states that "States may, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances." The regulation goes on to state that "Such policies are subject to EPA review and approval." EPA guidance and memoranda have elaborated on or clarified the role of variances in administration of state water quality standards. Such clarification included providing information regarding what factors should be considered when granting variances (e.g., Johnson 1985). While EPA has stated that variance procedures involve the same substantive and procedural requirements as removing a designated use, variances are discharger and pollutant specific, time-limited and do not modify the underlying use. EPA has been clear in stating that variances from water quality standards can be approved, provided the state demonstrates that meeting the standard is unattainable based on one or more of the factors outlined in 40 CFR 131.10(g).

In short, variances allow for site-specific and time-limited consideration of use attainability. The proposed variance authorizing provisions would play a key role in providing permitted facilities sufficient time to comply with new requirements now and in the future. In cases where affordability becomes an issue, a variance could be used instead of designated use removal as the water quality standard could ultimately be attained given enough time or resources. By maintaining the standard rather than changing it, the department and commission would ensure that progress is made to improve water quality and attain the standard. With variances, operating permits could be written such that reasonable progress is made toward attaining applicable water quality goals without violating federal and state clean water law that require compliance with water quality standards. These provisions would ultimately prove to be mutually beneficial for both the department and interested permitted entities. The department does not believe that the proposed requirement to address attainability per 40 CFR 131.10(g) is unduly limiting or incongruent with state statute at 644.061, RSMo. However, the department does recognize that affordability provisions and flexibility should be taken into consideration when drafting timelines for variances and schedules of compliance.

The department agrees that additional language referencing state statute for public participation purposes in the variance authorizing

provision, and including language requiring attorney general certification, will streamline the process and approvability of variances. To this end, the department has included language in the proposed amendment at 10 CSR 20-7.031(12) similar to that supplied by Barr Engineering et al. and city of Springfield. The department has also modified the language to consistently reference "applicant" rather than "permittee". In regard to 10 CSR 20-7.031(1)(X), the department agrees that the definition of variance need not include language addressing EPA approval and, as a result, this language has been removed. Additional language has also been included to include reference to 644.061, RSMo. Regarding variances and general criteria, protection of narrative "free from" criteria is a requirement of federal and state clean water law that must be met at all times, including variances.

GENERAL WRITTEN COMMENT #13—Request to Exclude Urban Waters from Presumed Use Designation: city of Branson; city of Springfield; and Metropolitan St. Louis Sewer district provide maps and/or narrative requesting that urban waters within their jurisdiction not receive default Clean Water Act Section 101(a) "fishable/swimmable" presumed use designations.

RESPONSE: The department appreciates the information and maps provided by the commenters for consideration as exclusions from application of presumptive beneficial uses. Given the proposed language in paragraph (2)(D)3. has not yet been promulgated, entities requesting that specific waters be excluded from presumptive "fishable/swimmable" designated uses may resubmit such requests following the effective date of the rule. The department will provide a written determination and, where such requests involve changes to water quality standards, will submit the determination as a water quality standards change during the next review.

Regarding the city of Branson's request, no stream flow or other data was provided to conduct a use attainability analysis under 40 CFR 131.10(g)2 for ephemeral waters on the 1:100,000 scale NHD within the city's boundaries. Additionally, no scientific justification was given for excluding Clean Water Act Section 101(a) uses for waters that may fall within the political boundaries of the city. No changes were made as a result of this comment.

Regarding the city of Springfield's request, the city provided a list and a map of streams that it contends are manmade structures or that have no water and therefore should not be included in the 1:100,000 scale NHD dataset. However, no documentation or evidence to support these claims has been provided and no stream flow or other data was provided to conduct a use attainability analysis under 40 CFR 131.10(g)2. for ephemeral waters on the 1:100,000 scale NHD within the city's boundaries. The flow lines shown in Springfield's map are included in the MoRAP Valley Segment Type (VST) and 1:100,000 scale NHD data and are consistent with the proposed rule amendment language. In some instances, there are lines shown as being "natural" that flow into an "engineered" channel and then into a currently classified water indicating that the stream likely existed in the first place and was not a "manmade conveyance." Similarly, there are instances of natural segments that are separated by engineered channels, again making it likely that these were continuous natural streams and not constructed manmade conveyances. The NHD contains descriptions for some manmade objects such as pipelines, canals, aqueducts, etc., but none of the streams in Springfield have these labels associated with them (i.e., they are labeled as perennial or intermittent streams). Springfield also notes that some of the flow lines in the proposed dataset are actually where ponds or lakes are located. In some instances, there are lakes on these segments that are proposed for classification. No changes were made as a result of this comment.

Regarding Metropolitan St. Louis Sewer District's (MSD) request, the district provided a pair of maps containing streams that it contends extend beyond the 1:100,000 scale NHD extent proposed to receive Clean Water Act Section 101(a) uses. The two (2) maps provided by MSD show the 1:100,000 scale NHD overlaying the proposed stream

flow lines. While the maps are accurate, a better analysis would have been to compare the MoRAP VST line segments used to fill in gaps in the line network with the proposed flow lines. Many of the additional lines noted in the maps are a result of this aspect of the line work creation process. The department agrees that there are instances in which the proposed line work extends slightly further upstream than the 1:100,000 scale extent. However, this slight extension is an artifact of the flow line reach geometry as the lines were imported into the framework and are necessary to maintain continuity in the flow lines for flow trace applications such as those used in ePermitting. The proposed segments still comport with the proposed amendment language that applies default presumed uses to the 1:100,000 scale NHD. No changes were made as a result of this comment.

