

West Fork Locust Creek in Missouri
Draft Total Maximum Daily Load (TMDL)
SUMMARY OF COMMENTS AND RESPONSES
Prepared by the Environmental Protection Agency (EPA), Region 7
Water, Wetlands and Pesticides Division
September 2010

INTRODUCTION

EPA public noticed a draft TMDL for West Fork Locust Creek (water body identification MO_0613) from May 25, 2010 to June 25, 2010. EPA is establishing this TMDL to meet the obligations of the 2001 Consent Decree, *American Canoe Association, et al. v. EPA*, Consolidated Case No. 98-482-CV-W, (Consent Decree). This document summarizes and paraphrases comments received, EPA's response to comments and changes made to the final TMDL where appropriate. Included is a list of all commentors.

RESPONSE TO COMMENTS (EPA responses in bold)

Comment: It isn't clear in the TMDL how much nutrients are released during large storm events. Does the TMDL assume that this high flow release is accommodated by the Load Allocation (LA) and Wasteload Allocation (WLA)?

Response: Typically, large rainfall events precipitating a discharge from a no discharge facility coincide with high stream flow occurring less than 5 percent of the time. The critical period for this TMDL is low flow. The impact of discharge, from no discharge facilities, in this watershed, during a large storm event, would not have a significant impact on the median load at critical low flow conditions.

Comment: With the extensive amount of nonpoint source runoff in these systems, an assessment of other contaminants (e.g., pesticides) would be appropriate to ensure protection of the stream biota.

Response: Missouri has the authority to continue to monitor and assess state waters to ensure protection of the designated beneficial uses and EPA encourages the Missouri Department of Natural Resources (MDNR) to do so.

Comment: Since Atrazine use in Missouri is widespread, why isn't it assessed as part of this TMDL? A watershed management plan is needed for West Fork Locust Creek and should be a priority for Clean Water Act (CWA) § 319 Funding. Due to new scientific information, a program to monitor and assess the toxicity of atrazine and other agriculture chemicals is needed.

Response: There is currently no data available to indicate that atrazine is a pollutant for West Fork Locust Creek. Missouri has the authority to continue to monitor and assess state waters to ensure protection of the designated beneficial uses and EPA encourages MDNR to do so. Watershed management and 319 funding may be established by MDNR.

Comment: Why does this TMDL mention the importance of riparian buffers, but doesn't recommend buffers to reduce loading of suspended sediment?

Response: While EPA doesn't establish implementation plans in TMDLs, EPA does agree that riparian habitat conditions have a strong influence on instream water quality and habitat. MDNR may work with the Natural Resources Conservation Service, local university extension offices and the local Soil and Water Conservation District to encourage area land owners to implement these practices (Appendix E of the TMDL).

Comment: Until such time as the CWA 303(d) List is amended to identify a pollutant for this water, it is premature and unlawful to proceed with the development and implementation of a TMDL. EPA based the listing on very limited macro invertebrate data.

Response: While West Fork Locust Creek was listed on the 2008 303(d) List as impaired by unknown pollutants, elevated sediment and nutrients have been identified, based on a stressor identification study, as the leading cause that degrades stream habitats and affects aquatic life. As a result, the TMDL is written to address impairment by nutrient enrichment and sedimentation. A TMDL is being developed for this water under the requirements found at 40 CFR 130.7 (and specifically 40 CFR 130.7(c)(1)) requiring states to establish TMDLs for waters still requiring TMDLs and in accordance with priority ranking. EPA's regulations state that TMDLs can be expressed in several ways, including in terms of toxicity, which is a characteristic of one or more pollutants, or by some "other appropriate measure." 40 CFR § 130.2(i). They also state that TMDLs may be established using a biomonitoring approach as an alternative to the pollutant-by-pollutant approach. 40 CFR § 130.7(c)(1).

Comment: The EPA should conduct more macro invertebrate monitoring data to determine if the creek is truly impaired. The study could try to determine if any impairment of aquatic life is affected by total suspended solids (TSS), total nitrogen (TN) or total phosphorus (TP). Also, EPA should collect more macro invertebrate data before drafting a TMDL.

