



Missouri 2015 WQS Triennial Review

Water Quality Standards Workgroup

December 10, 2015



Waters of the State

- 2015 HB 92 changed definition of “waters of the state” at RSMo, 644.016(27)
- 10 CSR 20-7.031(1)(DD)

(DD) Waters of the state—All **waters within the jurisdiction of this state, including 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]*.



Mixing Zones

- Revises 10 CSR 20-7.031(5)(A)4.B.(III) to allow site-specific mixing zones > 20 cfs
- Clarifies definitions for mixing zones at 10 CSR 20-7.031(1)(Q) and zones of initial dilution at 10 CSR 20-7.031(1)(GG) to ensure protection of sensitive species



(III) Streams with 7Q10 low flow of greater than twenty cubic feet per second (20 cfs)— (a) Mixing zone—one-quarter (1/4) of stream width, cross-sectional area, or volume of flow; length of one-quarter (1/4) mile. **If the discharger can document that rapid and complete mixing of the effluent occurs in the receiving stream, the mixing zone may be up to one-half (1/2) of the stream width, cross-sectional area, or volume of flow;**

(1)(Q) Mixing zone—An area of dilution of effluent in the receiving water beyond which chronic toxicity criteria must be met. **The area shall not include any species that are known to be sensitive to the toxic pollutant that would use this area for mixing.**

(1)(GG) Zone of initial dilution—A small area of initial mixing below an effluent outfall beyond which acute toxicity criteria must be met. **The area shall not include any species that are known to be sensitive to the toxic pollutant that would use this area for dilution.**



Site-Specific Criteria

- Removes additional language at 10 CSR 20-7.031(5)(A)

(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*...



Site-Specific Criteria

- Removes additional language at 10 CSR 20-7.031(5)(S)3

(S)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]*.



Hardness

- Revises hardness definition from 25th percentile to median (50th percentile)
- 10 CSR 20-7.031(1)(BB)

(BB) Water hardness—The total concentration of calcium and magnesium ions expressed as calcium carbonate. For purposes of this rule, hardness will be **the median** *[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 waters *[body]* at the appropriate stream flow conditions **within the same ecoregion**.



pH

- Clarification that pH is a chronic (four-day average) criteria
- 10 CSR 20-7.031(5)(E)

(E) pH. Water contaminants shall not cause **the four-day average pH concentration of representative samples***[pH]* to be outside of the range of 6.5 to 9.0 standard pH units (**chronic toxicity**).



General Criteria Revisions

- Clarification regarding allowed toxicity in mixing zones, zones of initial dilution (4)(D)
- Clarification regarding applicability of GC to nutrient impacts (4)(E)
- Addition of narrative GC for protection of downstream uses (4)(F)



(4)(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life. **However, acute toxicity may be allowed by permit in zones of initial dilution, and chronic toxicity may be allowed by permit in mixing zones;**

(4)(E) Waters shall be free from nutrients in sufficient amounts to cause harmful algal blooms, high turbidity, offensive odor, reduced aquatic biodiversity, or prevent full maintenance of beneficial uses;

(4)(F) Waters shall maintain a level of water quality at their confluences to downstream waters that provides for the attainment and maintenance of the water quality standards of those downstream waters, including waters of another state.



Antidegradation Implementation Procedure

- Updates reference to Antidegradation Implementation Procedure (AIP)
- 10 CSR 20-7.031(3)(D)

The three (3) levels of protection provided by the antidegradation policy in subsections (A) through (C) of this section shall be implemented according to procedures hereby incorporated by reference and known as the "Missouri Antidegradation Rule and Implementation Procedure, [May 2, 2012]April 6, 2016." No later amendments or additions are included. This document shall be made available to anyone upon written request to the Department of Natural Resources, Water Protection Program, Water Pollution Control Branch, PO Box 176, Jefferson City, MO 65102-0176.



Losing Stream Reference, Table J

- Updates reference to "Losing Stream" information in definition, removes Table J
- 10 CSR 20-7.031(1)(N)

(N) Losing stream— ... Losing streams are **identified** [listed] in the **digital geospatial dataset 'LOSING_STREAM' developed by the Missouri Department of Natural Resources, Missouri Geological Survey** [Table J]; additional streams may be determined to be losing by the Missouri Department of Natural Resources.



Site-specific Criteria, Table K

- Removes table that contains disapproved or expired site-specific dissolved oxygen criteria
- 10 CSR 20-7.031, Table K
- 10 CSR 20-7.031(5)(J)

(J) Dissolved Oxygen. Water contaminants shall not cause the dissolved oxygen to be lower than the levels described in Table A[or Table K—*Site-Specific Criteria*].



Missouri Use Designation Dataset (MUDD)

- Updates GIS data to refine the delineation of start and end points of water body features, update and incorporate water body features according to 10 CSR 20-7.031(2), and recalculate stream mileages and lake acreages.



Water Quality Criteria

- Updates Section 304(a) Water Quality Criteria values, formatting of Table A
- Updates Numeric Nutrient Criteria for lakes and reservoirs for Aquatic Life Protection and Drinking Water Supply uses



WQS Variances

- Removes disapproved variance language from rule
- 10 CSR 20-7.031(12)

(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:



WQS Variances

3. A variance shall not be granted for actions that will violate general criteria conditions prescribed by 10 CSR 20-7.031(4) **unless the variance includes conditions and a schedule of compliance by which such violations will be eliminated.**

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*].