SPECIFIC WRITTEN COMMENT #1—Designated Use Attainment (10 CSR 20-7.031(1)(C)): Newman, Comley & Ruth P.C. provided comments requesting clarification of language in the proposed amendment regarding attainment of designated uses (Comment 1) and what constitutes a wide variety of aquatic life (Comment 4).

RESPONSE: The language referenced by Comment 1 is located in the proposed amendment at 10 CSR 20-7.031(1)(C) and was derived from the federal definition of “designated use” at 40 CFR 131.3(f). This language is found in the current, effective rule at this location and is being reincorporated into the proposed amendment. No change was made as a result of this comment. The language referenced by Comment 4 is located in the proposed amendment at 10 CSR 20-7.031(1)(C)1.A., B., and C. This language regarding the type of biological diversity that can be expected for a designated use can also be found in the current, effective rule for warm, cold, and cool-water fishery designations, respectively. No change was made as a result of this comment.

SPECIFIC WRITTEN COMMENT #2—General Criteria (10 CSR 20-7.031(4)): AMCA (Comment 2) commented that general criteria are not applicable to mixing zones and requested existing language at 10 CSR 20-7.031(4) and (4)(I) be removed. The comment heading incorrectly referenced paragraph (2)(G)4. as the location of the text in the proposed amendment.

RESPONSE: Existing language in 10 CSR 20-7.031(4) clearly provides that Missouri’s water quality standards with respect to narrative/general/free from criteria apply to all waters of the state, including mixing zones. The rule as proposed in the June 17, 2013 *Missouri Register* (38 MoReg 939–1069) would not alter this concept, and the department does not plan to alter this concept at this time. No changes were made as a result of this comment.

SPECIFIC WRITTEN COMMENT #3—Document and Rule References (10 CSR 20-7.031): EPA provided comments regarding updating of references to sections within the proposed amendment (Comment No. 11) as well as references to documents and geospatial datasets (Comments No. 12 & 15, and 13 & 14 respectively). EPA also commented that reference to 10 CSR 20-7.050 (Comment 14) may not be appropriate.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates the comments regarding needed updates to references within the proposed amendment as well as references to documents and geospatial datasets. The department has made or verified the revisions and updates mentioned in the comments.

SPECIFIC WRITTEN COMMENT #4—Schedule of Compliance Provision (10 CSR 20-7.031(11)): EPA commented in support of the department’s proposed rule amendment to update the schedule of compliance language at 10 CSR 20-7.031(11)

RESPONSE: The department appreciates EPA’s support of the proposed amendment language and appreciates the agency’s assistance on this matter. No changes were made as a result of this comment.

SPECIFIC WRITTEN COMMENT #5—Cold Water Fishery Designations for Roark Creek and Bee Creek, Taney County (10 CSR 20-7.031, Table C): city of Branson questions the validity of cold water fishery stream designations on three (3) miles of Roark Creek and one (1) mile of Bee Creek in 10 CSR 20-7.031, Table C. **RESPONSE:** The department’s records show both Roark Creek and Bee Creek in Taney County were designated as cold-water fisheries in December 12, 1987. The proposed rule amendment recently placed on public notice does not include revisions to the cold-water designations of these streams. As required under CFR 131.10(j), a use attainability analysis must be performed when adopting a subcategory of a use that requires less stringent criteria. Since revising the cold-water fishery use designation to a warm-water fishery would result in less stringent criteria (e.g., temperature and dissolved oxygen), a use attainability analysis is required. In order to revise the designations to warm-water segments, the city will need to perform a use attainability analysis and submit it to the department for consideration in a future rulemaking. While the department reviews the Water Quality Standards rule at least once every three (3) years as required by the Clean Water Act, the next triennial review rulemaking is anticipated to begin early 2014. No changes were made as a result of this comment.

SPECIFIC WRITTEN COMMENT #6—Stream and Lake Features Associated with Ameren’s Energy Centers (10 CSR 20-7.031, Tables G & H): Ameren Missouri questions the inclusion of features in the proposed stream and lake datasets and that consequently may receive default “fishable/swimmable” Clean Air Act Section 101(a)(2) uses under the proposed amendment.

RESPONSE: The department has reviewed the features requested to be removed from the proposed lake dataset by Ameren Missouri:

The first stream feature requested to be removed is described as “Callaway Energy Center – NPDES Permit No. MO-0098001, Callaway County, 1”. The appearance that a 1:24,000 flow line extends further upstream than the 1:100,000 flow line is caused by the different scales of accuracy for which the streams were originally mapped on the topographic maps. The National Hydrography Datasets depict streams as reaches according to the scale of the map used. The 1:100,000-extent does not represent the distance upstream on a single reach but rather the scale at which streams were mapped. If a reach was in the 1:100,000 NHD, then the corresponding reach in the 1:24,000 NHD was included in the proposed dataset. Matching data using entire stream reaches removes assumptions and inaccuracies that will result from trying to pinpoint where a 1:100,000 flow line “stops” on a 24,000 flow line. This stream segment is included in the 1:100,000 NHD, and coordinates with the 1:24,000 NHD flow line in the proposed stream dataset. Additionally, the stream segment resides entirely on public land. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)3. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The stream segment will be retained in the proposed dataset. The pond is not included in the 1:100,000 NHD lakes dataset, but intersects the proposed stream feature and resides entirely on the Reform Conservation Area. The department may propose the pond for use designation during future review of the standards. No changes were made as a result of this comment.

The second stream feature requested to be removed is described as “NPDES Permit No. MO-0098001, Callaway County, 2”. This stream segment is included in the 1:100,000 NHD, and coordinates with the 1:24,000 NHD flow line in the proposed stream dataset. Additionally, the stream segment resides entirely on public land. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)3. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The stream segment will be retained in the proposed dataset. The pond is not included in

the 1:100,000 NHD lakes dataset, but intersects the proposed stream feature and resides entirely on the Reform Conservation Area. The department may propose the pond for use designation during future review of the standards. No changes were made as a result of this comment.