Response: Because of channelization, high turbidity values were often recorded at the sampling sites on this stream. In addition, the appearance of excessive filamentous algae was observed indicating that nutrients are also contributing to the degradation of this stream. A TMDL is being developed for this water under the requirements found at 40 CFR 130.7 (and specifically 40 CFR 130.7(c)(1)) requiring states to establish TMDLs for waters still requiring TMDLs and in accordance with priority ranking. EPA's regulations state that TMDLs can be expressed in several ways, including in terms of toxicity, which is a characteristic of one or more pollutants, or by some "other appropriate measure." 40 CFR § 130.2(i). They also state that TMDLs may be established using a biomonitoring approach as an alternative to the pollutant-by-pollutant approach. 40 CFR § 130.7(c)(1). See Section 4 of the Draft TMDL for further discussion of state and federal regulations and authorities. The TMDL also references EPA's 2006 Framework for Developing Suspended and Bedded Sediments Water Quality Criteria. Missouri has the authority to continue to monitor and assess state waters to ensure protection of the designated beneficial uses and EPA encourages MDNR to do so. Missouri may submit and EPA may approve a revised or modified TMDL for this water at any time.

Comment: Should storm water discharges be included in LA or WLA?

Response: The WLAs and LAs are to be expressed in numeric form in the TMDL. See 40 CFR § 130.2(h) & (i). EPA expects TMDL authorities to make separate allocations to NPDES-regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs). National Pollutant Discharge Elimination System (NPDES)-regulated storm water discharges must be addressed by the WLA component of a TMDL. See 40 CFR § 130.2(h).

Comment: Since habitat impairment is not a pollutant, EPA should not be writing and implementing a TMDL for a non-pollutant. EPA must identify which portion of the impairment is caused by a pollutant and which portion of the impairment is caused by poor habitat or non-pollutants. Any resulting WLA or LA in a TMDL should only address the pollutant portion of the impairment.

Response: The TMDL targets impairment of the General Narrative Criteria by nutrient enrichment and sedimentation. The number one pollutant entering Missouri waters is sediment in addition other pollutants like nitrogen, phosphorus, pathogens and heavy metals are often attached to soil particles and carried into streams with the sediment. A reduction in TSS, TN and TP are required as these pollutants are impairing the General Narrative Criteria pertaining to the protection of aquatic life for the entire length of West Fork Locust Creek segment 613 as listed in Missouri's 2008 303(d) List. TMDLs should have a quantifiable endpoint to measure whether or not the applicable WQS are attained and the associated use(s) protected. 40 CFR 130.7(c)(1) ("TMDLs shall be established at levels necessary to attain and maintain" WQS). If the endpoint is not based on an ambient numeric criterion, then it can be developed from narrative criteria. See, e.g., 40 CFR 122.44(d)(1)(vi).

Comment: There is no scientific evidence that ties TSS, TN or TP to any impairment. These surrogates are not in Missouri WQS and therefore, the TMDL should not be written based upon these surrogates.

Response: The TMDL targets impairment of the General Narrative Criteria by nutrient enrichment and sedimentation. The Missouri WQS that applies is 10 CSR 20 7.031(3). A reduction in TSS, TN and TP are required as these pollutants are impairing the General Narrative Criteria pertaining to the protection of aquatic life. The two supporting references are cited in the draft TMDL's reference section, but are repeated here for your assistance:

- *Ambient Water Quality Criteria Recommendations. Information Supporting the Development of State and Tribal Nutrient Criteria. Rivers and Streams in Nutrient Ecoregion IX. EPA 822-B-00-019. December 2000.*
- *Framework for Developing Suspended and Bedded Sediments (SABS) Water Quality Criteria. EPA-822-R-06-001, May 2006.*

A TMDL is being developed for this water under the requirements found at 40 CFR 130.7 (and specifically 40 CFR 130.7(c)(1)) requiring states to establish TMDLs for waters still requiring TMDLs and in accordance with priority ranking. EPA's regulations state that TMDLs can be expressed in several ways, including in terms of toxicity, which is a characteristic of one or more pollutants, or by some "other appropriate measure." 40 CFR § 130.2(i). They also state that TMDLs may be established using a biomonitoring approach as an

alternative to the pollutant-by-pollutant approach. 40 CFR § 130.7(c)(1). See Section 4 of the Draft TMDL for further discussion of state and federal regulations and authorities.

Comment: EPA should collect more flow data before preparing a TMDL.

