



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII  
901 NORTH 5TH STREET  
KANSAS CITY, KANSAS 66101

DEC 01 1999

Edwin D. Knight, Director  
Water Pollution Control Program  
Division of Environmental Quality  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102



Dear Mr. Knight:

EPA has completed its review of the two total maximum daily loads (TMDLs) as submitted by your office for Rock Creek (WBID 1714), as described in Section 303(d)(1) and which appears on your Section 303(d) list as impaired by BOD and ammonia. In accordance with the Clean Water Act (33 U.S.C. 1251 et. seq.), all the required elements are adequately addressed in these TMDLs and EPA approves all aspects of these TMDLs.

EPA believes, as described in the enclosed decision document, that these TMDLs adequately addresses the two pollutants of concern, and upon implementation, will result in attainment of the applicable water quality standards. The separate elements of each TMDL adequately address the allocations as needed, the critical conditions, and takes into consideration seasonal variation and a margin of safety.

Thank you for your submittal. EPA appreciates Missouri's work to complete and adopt these TMDLs, and looks forward to our continuing partnership in TMDL development. If you have any questions concerning this approval, feel free to contact Don Miller at 913-551-7393.

Sincerely,

U. Gale Hutton  
Director  
Water, Wetlands, and Pesticides Division

Enclosure

## TMDL Decision Document

**State:** Missouri

**First TMDL:**

**Waterbody Name:** Rock Creek

**Missouri WBID No:** 1714

**Pollutant:** BOD (biological oxygen demand)

**Second TMDL:**

**Waterbody Name:** Rock Creek

**Missouri WBID No:** 1714

**Pollutant:** Ammonia

**Date of State Submission:** November 24, 1999

**Date Received By EPA:** November 24, 1999

**EPA Reviewer:** Don Miller

**Date of Review:** November 26, 1999

| Review Criteria   | Approve | Comments  |
|---|---------|---|
| <b>1. Submittal Letter:</b> State submittal letter indicates final TMDL(s) for specific water(s)/pollutant(s) were adopted by state and submitted to EPA for approval under 303(d). | X       | <i>Missouri indicated in its cover letter dated 24 November 1999 that this submittal replaces the earlier submittal of two TMDLs for Rock Creek. The two pollutants are BOD and ammonia. Missouri submitted these two TMDLs for approval by EPA pursuant to Section 303(d)(2) of the CWA.</i>   |
| <b>2. Water Quality Standards Attainment:</b> TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards.             | X       | <i>Missouri has no water quality standard for BOD, rather Missouri links BOD to dissolved oxygen (DO) which does have a numeric water quality standard. Ammonia has a numeric seasonal water quality standard. These two TMDLs establish allocations for the pollutant and surrogate of concern that will result in the attainment of the applicable water quality standards.</i> |

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| <p><b>3. Numeric Target(s):</b> Submission describes applicable water quality standards, including beneficial uses, applicable numeric and/or narrative criteria. Numeric water quality target(s) for TMDL identified, and adequate basis for target(s) as interpretation of water quality standards is provided.</p>   | <p><b>X</b></p> | <p><i>The beneficial use that is impaired is the aquatic life use. One TMDL provides the numeric seasonal criteria for ammonia. The other TMDL links BOD, which is the listed pollutant, with DO, and provides the numeric water quality targets for BOD that will result in meeting the DO water quality standards. These numeric targets are appropriately linked to the applicable water quality standards.</i></p>                                       |
| <p><b>4. Source Analysis:</b> Point, nonpoint, and background sources of pollutants of concern are described, including the magnitude and location of sources. Submittal demonstrates all significant sources have been considered.</p>   | <p><b>X</b></p> | <p><i>These TMDLs describe the nonpoint and the point sources of the pollutants of concern. The contribution from nonpoint sources is minimal. The point sources dominate the present loadings. The submittal describes all the significant sources.</i></p>   |
| <p><b>5. Allocations:</b> Submittal identifies appropriate wasteload allocations for point sources and load allocations for nonpoint sources. If no point sources are present, wasteload allocations are zero. If no nonpoint sources are present, load allocations are zero.</p>   | <p><b>X</b></p> | <p><i>These two TMDLs establish a minimal Load Allocation (non-point and background). These two TMDLs appropriately establish seasonal Wasteload Allocations for the pollutant and surrogate of concern to the point sources.</i></p>  |
| <p><b>6. Link Between Numeric Target(s) and Pollutant(s) of Concern:</b> Submittal describes relationship between numeric target(s) and identified pollutant sources. For each pollutant, describes analytical basis for conclusion that sum of wasteload allocations, load allocations, and margin of safety does not exceed the loading capacity of the receiving water(s).</p> | <p><b>X</b></p> | <p><i>The numeric targets are used to determine the wasteload allocations for the point sources. For each of the two pollutants, the Wasteload Allocation is applied at the end-of-pipe, because Missouri regulations allow a mixing zone in this situation. In these two TMDLs, the sum of the wasteload allocations, the load allocations (which are minimal) and the margins of safety do not exceed the loading capacity of the receiving water.</i></p> |