The first lake feature requested to be removed is described as “Taum Sauk Energy Center – NPDES Permit No. MO0001082, Reynolds County, 1”. This lake is included in the 1:100,000 NHD lakes dataset, and intersects the 1:100,000 NHD flow line. Additionally, the Upper Reservoir cycles water to and from the Lower Reservoir classified in Table G, requiring protection of downstream uses. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The stream segment will be retained in the proposed dataset. The department recommends submitting formal documentation supporting the Upper Reservoir was determined not to be “Waters of the United States”. After reviewing supporting documentation, the department may propose removal of lake and stream features in a future rule-making. No changes were made as a result of this comment.

The second lake feature requested to be removed is described as “Taum Sauk Energy Center – NPDES Permit No. MO0001082, Reynolds County, 2”. This lake is included in the 1:100,000 NHD lakes dataset, and intersects the 1:100,000 NHD flow line. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The stream segment will be retained in the proposed dataset. No changes were made as a result of this comment.

The third stream feature requested to be removed is described as “Taum Sauk Energy Center – NPDES Permit No. MO0001082, Reynolds County, 3”. This stream segment is included in the 1:100,000 NHD, and coordinates with the 1:24,000 NHD flow line in the proposed stream dataset. Additionally, the stream segment connects the Upper and Lower Reservoirs, requiring protection of downstream uses. However, the department recognizes the unique nature of this water body and invites Ameren to submit additional information and details to further the discussion on appropriate use designations for this segment, if any. Therefore, due to the lack of information sufficient to remove the use pursuant to 40 CFR 131.10(g), the stream segment will be retained in the proposed dataset for this rulemaking. No changes were made as a result of this comment.

The fourth stream feature requested to be removed is described as “Taum Sauk Energy Center – NPDES Permit No. MO0001082, Reynolds County, 4”. This stream segment is included in the 1:100,000 NHD, and coordinates with the 1:24,000 NHD flow line in the proposed stream dataset. The segment is not included as a lake in the 1:100,000 NHD. Additionally, the department will consider the description of the Lower Reservoir and stream segment when it performs maintenance of the NHD in the Upper Black watershed. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)3. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The stream segment will be retained in the proposed dataset. No changes were made as a result of this comment.

The fifth and sixth stream features requested to be removed are described as “Taum Sauk Energy Center – NPDES No. MO0001082, Reynolds County, (5 & 6)”. These stream segments are included in the 1:100,000 NHD, and are within the Lower Reservoir that is included in the proposed lake dataset. The department will remove proposed stream segments that are completely within proposed lakes in the dataset. No changes were made as a result of this comment.

The third and fourth lake features requested to be removed are described as “Sioux Energy Center – NPDES Permit No. MO0000353, St. Charles County”. These lakes are included in the

1:100,000 NHD, and intersect 1:100,000 NHD flow lines. The inclusion of these features comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the features do not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake features will be retained in the proposed dataset. No changes were made as a result of this comment.

SPECIFIC WRITTEN COMMENT #7—Lake Features Associated with The Doe Run Company’s Resource Recycling Division: The Doe Run Company’s Resource Recycling Division questions the inclusion of certain lake features in the proposed Missouri Use Designation Dataset and that would consequently receive default “fishable/swimmable” Section 101(a)(2) use designations under the proposed amendment at 10 CSR 20-7.031(2)(A)4.

RESPONSE AND EXPLANATION OF CHANGE: The department has reviewed the features requested to be removed from the proposed lake dataset by The Doe Run Company:

The first lake feature requested to be removed from the dataset is described as “Impoundment E”. This impoundment corresponds to a water body on Crooked Creek at the location of -91.129253 longitude, 37.639138 latitude. While the NHD flow line for Crooked Creek at this location was inadvertently omitted from the stream dataset, there is 1:100,000 NHD and Valley Segment Type (VST) line work intersecting this water body feature. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake will be retained in the proposed dataset and the 1:100,000 NHD flow line that was inadvertently omitted will be added.

The second lake feature requested to be removed from the dataset is described as “Six Million Gallon Tank and Domestic Lagoon”. The Doe Run Company provided an aerial image and description of the features. Only the domestic lagoon feature is included in the proposed dataset. From the available aerial imagery, it can be seen that this is a wastewater treatment structure and not a lake at -91.134349, 37.637433. The proposed lake polygon appears to be from a lake feature that no longer exists, rather than the existing lagoon. Additionally, the treatment lagoon does not intersect a flow line. The inclusion of this feature does not comport with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature appears to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake has been removed from the proposed dataset.

The third lake feature requested to be removed from the dataset is described as “Mine Water Impoundment”. The impoundment corresponds to a water body on Crooked Creek at the location of -91.125122 longitude, 37.639003 latitude. While the NHD flow line for Crooked Creek at this location was inadvertently omitted from the stream dataset, there is 1:100,000 NHD and Valley Segment Type (VST) line work intersecting this water body feature. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake will be retained in the proposed dataset and the 1:100,000 NHD flow line that was inadvertently omitted will be added.

SPECIFIC WRITTEN COMMENT #8—Lake Features Associated with The Doe Run Company’s Southeast Missouri Mining and Milling Division: The Doe Run Company’s Southeast Missouri Mining and Milling Division questions the inclusion of certain lake features in the proposed Missouri Use Designation Dataset and that would consequently receive default “fishable/swimmable” Clean Air Act Section 101(a)(2) use designations under the proposed amendment at 10 CSR 20-7.031(2)(A)4.