Response: Flow data has been estimated consistent with the procedures included in Appendices A, B and C of the TMDL. Missouri may submit and EPA may approve a revised or modified TMDL for this water at any time.

Comment: There is no data in the TMDL that substantiates that minimal wastewater from manure application for both confined and unconfined feeding sites are a major potential source of nutrient loading, so shouldn't this statement be stricken from the TMDL?

Response: All pollutants preventing or expected to prevent WQS attainment (and their sources) are listed in the TMDL, per 40 CFR 130.7(c)(1)(ii).

Comment: Shouldn't EPA investigate potential sewage discharges from illicit straight pipe discharges from households in the watershed?

Response: All pollutants preventing or expected to prevent WQS attainment (and their sources) are listed in the TMDL, per 40 CFR 130.7(c)(1)(ii). Illicit straight pipe discharges of household waste are acknowledged in the TMDL as potential point sources of sediment and nutrients. As required by EPA's regulations, per 40 CFR 122.21(a), any person who discharges pollutants must apply for a National Pollutant Discharge Elimination System (NPDES) permit.

Comment: EPA should investigate the number of these systems [on-site wastewater systems] in the watershed before proceeding with the TMDL.

Response: On-site wastewater systems are acknowledged in the TMDL as potential point sources of sediment and nutrients. As required by EPA's regulations, per 40 CFR 122.21(a), any person who discharges pollutants must apply for an NPDES permit.

Comment: What is the justification for choosing Level III of Ecoregion 40 as the reference condition for TN and TP concentrations?

Response: In the absence of Missouri numeric standards for nutrients in freshwater streams, ambient water quality criteria recommendations provided by the EPA are used to quantify TN and TP loading capacities in Ecoregion 40 and West Fork Locust Creek. Level III Ecoregion 40 targets were used in lieu of national and state-wide targets to ensure either pristine or minimally impacted stream systems. Targets are based on the 25th percentile of all TN and TP data gathered from subecoregion 40 of Aggregate Nutrient Ecoregion IX. Please refer to the TMDL's Appendix C and section 4.2 for a more detailed explanation.

Comment: Why is a TSS concentration selected to represent the TMDL target and how does it pertain to attaining beneficial uses?

Response: There are many quantitative indicators of sediment, such as TSS, turbidity and bedload sediment, which are appropriate to describe sediment in rivers and streams, per *Framework for Developing Suspended and Bedded Sediments (SABS) Water Quality Criteria*. EPA-822-R-06-001, May 2006. A concentration of TSS was selected to

represent the numeric target for this TMDL because it enables the use of the highest quality available data and is included in monitoring data.

LIST OF COMMENTORS

1. Mike McKee, Missouri Department of Conservation, Columbia, Missouri
2. Charles M. Scott, United States Fish and Wildlife, Columbia, Missouri
3. Robert Brundage, Missouri Agribusiness Associates, Jefferson City, Missouri

END SUMMARY OF COMMENT AND RESPONSES



Comments on Willow Branch and West Fork Locust Creek TMDLs

Mike McKee to: R7TMDL

06/25/2010 08:17 AM

Cc: Karen Bataille

Dear Representative,

Please find below comments on the two TMDLs referenced above:

Willow Branch TMDL Comments

- The human population information for Putnam County (p. 6) appears to be incorrect in the Willow Branch TMDL. The population is listed as 24,977 when it is really 5,223. The population information for Putnam County is correct in the West Fork Locust Creek TMDL notice.

West Fork Locust Creek Comments.

- In section 7, on page 26, it is stated that "The 'no discharge' permits only discharge in the event of a large storm event that exceeds the wastewater storage capacity of the facility". It is difficult from the TMDL to gauge the amount of nutrients released in these large storm events. Does the TMDL assume that this high flow release is accommodated with the LA and WLA budgets? If so, adding a statement to that effect would be informative.
- With the extensive amount of non-point source runoff in these systems, an assessment of other contaminants (e.g., pesticides) would be appropriate to ensure protection of the stream biota.

Thanks for your consideration.