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| <p><b>7. Margin of Safety:</b><br/>Submission describes explicit and/or implicit margin of safety for each pollutant.</p>   | <p><b>X</b></p> | <p><i>There was insufficient data and information to establish the uncertainty of the technical analysis in these two TMDLs. As a result, margins of safety were established for each of the two pollutants. Since these are phased TMDLs, if water quality standards are exceeded, then the re-opening of these TMDLs will reevaluate the margins of safety based on available additional data. These two TMDLs establish explicit margins of safety of 20% for CBOD and ammonia.</i></p> |
| <p><b>8. Seasonal Variations and Critical Conditions:</b><br/>Submission describes method for accounting for seasonal variations and critical conditions in the TMDL(s)</p>                       | <p><b>X</b></p> | <p><i>These two TMDLs appropriately considered seasonality and critical conditions, and established seasonal wasteload allocations under the critical flow conditions.</i></p>   |
| <p><b>9. Public Participation:</b><br/>Submission documents provision of public notice and public comment opportunity; and explains how public comments were considered in the final TMDL(s).</p> | <p><b>X</b></p> | <p><i>These TMDLs were placed on public notice by DNR from April 16, 1999 to May 21, 1999. No comments were received. DNR has also conducted 6 public meetings between August 18 and September 22, 1999 on these TMDLs and on other 303(d) listing issues; no comments were received on the Rock Creek TMDLs. This participation opportunity allowed the public to have meaningful input into these two TMDLs.</i></p>   |
| <p><b>10. Technical Analysis:</b><br/>Submission provides appropriate level of technical analysis supporting TMDL elements</p>  | <p><b>X</b></p> | <p><i>Each element in these TMDLs contain an appropriate technical justification for the decisions made. The loading capacity, seasonal variation, and margin of safety are based on appropriate technical analyses. The nonpoint and point source load allocations are appropriate for the level of complexity of the water quality problem and the data and information available to support the development of these two TMDLs.</i></p>   |
| <p><b>Note:</b><br/><b>The following criteria do not apply to all TMDLs, but are applied in the situations noted.</b></p>   |                 |  |

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| <p><b>11. Monitoring Plan for TMDLs Under Phased Approach (where phased approach is used):</b><br/> TMDLs developed under phased approach identify implementation actions, monitoring plan and schedule for considering revisions to TMDL.</p>  | <p><b>X</b></p> | <p><i>A monitoring plan is included in the package provided by Missouri DNR for these two phased TMDLs. Missouri DNR will conduct two 24-hour water quality surveys of Rock Creek to confirm that in-stream water quality standards are achieved. These are phased TMDLs, and will be reopened if future monitoring indicates that water quality standards are exceeded.</i></p> |
| <p><b>12. Reasonable Assurances (for waters affected by both point and nonpoint sources):</b><br/> Where point source(s) receive less stringent wasteload allocations because nonpoint source reductions are expected and reflected in load allocations, implementation plan provides reasonable assurances that nonpoint implementation actions are sufficient to result in attainment of load allocations in a reasonable period of time. Reasonable assurances may be provided through use of regulatory, non-regulatory, or incentive based implementation mechanisms as appropriate.</p> | <p><b>X</b></p> | <p><i>There are only minimal nonpoint sources of the two pollutants of concern under the critical flow conditions. The discharge from the WWTPs remains under the authority of the NPDES permit. This assurance is sufficient to result in the attainment of the wasteload allocations in these two TMDLs.</i></p>   |
| <p><b>Implementation Plan Review Criteria Pursuant to 40 CFR 130.6 and 303(e)</b></p>   |                 |  |

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| <p><b>13. Clear Implementation Plan:</b> Submittal describes planned implementation actions or, where appropriate, specific process and schedule for determining future implementation actions . Plan is sufficient to implement all wasteload and load allocations in reasonable period of time. TMDL(s) and implementation measures are incorporated into the water quality management plan. Water quality management plan revisions are consistent with other existing provisions of the water quality management plan.</p> | <p><b>X</b></p> | <p><i>Implementation of these TMDLs consist of allowing the WWTP facilities to upgrade in order to meet the applicable water quality standards. All parties agree that upgrades are unrealistic, and plans are underway to close all the discharging facilities and connect sewer lines to the regional WWTP, which discharges into a different waterbody. This closure of the existing dischargers will assure that the applicable water quality standards will be met. This plan is sufficient to implement the wasteload allocations in a reasonable time for these two TMDLs. These two TMDLs will be incorporated into Missouri's Water Quality Management Plan.</i></p> |
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