RESPONSE: The department has reviewed the features requested to

be removed from the proposed lake dataset by The Doe Run Company:

The first lake feature requested to be removed from the dataset is described as “Sweetwater Mine Tailings Impoundment.” This lake is included in the 1:100,000 NHD lakes dataset as Number 51 Lake, and intersects the 1:100,000 NHD flow line. Additionally, several other 1:100,000 NHD flow lines flow into the lake. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake will be retained in the proposed dataset. No changes were made as a result of this comment.

The second lake feature requested to be removed from the dataset is described as “Fletcher Mine Dewatering and Stormwater Settling Impoundment.” This lake is included in the 1:100,000 NHD lakes dataset as Fletcher Mine Clarification Basin, and intersects the 1:100,000 NHD flow line. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake will be retained in the proposed dataset. No changes were made as a result of this comment.

The third lake feature requested to be removed from the dataset is described as “Brushy Creek Mine Water Settling Impoundment.” This lake is included in the 1:100,000 NHD lakes dataset as Number 48 Lake, and intersects the 1:100,000 NHD flow line. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake will be retained in the proposed dataset. No changes were made as a result of this comment.

The fourth lake feature requested to be removed from the dataset is described as “Brushy Creek Mine Dewatering and Stormwater Impoundment.” This lake is included in the 1:100,000 NHD lakes dataset as Brushy Creek Mine Water Lake, and intersects the 1:100,000 NHD flow line. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake will be retained in the proposed dataset. No changes were made as a result of this comment.

The fifth lake feature requested to be removed from the dataset is described as “Glover Non-Contact Cooling Water Impoundment.” This lake is included in the 1:100,000 NHD lakes dataset as Asarco Lake, and intersects the 1:100,000 NHD flow line. The inclusion of this feature comports with the proposed amendment language at 10 CSR 20-7.031(2)(A)4. and the feature does not appear to meet the exclusionary language in the federal definition of “Waters of the United States” at 40 CFR 122.2. The lake will be retained in the proposed dataset. No changes were made as a result of this comment.

SPECIFIC WRITTEN COMMENT #9—Losing Stream Segmentation, Dry Fork Creek, Maries County (10 CSR 20-7.031, Table J): The Clorox Company submitted a statement in support of the proposed losing stream segmentation of Dry Fork Creek, Maries County as described in the proposed amendment to 10 CSR 20-7.031, Table J. **RESPONSE:** The department appreciates the support and assistance of the Clorox Company to amend the entry for Dry Fork Creek, Maries County with this rulemaking. No changes were made as a result of this comment.

SPECIFIC WRITTEN COMMENT #10—Single Pass Cooling Water: Cannon Design submitted a comment requesting clarification whether the state of Missouri has policy or regulation that would discourage or eliminate the use of single-pass water for cooling of equipment. The comment states that elimination of single pass cooling is considered a priority by the EPA and is banned in St. Louis. **RESPONSE:** The comment does not address a proposed change to the proposed water quality standards amendment. No changes were

made as a result of this comment.

SPECIFIC WRITTEN COMMENT #11—Metropolitan No-Discharge Stream Language (10 CSR 20-7.031(7)): United States Environmental Protection Agency provided comments and alternate language addressing metropolitan no-discharge streams (Comment 16).

RESPONSE: The comment does not address a proposed change to the proposed water quality standards amendment. No changes were made as a result of this comment.

SPECIFIC WRITTEN COMMENT #12—The Missouri Coalition for the Environment provided a comment suggesting the department incorporate EPA guidance for ammonia chronic toxicity (Comment 5).

RESPONSE: The department appreciates the comment from the Missouri Coalition for the Environment regarding incorporation of a four (4)-day average ammonia as nitrogen criteria of not to exceed two and one-half (2.5) times the chronic criteria. While the department agrees that a short-term average ammonia criteria may be needed, the change was not included in the proposed amendment pending action by EPA to establish new ammonia water quality criteria. On August 22, 2013 EPA promulgated its final *Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater (2013)* as national recommended aquatic life ambient water quality criteria. The department intends to incorporate EPA’s new 2013 criteria for ammonia, including the not to exceed two and one-half (2.5) times chronic limit, into Missouri’s water quality standards at the next review. No changes were made as a result of this comment.

SUPPLEMENTAL COMMENT RESPONSE—Following publication of the draft Order of Rulemaking to the Clean Water Commission web site on October 30, 2013, the department received questions about the proposed amendment revisions at 10 CSR 20-7.031(2) and the response to comments. In order to answer questions and resolve comments, the department has developed revised language at 10 CSR 20-7.031(2). The revised language describes waters that may be eligible for exclusion from the presumptive “fishable/swimmable” use designation at paragraph (2)(D)1. provided reasonable evidence is available and presented to the department for consideration. The department notes that the exclusion at paragraph (2)(D)3. should not be viewed as a revision to water quality standards with the current rulemaking. Rather, this exclusionary language establishes a framework for refining the Missouri Use Designation Dataset for waters or structures that fit into the categories established in that section of the proposed amendment. Where reasonable evidence is available and received by the department, the department will make a written determination whether or not presumptive “fishable/swimmable” designated uses apply to specific water body segments or features. To the extent that future determinations by the department under paragraph (2)(D)3. may be revisions to water quality standards, the department will reflect these changes in state water quality standards and will submit such changes to EPA for review and approval for Clean Water Act purposes following public notice and commission approval.

Given the proposed language in paragraph (2)(D)3. has not yet been promulgated, entities requesting that specific waters be excluded from presumptive “fishable/swimmable” designated uses may resubmit such requests following the effective date of the rule. The department will provide a written determination and, where such requests involve changes to water quality standards, will submit the determination as a water quality standards change during the next review.