Mike McKee

Resource Scientist
Missouri Department of Conservation
1110 S. College Avenue
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573-882-9909 ext 3255



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Columbia Ecological Services Field Office
101 Park DeVille Drive, Suite A
Columbia, Missouri 65203-0057
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June 25, 2010

Debby White
Water, Wetlands, and Pesticides Division
US Environmental Protection Agency
ATTN: Water Quality Management Branch, West Fork Locust Creek
901 North 5th St.
Kansas City, Kansas 66101

Dear Ms. White:

The US Fish and Wildlife Service (Service) submits the following comments in response to the public notice for the Total Maximum Daily Load (TMDL) for West Fork Locust Creek, Missouri. The stream is listed on the 303(d) list of impaired waters due to “altered aquatic community” and potential sources including “rural nonpoint sources”. The impaired segment is 17 miles long, and the impaired designated uses of the stream are “wildlife and livestock watering” and “warm water aquatic life and fish consumption”, which are the only designated uses of this intermittent stream segment.

General

West Fork of Locust Creek is impaired by unknown sources. Total suspended solids (TSS), total nitrogen (TN), and total phosphorus (TP) are all present at elevated levels. While these contaminants certainly will have a negative impact on aquatic life within the system, they may not be the only contaminants responsible for the diminished aquatic life within the stream. Hinkson Creek, in Boone county, is similarly listed as impaired by unknown sources, and had a TMDL produced in late 2009, but was monitored for a variety of potential contaminants. Although the suite of contaminants affecting the more urbanized watershed of the Hinkson is undoubtedly different than those affecting the West Fork of Locust Creek, there is a definite benefit to assessing all possible stressors in this system, so that they can be addressed at the same time, with better insight into the problems in the watershed. Nearly coincident with the announcement of this TMDL was a news release by the USGS in Missouri associated with an atrazine study published in the journal *Aquatic Toxicology*. The atrazine threshold concentration (0.5 parts per billion/liter – ppb/L) at which reductions in reproductive output was observed is lower than previously defined, but certainly well within surface water concentrations in agricultural areas. Atrazine and

other pesticide/herbicide use is widespread in agricultural areas within Missouri, and should have been assessed as part of the TMDL.

The Service concurs that excessive sediment loading into a system will generally degrade that system biologically. Moreover, many contaminants, including phosphorus, can be carried into a stream system by eroding soil. It is therefore prudent to believe that reducing the amount of sediment into the West Fork of Locust Creek can benefit the aquatic community. With limited data available for this system, using sediment as a surrogate for other agricultural pollutants makes sense if the treatment practices are able to amend a variety of pollutants.

Downstream Resources

The waters of West Fork of Locust Creek eventually discharge into Locust Creek, and then pass through Pershing State Park on its way to the Grand River, and then to the Missouri. The Service is working with the partners of the Lower Grand River Conservation Opportunity Area (COA) to assess the value of applying the principles of Strategic Habitat Conservation to address natural resource threats and execute conservation measures (such as reforestation) on the landscape. Forested riparian areas comprise some of the most productive wildlife habitats, providing food and cover to numerous mammals, and breeding grounds and seasonal habitat for amphibians and reptiles. Many neotropical migratory birds are dependent on these riparian corridors for survival, including important breeding habitat and resting sites during their migrations.

The endangered Indiana bat (*Myotis sodalis*) is known to occur in this area, and would benefit from the planting of riparian forested habitat. Indiana bats typically use snag trees or trees with a diameter at breast height of 9" or greater, usually along riparian areas.

The Eastern Massasauga Rattlesnake (*Sistrurus catenatus catenatus*) is a candidate species under the Endangered Species Act and occurs at Pershing State Park. Currently, the main threat for the massasauga population at the park is the frequent flooding of Locust Creek. Eastern massasaugas occur in floodplain environments and are able to withstand infrequent flooding, but the frequency and intensity of flooding from Locust Creek far exceeds that which would naturally occur. Inundation with flood waters causes mortality of snakes overwintering underground; while frequent or severe flooding can drown snakes during the active season and/or cause indirect mortality by decimating the massasaugas' prey base of small mammals. Sediment deposition also has adverse affects as it accumulates over the massasauga habitat, altering the vegetative community and the availability of crayfish burrows, on which the massasaugas rely for overwintering. Based on results from surveys conducted in 2008 and 2010 (Crabill and Seigel 2008, T. Crabill, pers. comm), the population of massasauga rattlesnakes at Pershing State Park has declined significantly since 2006 due to the increased flooding of Locust Creek.

Riparian Buffers

Riparian buffers can have significant impact on the water quality of a stream system. According to an EPA report (EPA/600/R-05/118), “wider buffers (>50 m) more consistently removed significant portions of nitrogen entering a riparian zone. Buffers of various vegetation types were equally effective at removing nitrogen in the subsurface but not in surface flow”. A NOAA-funded report by the Chagrin River Watershed Partners in 2006 reported on the mechanisms of pollutant reduction by riparian buffers: “Vegetative uptake and assimilation can remove nutrients, soluble ions, and some organic contaminants from shallow groundwater, incorporating these contaminants in plant biomass. The microbial and biogeochemical processes at work in saturated sediments, leaf litter on the forest floor, and in the thatch layer of riparian grasses, immobilize and transform dissolved nutrients, metals, and many organic contaminants.”

According to the TMDL, 79% of soils in the watershed are type C, and 9 % are D or C/D. This means that the water-holding ability of the ground is almost non-existent in all but the smallest of rain events. With little capacity to hold water, overland flow will begin rapidly, and rill and gully erosion will form as the tensile strength of the soil is overcome by the erosional forces of running water. Having some form of cover on the soil will decrease the erosion on the soil by reducing the velocity of the water run-off (the Manning’s n of dense underbrush is 0.8, as opposed to 0.17 for cultivated soil with >20% residue) (Iowa Stormwater Mgmt manual). The greater the area in the watershed that is covered with vegetation, the less sediment will migrate into the stream.

Bottomland forests and riparian corridors ultimately determine much of the productive potential for stream fisheries through the introduction of allochthonous organic materials and snag substrate. Out of bank flows stimulates detrital processing and primary production within the bottomland forests and riparian corridors. This in turn establishes the energetic foundation supporting secondary production and ultimately the fisheries associated with the stream. Riparian plantings benefit many terrestrial species, and this practice has been the focus of many of the Service’s restoration activities in Missouri. This TMDL mentions the importance of riparian buffers several times, but falls short of recommending buffers to reduce the loading of suspended sediment entering the system.

Recommendations

The Service believes a watershed management plan is needed to fully address the West Fork of Locust Creek TMDL and to help direct conservation projects to maximize their benefits to water quality and quantity. Furthermore, we recommend that this area be made a priority for funding future 319 grants.

There would be significant benefits in providing increased funding opportunities for state and county cost share agreements to implement riparian buffers and wetlands within the Locust Creek drainage to reduce run off from agricultural areas.

Due to new scientific information on the effects of atrazine on aquatic life, the Service recommends implementing a program to monitor and assess the toxicity of atrazine and other agricultural chemicals applied within this watershed.

Many conservation partners, including the Service, are invested in this watershed as part of the larger Lower Grand River COA. We believe that ongoing and future habitat restoration work conducted within the watershed will improve the water quality of this system. The focused effort on improving water quality in West Fork Locust Creek through the TMDL, a 319 grant, and other technical and financial assistance adds synergy to other ongoing efforts to improve the natural resources within this system. To maintain momentum, the Service strongly encourages agencies involved in improving water quality closely coordinate efforts with the Lower Grand River COA partners to the mutual benefit of all.

We appreciate the opportunity to provide comments on this TMDL. Please contact Scott Hamilton at 573-234-2132 ext. 122 if you have any questions or need additional technical assistance on this proposed action.

Sincerely,



Charles M. Scott
Field Supervisor

cc: Greg Pitchford, Missouri Department of Conservation, Lower Grand River COA,
Chillicothe, MO

Park Superintendent, Pershing State Park, Missouri Department of Natural
Resources, 29277 Hwy 130, Laclede, MO 64651

Literature Cited

Crabill, T.L. and R.A. Seigel. 2008. Population status of massasauga rattlesnakes (*Sistrurus catenatus*) at Pershing State Park and Swan Lake NWR: 2008 Update. Unpublished report submitted to Missouri Department of Conservation, Jefferson City and U.S. Fish and Wildlife Service, Columbia, Missouri. 15 pp.