10 CSR 20-7.031 Water Quality Standards

(1) Definitions.

(C) Designated uses. Uses specified for each water body whether or not they are being attained. Uses are designated according to section (2) of this rule and include, but are not limited to—

1. Protection and propagation of fish, shellfish, and wildlife. Streams will be designated to one of the following aquatic habitat protection uses based on watershed size, scale within the stream network and other hydrological and physical data. Lakes and reservoirs will be designated to one of the following aquatic habitat protection uses based on limnological characteristics (such as temperature) and biological assemblages.

A. Warm Water Habitat (WWH)—Waters in which naturally-occurring water quality and habitat conditions allow the maintenance of a wide variety of warm-water biota—

- (I) Warm water habitat (Great River);
- (II) Warm water habitat (Large River);
- (III) Warm water habitat (Small River);
- (IV) Warm water habitat (Creek);
- (V) Warm water habitat (Headwater); and
- (VI) Warm water habitat (Lake or reservoir).

B. Cool Water Habitat (CLH)—Waters in which naturally-occurring water quality and habitat conditions allow the maintenance of a wide variety of cool-water biota. These waters can support a sensitive, high-quality sport fishery (i.e., smallmouth bass and rock bass)—

- (I) Cool water habitat (Large River);
- (II) Cool water habitat (Small River);
- (III) Cool water habitat (Creek);
- (IV) Cool water habitat (Headwater); and
- (V) Cool water habitat (Lake or reservoir).

C. Cold Water Habitat (CDH)—Waters in which naturally-occurring water quality and habitat conditions allow the maintenance of a wide variety of cold-water biota. These waters can support a naturally reproducing or stocked trout fishery and populations of other cold-water species—

- (I) Cold water habitat (Large River);
- (II) Cold water habitat (Small River);
- (III) Cold water habitat (Creek);
- (IV) Cold water habitat (Headwater); and
- (V) Cold water habitat (Lake or reservoir).

D. Ephemeral Aquatic Habitat (EAH)—Waters having surface flow or pools in response to precipitation events or snow melt, but without permanent surface flow or permanent pools; naturally-occurring water quality and habitat conditions may allow the maintenance of a limited or transient community of aquatic biota.

E. Modified Aquatic Habitat (MAH)—Waters in which natural habitat conditions have been physically, chemically or biologically modified; habitat and resulting water quality conditions may prevent the maintenance of a wide variety or diversity of aquatic biota.

F. Limited Aquatic Habitat (LAH)—Waters in which natural habitat conditions have been substantially and irretrievably altered; habitat and resulting water quality conditions do not allow maintenance of aquatic biota, or if present, the community is of poor variety or diversity.

2. Recreation in and on the water. Assignment of these uses does not grant an individual the right to trespass.

A. Whole body contact recreation (WBC)—Activities involving direct human contact with waters of the state to the point of complete body submergence. The water may be ingested accidentally and certain sensitive body organs, such as the eyes, ears, and the nose, will be exposed to the water. Although the water may be ingested accidentally, it is not intended to be used as a potable supply unless acceptable treatment is applied. Waters so designated are intended to be used for swimming, water skiing, or skin diving.

(I) Category A (WBC-A)—This category applies to waters that have been established by the property owner as public swimming areas welcoming access by the public for swimming purposes and waters with documented existing whole body contact recreational use(s) by the public. Examples of this category include, but are not limited to: public swimming beaches and property where whole body contact recreational activity is open to and accessible by the public

through law or written permission of the landowner.

(II) Category B (WBC-B)—This category applies to waters designated for whole body contact recreation not contained within category A.

B. Secondary contact recreation (SCR)—Uses include fishing, wading, commercial and recreational boating, any limited contact incidental to shoreline activities, and activities in which users do not swim or float in the water. These recreational activities may result in contact with the water that is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal.

3. Human health protection (HHP)—Criteria to protect this use are based on the assumption of an average amount of fish consumed on a long-term basis. Protection of this use includes compliance with Food and Drug Administration (FDA) limits for fish tissue, maximum water concentrations corresponding to the 10^{-6} cancer risk level, and other human health fish consumption criteria.

4. Irrigation (IRR)—Application of water to cropland or directly to cultivated plants that may be used for human or livestock consumption. Occasional supplemental irrigation, rather than continuous irrigation, is assumed.

5. Livestock and wildlife protection (LWP)—Maintenance of conditions in waters to support health in livestock and wildlife.

6. Drinking water supply (DWS)—Maintenance of a raw water supply which will yield potable water after treatment by public water treatment facilities.

7. Industrial water supply (IND)—Water to support various industrial uses; since quality needs will vary by industry, no specific criteria are set in these standards.

8. Storm- and flood-water storage and attenuation (WSA)—Wetlands and other waters which serve as overflow and storage areas during flood or storm events slowly release water to downstream areas, thus lowering flood peaks and associated damage to life and property.

9. Habitat for resident and migratory wildlife species, including rare and endangered species (WHP)—Wetlands and other waters that provide essential breeding, nesting, feeding, and predator escape habitats for wildlife including waterfowl, birds, mammals, fish, amphibians, and reptiles.

10. Recreational, cultural, educational, scientific, and natural aesthetic values and uses (WRC)—Wetlands and other waters that serve as recreational sites for fishing, hunting, and observing wildlife; waters of historic or archaeological significance; waters which provide great diversity for nature observation, educational opportunities, and scientific study.

11. Hydrologic cycle maintenance (WHC)—Wetlands and other waters hydrologically connected to rivers and streams serve to maintain flow conditions during periods of drought. Waters that are connected hydrologically to the groundwater system recharge groundwater supplies and assume an important local or regional role in maintaining groundwater levels.

(F) Class—All waters listed in the Missouri Use Designation Dataset and in Table G and Table H of this rule shall have a hydrologic class. During normal flow periods, some rivers back water into tributaries which do not otherwise have a hydrologic class. These permanent backwater areas are considered to have the same hydrologic class as the water body into which the tributary flows.

1. Class L1—Lakes used primarily for public drinking water supply.

2. Class L2—Major reservoirs.

3. Class L3—Other lakes which are waters of the state. These include both public and private lakes. For effluent regulation purposes, publicly-owned L3 lakes are those for which a substantial portion of the surrounding lands are publicly owned or managed.

4. Class P—Streams that maintain permanent flow even in drought periods.

5. Class P1—Standing-water reaches of Class P streams.

6. Class C—Streams that may cease flow in dry periods but maintain permanent pools which support aquatic life.

7. Class E—Streams that do not maintain permanent surface flow or permanent pools, but have ephemeral surface flow or pools in response to precipitation events.

8. Class W—Wetlands that are waters of the state that meet the criteria in the *Corps of Engineers Wetlands Delineation Manual* (January 1987), and subsequent federal revisions and supplements. Class W waters do not include wetlands that are artificially created on dry land and maintained for the treatment of mine drainage, stormwater control, drainage associated with road construction, or industrial, municipal, or agricultural waste.

(P) Missouri Use Designation Dataset—A digital geospatial dataset used in conjunction with geographic information systems and maintained by the department. This dataset documents the names and locations of the state's rivers, streams, lakes and reservoirs which have been assigned designated uses. The initial version of this dataset, as adopted on November 6, 2013, reflects Tables G and H plus any additional presumptive uses described in section (2). The dataset will also include information regarding both pending and approved determinations, variances, use attainability analyses and water quality standards revisions. The dataset uses the geospatial framework provided by the National Hydrography Dataset and is enhanced and supported by hydrological and physical information obtained through the Missouri Resource Assessment Partnership (MoRAP) and other scientific sources. The dataset is limited in geographic extent to the state of Missouri.

(Q) Mixing zone—An area of dilution of effluent in the receiving water beyond which chronic toxicity criteria must be met.

(R) National Hydrography Dataset (NHD)—A digital vector dataset used in conjunction with geographic information systems to describe the location of rivers, streams, lakes, reservoirs, and other surface water features. As applied in this rule, the term refers to the 1:100,000 scale dataset generated by the United States Geological Survey. This dataset provides the geospatial framework for the Missouri Use Designation Dataset.

(S) Outstanding national resource waters—Waters which have outstanding national recreational and ecological significance. These waters shall receive special protection against any degradation in quality. Congressionally-designated rivers, including those in the Ozark national scenic riverways and the wild and scenic rivers system, are so designated (see Table D).

(T) Outstanding state resource waters—High quality waters with a significant aesthetic, recreational, or scientific value which are specifically designated as such by the Clean Water Commission (see Table E).

(U) Ozark streams—Streams lying within the Ozark faunal region as described in the *Aquatic Community Classification System for Missouri*, Missouri Department of Conservation, 1989.

(V) Reference lakes or reservoirs—Lakes or reservoirs determined by Missouri Department of Natural Resources to be the best available representatives of ecoregion waters in a natural condition with respect to habitat, water quality, biological integrity and diversity, watershed land use, and riparian conditions.

(W) Reference stream reaches—Stream reaches determined by the department to be the best available representatives of ecoregion waters in a natural condition, with respect to habitat, water quality, biological integrity and diversity, watershed land use, and riparian conditions.

(X) Regulated-flow streams—A stream that derives a majority of its flow from an impounded area with a flow-regulating device.

(Y) Use Attainability Analysis (UAA)—A structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in 40 CFR 131.10(g).

(Z) Variance—A temporary modification to 10 CSR 20-7.031 that is deemed necessary in accordance with section (12) of this rule.

(AA) Water effect ratio—Appropriate measure of the toxicity of a

material obtained in a site water divided by the same measure of the toxicity of the same material obtained simultaneously in a laboratory dilution water.

(BB) Water hardness—The total concentration of calcium and magnesium ions expressed as calcium carbonate. For purposes of this rule, hardness will be determined by the lower quartile (twenty-fifth percentile) value of a representative number of samples from the water body in question or from a similar water body at the appropriate stream flow conditions.

(CC) Water quality criteria—Chemical, physical, and biological properties of water that are necessary to protect beneficial water uses.

(DD) Waters of the state—All rivers, streams, lakes, and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased, or otherwise controlled by a single person or by two (2) or more persons jointly or as tenants in common and includes waters of the United States lying within the state.

(EE) Wetlands—Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. This definition is consistent with both the United States Army Corps of Engineers wetlands definition at 33 CFR 328.3(b) and the United States Environmental Protection Agency wetlands definition at 40 CFR 232.2(r).

(FF) Whole effluent toxicity tests—A toxicity test conducted under specified laboratory conditions on specific indicator organisms. To estimate chronic and acute toxicity of the effluent in its receiving stream, the effluent may be diluted to simulate the computed percent effluent at the edge of the mixing zone or zone of initial dilution.

(GG) Zone of initial dilution—A small area of initial mixing below an effluent outfall beyond which acute toxicity criteria must be met.

(HH) Zone of passage—A continuous water route necessary to allow passage of organisms with no acutely toxic effects produced on their populations.

(II) Other definitions as set forth in the Missouri Clean Water Law and 10 CSR 20-2.010 shall apply to terms used in this rule.

(2) Designation of Uses.