Chagrin River Watershed Partners, Inc. 2006. Riparian Setbacks Technical Information for Decision Makers

Iowa Stormwater Management manual. 2008. Iowa State University.
<http://www.ctre.iastate.edu/pubs/stormwater/index.cfm>

Mayer, P.M., S.K. Reynolds, M.D. McCutchen, and T.J. Canfield. 2006. Riparian buffer width, vegetative cover, and nitrogen removal effectiveness: A review of current science and regulations. EPA/600/R-05/118. Cincinnati, OH, U.S. Environmental Protection Agency

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June 25, 2010

VIA EMAIL ONLY: R7TMDL@EPA.GOV

Environmental Protection Agency, Region 7
ATTN: Ms. Debby White, Water Quality Management Branch
Water, Wetlands and Pesticides Division
901 North 5th Street
Kansas City, KS 66101

RE: Draft TMDL for West Fork Locust Creek (MO_0613)

Dear Ms. White:

Please accept these comments on the public notice of the draft TMDL for West Fork Locust Creek on behalf of my client the Missouri Agribusiness Association.

Comment No. 1:

EPA listed West Fork Locust Creek as impaired for unknown pollutants. Until such time as the 303(d) list is amended to identify a pollutant, it is premature and unlawful to proceed with the development and implementation of a TMDL. EPA based the listing on very limited macroinvertebrate data. MDNR objected to the 303d listing based on poor quality of data. EPA should collect more macroinvertebrate data before drafting a TMDL.

Comment No. 2:

In Section 3.2, last sentence of the first paragraph, should stormwater discharges be included in LA or WLA?

Comment No. 3:

The TMDL describes the creek as being heavily channelized and suffers from poor habitat. Since habitat impairment is not a pollutant, EPA should not be writing and implementing a TMDL for a non-pollutant. To the extent there are any pollutants causing the impairment, EPA must identify which portion of the impairment is caused by a pollutant and which portion of the impairment is caused by poor habitat or non-pollutants. Any resulting wasteload allocation or load allocation in a TMDL should only address the pollutant portion of the impairment.

Comment No. 4:

The TMDL has chose total suspended solids (TSS), total nitrogen (TN) and total phosphorous (TP) as surrogate pollutants to address the alleged impairment. There is no analysis or scientific evidence described in the TMDL that ties TSS, TN or TP to any alleged impairment. Furthermore, these three surrogates are not in Missouri water quality standards. Therefore, the TMDL should not be written based upon these surrogates.

Comment No. 5:

In § 5, the TMDL indicated limited (or no) flow data was available. EPA should collect more flow data before preparing a TMDL.

Comment No. 6:

In § 3.1, on page 11, it says that “animal waste, from manure applications, for both confined and unconfined feeding sites are considered a major potential source of nutrient loading going into West Fork Locust Creek.” There is no data in the TMDL that substantiates this claim. Therefore, this statement should be stricken from the TMDL.

Comment No. 7:

In § 3.1, on page 11, there is a discussion of potential illicit straight pipe discharges from households in the watershed. EPA did no investigation of potential sewage discharges within the watershed.

Comment No. 8:

In § 3.2.3, on page 18, EPA does not know the exact number of on-site wastewater systems in the watershed. EPA should investigate the number of these systems in the watershed before proceeding with the TMDL. At the conclusion of the investigation, the TMDL should be placed back on public notice.

Comment No. 9:

In §§ 4.1 and 4.2, there is a discussion of designated uses in the applicable criteria in this watershed. The TMDL contains no discussion or data that would support the conclusion that excess sediment, or nutrients are causing the impairment of this waterbody. Section 4.2 refers to TSS, TN and TP as “potential” contributors. The EPA should conduct more macroinvertebrate monitoring data to determine if the creek is truly impaired. The study could try to determine if any impairment of aquatic life is affected by TSS, TN or TP.

Comment No. 10:

In § 4.2, on page 17, there is a discussion that the reference conditions for TN and TP in Level III streams are applicable. There is no discussion on why this level in Ecoregion 40 streams is applicable. Furthermore, a TSS concentration was selected to represent a numeric

Ms. Debby White
June 25, 2010
Page 3

target for the TMDL. There was no discussion or justification why this numeric target was chosen or how it pertains to the attainment of the beneficial uses in the stream.

Thank you for the opportunity to comment on this TMDL.

Sincerely,

NEWMAN, COMLEY & RUTH, P.C.

A handwritten signature in cursive script that reads "Robert J. Brundage". The signature is written in black ink and is positioned above the printed name and email address.

Robert J. Brundage
rbrundage@ncrpc.com

RJB:ccl
cc: Mo-Ag
John Hoke