(A) Rebuttable presumption. Consistent with the presumptive beneficial use protections described by 40 CFR Part 131 and section 101(a)(2) of the federal Clean Water Act—

1. All perennial rivers and streams;
2. All streams with permanent pools;
3. All rivers and streams included within the 1:100,000 scale National Hydrography Dataset (NHD) described in subsection (1)(R) of this rule; and

4. All lakes and reservoirs that intersect the flow lines of rivers and streams identified in paragraph (2)(A)3. of this rule, shall be presumed to support the following designated uses: aquatic habitat protection; human health protection; whole body contact recreation – Category B; and secondary contact recreation, as defined in this rule. This presumption is rebuttable subject to demonstration based on use attainability analyses as described in subsection (2)(F) of this rule.

(B) Presumed Uses. All waters described in subsection (2)(A) shall also be assigned livestock and wildlife protection and irrigation designated uses, as defined in this rule.

(C) Other Uses. Use designations other than those mentioned in subsections (2)(A) and (2)(B) of this rule may be applied to waters identified in subsection (2)(A), Table G and Table H of this rule on a site-specific, case-by-case basis following approval by the Clean Water Commission and U.S. Environmental Protection Agency.

(D) Use Designation. Uses of waters shall be designated as follows—

1. Designated uses applied to individual water bodies or stream segments pursuant to subsections (2)(A) through (2)(C) of this rule shall include those identified in Tables G and H and in the Missouri Use Designation Dataset maintained by the department, except as described in paragraph (2)(D)3. of this rule.

2. Designated uses may be assigned on a case-by-case basis to water bodies or stream segments not otherwise represented in Tables G and H or in the Missouri Use Designation Dataset but falling within the jurisdiction of the Missouri Clean Water Law.

3. Assuming reasonable evidence, presumptive beneficial use protections described above shall not apply to water bodies without designated uses pursuant to Tables G or H prior to November 6, 2013 that meet one of the following criteria:

A. Waste treatment systems, or prior converted cropland, which are excluded from the federal definition of "waters of the United States" under 40 CFR 122.2; or

B. Man-made structures which were constructed solely to treat or convey wastewater; or

C. Man-made bodies of water or structures which lack perennial flow and were constructed to treat, convey, or temporarily hold or slow stormwater following precipitation events (this may include certain structures associated with Best Management Practices such as sediment basins, wet and dry detention basins, bioretention basins, rain gardens, bioswales, etc.); or

D. Water bodies that lack jurisdiction under either the federal Clean Water Act or Missouri Clean Water Law.

After receiving such evidence, the department shall make a written determination regarding the applicability of the above-described presumptions, and such determination shall be subject to appeal pursuant to section 621.250, RSMo.

(E) Missouri Use Designation Dataset. The department shall maintain the geospatial dataset described in subsection (1)(P) of this rule. Future revisions to water quality standards in the State of Missouri shall be reflected in the Missouri Use Designation Dataset and shall take effect upon approval by the Clean Water Commission and U.S. Environmental Protection Agency.

(F) Use Attainability. Demonstrations of use attainability for the protection of fish, shellfish and wildlife, recreation in and on the water, or human health protection shall assess the physical, chemical, biological, economic or other factors affecting the attainment of a use pursuant to 40 CFR 131.10(g). Use attainability analyses intended for other designated uses shall be designed and implemented on a case-by-case basis. In accordance with 40 CFR 131.10(j), the following potential actions must be preceded and supported by a use attainability analysis:

1. Designation of a water body for uses that do not include the protection of fish, shellfish and wildlife, recreation in and on the water, and human health protection;

2. Removal of one or more of the uses identified in paragraph 1. of this section; or

3. Application of any use sub-categories for the protection of fish, shellfish and wildlife, recreation in and on the water, or human health protection which require less stringent criteria.

After receiving such demonstration, the department shall make a written determination regarding the use attainability analysis, and such determination shall be subject to appeal pursuant to section 621.250, RSMo.

(4) General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

(I) Waters in mixing zones, ephemeral aquatic habitat and waters of the state lacking designated uses shall be subject to the following requirements:

(5) Specific Criteria. The specific criteria shall apply to waters con-

tained in Tables G and H of this rule and the Missouri Use Designation Dataset. Protection of drinking water supply is limited to surface waters designated for raw drinking water supply and aquifers. Protection of whole body contact recreation is limited to waters designated for that use.

(A) The maximum chronic toxicity criteria in Tables A and B shall apply to waters designated for the indicated uses given in the Missouri Use Designation Dataset and Tables G and H, except for waters designated for Ephemeral Aquatic Habitat or where less stringent criteria have been developed following a use attainability analysis. All Table A and B criteria are chronic toxicity criteria, except those specifically identified as acute criteria. Water contaminants shall not cause or contribute to concentrations in excess of these values. Table A values listed as health advisory levels shall be used in establishing discharge permit limits and management strategies until additional data becomes available to support alternative criteria, or other standards are established. However, exceptions may be granted in the following cases:

(L) Sulfate and Chloride Limit for Protection of Aquatic Life. Water contaminants shall not cause sulfate or chloride criteria to exceed the levels described in Table A.

(R) Biocriteria. The biological integrity of waters, as measured by lists or numeric indices of benthic invertebrates, fish, algae, or other appropriate biological indicators, shall not be significantly different from reference waters. Waters targeted for numeric biological criteria assessment must be contained within the Missouri Use Designation Dataset and shall be compared to reference waters of similar size, scale within the stream network, habitat type, and aquatic ecoregion type. Reference water locations for some aquatic habitat types are listed in Table I.

(S) Site-Specific Criteria Development for the Protection and Propagation of Fish, Shellfish, and Wildlife. When water quality criteria in this regulation are either underprotective or overprotective of water quality due to factors influencing bioavailability, or non-anthropogenic conditions for a given water body segment, a petitioner may request site-specific criteria. The petitioner must provide the department with sufficient documentation to show that the current criteria are not adequate and that the proposed site-specific criteria will protect all existing and/or potential uses of the water body.

1. Site-specific criteria may be appropriate where, but is not limited to the examples given in subparagraphs A. or B. of this paragraph.

A. The resident aquatic species of the selected water body have a different degree of sensitivity to a specific pollutant as compared to those species in the data set used to calculate the national or state criteria as described in either of the following parts:

(I) Natural adaptive processes have enabled a viable, balanced aquatic community to exist in waters where natural (non-anthropogenic) background conditions exceed the criterion (e.g., resident species have evolved a genetically-based greater tolerance to high concentrations of a chemical); or

(II) The composition of aquatic species in a water body is different from those used in deriving a criterion (e.g., most of the species considered among the most sensitive, such as salmonids or the cladoceran, *Ceriodaphnia dubia*, which were used in developing a criterion, are absent from a water body).

B. The physical and/or chemical characteristics of the water body alter the biological availability and/or toxicity of the pollutant (e.g., pH, alkalinity, salinity, water temperature, hardness). Such an example is the Water Effect Ratio (WER) defined at (1)(AA) of this rule.

2. All petitioners seeking to develop site-specific criteria shall coordinate with the department early in the process. This coordination will ensure the use of adequate, relevant, and quality data; proper analysis and testing; and defensible procedures.

A. The department will provide guidance for establishing site-specific water quality criteria using scientific procedures including, but not limited to, those procedures described in:

(I) U.S. Environmental Protection Agency's *Water Quality Standards Handbook*, Second Edition, August 1994;

(II) U.S. Environmental Protection Agency's *Interim Guidance on Determination and Use of Water-Effect Ratios for Metals* (EPA-823-B-94-001) and subsequent 1997 modifications;

(III) U.S. Environmental Protection Agency's *Streamlined Water-Effect Ratio Procedure for Discharges of Copper* (EPA-822-R-01-005); and

(IV) U.S. Environmental Protection Agency's *Aquatic Life Ambient Freshwater Quality Criteria - Copper 2007 Revision* (EPA-822-R-07-001).

B. Site-specific criteria development for the Protection and Propagation of Fish, Shellfish and Wildlife shall be performed using the guidance documents listed in parts (5)(S)2.A.(I)-(IV) as published by the Office of Science and Technology, Office of Water, U.S. Environmental Protection Agency, Washington, DC 20460, which are hereby incorporated by reference and do not include any later amendments or additions. The department shall maintain a copy of the referenced documents and shall make them available to the public for inspection and copying at no more than the actual cost of reproduction.

3. Site-specific criteria shall protect all life stages of resident species and prevent acute and chronic toxicity in all parts of a water body unless early life stages are determined absent.

4. Site-specific criteria shall include both chronic and acute concentrations to better reflect the different tolerances of resident species to the inherent variability between concentrations and toxicological characteristics of a chemical.

5. Site-specific criteria shall be clearly identified as maximum "not to be exceeded" or average values, and if an average, the averaging period and the minimum number of samples. The conditions, if any, when the criteria apply shall be clearly stated (e.g., specific levels of hardness, pH, or water temperature). Specific sampling requirements (e.g., location, frequency), if any, shall also be identified.

6. The data, testing procedures, and application (safety) factors used to develop site-specific criteria shall reflect the nature of the chemical (e.g., persistency, bioaccumulation potential, and avoidance or attraction responses in fish) and the most sensitive resident species of a water body.

7. The size of a site may be limited to a single water segment, single water subsegment, or may cover a whole watershed depending on the particular situation for which the specific criterion is developed. A group of water bodies may be considered one (1) site if their respective aquatic communities are similar in composition and have comparable water quality.

8. The department shall determine if a site-specific criterion is adequate and justifiable. Each site-specific criterion shall be promulgated into rule 10 CSR 20-7.031. The public notice shall include a description of the affected water body or water body segment and the reasons for applying the proposed criterion. If the department determines that there is significant public interest, a public hearing may be held in the geographical vicinity of the affected water body or water body segment. Any site-specific criterion promulgated under these provisions is subject to U.S. Environmental Protection Agency approval prior to becoming effective.

(12) Variances.

(A) A permittee or an applicant for a National Pollutant Discharge Elimination System (NPDES) or Missouri state operating permit, may pursue a temporary variance to a water quality standard pursuant to either section 644.061 or section 644.062, RSMo. In order to obtain U.S. Environmental Protection Agency approval for a water quality standards variance for purposes of the federal Clean Water Act, the following additional provisions apply:

1. A variance applies only to the applicant identified in such variance and only to the water quality standard specified in the variance. A variance does not modify an underlying water quality stan-

dard.

2. A variance shall not be granted if water quality standards will be attained by implementing technology-based effluent limits required under 10 CSR 20-7.015 of this rule and by implementing cost-effective and reasonable best management practices for non-point source control.

3. A variance shall not be granted for actions that will violate general criteria conditions prescribed by 10 CSR 20-7.031(4).

4. A variance shall not be granted that would likely jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of such species' critical habitat.

5. A variance may be granted if the applicant demonstrates that achieving the water quality standard is not feasible as supported by an analysis based on the factors provided in 40 CFR 131.10(g), or other appropriate factors.

6. In granting a variance, conditions and time limitations shall be set by the department with the intent that progress be made toward attaining water quality standards.

7. Each variance shall be granted only after public notification and opportunity for public comment. Once any variance to water quality standards is granted, the department shall submit the variance, with an Attorney General Certification that the Clean Water Commission adopted the variance in accordance with state law, to the U.S. Environmental Protection Agency for approval.