Willow Branch in Missouri
Draft Total Maximum Daily Load (TMDL)
SUMMARY OF COMMENTS AND RESPONSES
Prepared by the U. S. Environmental Protection Agency (EPA), Region 7
Water, Wetlands and Pesticides Division
August 2010

INTRODUCTION

EPA public noticed a draft TMDL for Willow Branch (water body identification MO_0654U-01) 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: The human population number seems wrong. It should be 5,223.

Response: While population has no bearing on calculating the loading capacity for the TMDL, EPA has corrected the population information included in the TMDL, so that it reflects a Putnam County population of 5,223. Additional comments included reference to the rural watershed area population and that number has been corrected to include a rural population of 5 persons.

Comment: Please keep the stream on the impaired waters list. Before Premium Standard Farms came to our area, the creek was pristine with several different species of pollution sensitive organisms.

Response: While the listing of this water body is beyond the scope of this specific TMDL public notice, in general after a TMDL is established a water body may be moved to Category 4 in a State's integrated report to EPA. The water is still considered "impaired" and the TMDL should be implemented to continue to address the impairment. For more information about how states assess, list and report their waters go to http://www.epa.gov/owow/tmdl/guidance.html.

Comment: Willow should not have been listed over Missouri's objections, nor listed for impairment by an unknown pollutant. A TMDL is premature and unlawful.

Response: Although the listing of the water as impaired is beyond the scope of this TMDL public notice, this response provides a limited discussion for the commentor. If a state excludes a water body that is impaired on its list to EPA, EPA is required by regulation to add the impaired water body to the state's 303(d) list. Willow Branch was placed on Missouri's 303(d) list of impaired waters because it did not meet Missouri's General narrative criteria pertaining to the protection of aquatic life (40 CFR 130.7(b)(3)). EPA's Clean Water Act requirements and authorities for reviewing state-submitted 303(d) lists of impaired waters and TMDLs is found at 40 CFR 130.7 and, specifically, at 130.7(d),

which outlines EPA's approval authority. Under the same authority that EPA follows to identify impaired waters, 40 CFR 130.7(d)(2), the state is required to include and set the priority for developing TMDLs for EPA-added waters in its current program planning, which is required under 40 CFR 130.7(b)(4). While Willow Branch 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 in accordance with the state's priority ranking. EPA is also working with Missouri to establish the Willow Branch TMDL at this time to satisfy the requirements of the Consent Decree. See Section 4 of the Draft TMDL for further discussion of state and federal regulations and authorities.

Comment: The surrogates Total Suspended Sediment (TSS), Total Phosphorus (TP) and Total Nitrogen (TN) aren't supported by scientific evidence and surrogates aren't listed as pollutants in Missouri water quality standards; therefore, the TMDL shouldn't use them.

Response: The TMDL targets impairment of the general narrative criteria by nutrient enrichment and sedimentation. A reduction in TSS, TN and TP are required as these pollutants are violating the general narrative criteria pertaining to the protection of aquatic life. The reduced load allocation for these parameters is intended to meet the state's narrative WQS and protect the impaired aquatic life use. The Missouri WQS that applies is 10 CSR 20 7.031(3).

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; and**
- ***Framework for Developing Suspended and Bedded Sediments (SABS) Water Quality Criteria.* EPA-822-R-06-001, May 2006.**

Comment: In the TMDL, there seems to be a discrepancy between how much of Willow is impaired and what length is correctly covered under the TMDL. The TMDL should only be written for impaired portion of the stream.

Response: The TMDL loading analysis encompasses the entire length as referenced by the December 16, 2009, Missouri 2008 303(d) List.

Comment: Please refer to 2/4/10 letter to EPA citing a 2006-2007 Macroinvertebrate survey that says that Willow Branch is fully supporting aquatic life uses. The TMDL shouldn't be written and the water should be removed from the impaired waters list. After citing a 2008 Stressor Identification study on Willow, a commentor says that EPA shouldn't be writing a TMDL for a non-pollutant.

Response: The water's listing as impaired is beyond the scope of this TMDL public notice. This comment will be referred to the Missouri WQS Coordinator for consideration

during the next Missouri 303(d) List review. Willow Branch was assigned to Missouri's 2008 303(d) List as impaired by unknown pollutants because it did not meet Missouri's General narrative criteria pertaining to the protection of aquatic life. EPA took the 2008 Stressor Identification study into account when setting the potential sources that contribute to the impairment in the stream, see section 3.2 of the TMDL for more detail. Elevated sediment and nutrients have been identified as the leading cause that degrades stream habitats and affects aquatic life in Willow Branch. As a result, the TMDL is written to address impairment by nutrient enrichment and sedimentation. 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 C.F.R. § 130.2(i). The regulations also state that, TMDLs may be established using a biomonitoring approach as an alternative to the pollutant-by-pollutant approach. 40 C.F.R. § 130.7(c)(1).

Comment: No data in the TMDL substantiates that manure applications are a major potential source. The positive impact of the two existing impounds are not discussed.

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). Missouri has the authority to monitor and access state waters to ensure protection of the designated beneficial uses. Missouri may submit, and EPA may approve, a revised or modified TMDL for this water at any time.

Comment: The TMDL didn't investigate potential sewage discharges, but did discuss potential illicit straight pipe discharges.

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. EPA is establishing this TMDL at this time to meet the requirements of the Consent Decree. Missouri has the authority to monitor and access state waters to ensure protection of the designated beneficial uses. Missouri may submit, and EPA may approve, a revised or modified TMDL for this water at any time.

Comment: The TMDL contains an irrelevant discussion of when concentrated animal feeding operations (CAFOs) are required to obtain permits. This TMDL should defer finalization until investigation to determine if any unpermitted CAFOs or animal feeding operations (AFOs) exist in the watershed. Defer finalization until investigation of exact number of on-site waste water systems is determined, then re-public notice.

Response: On-site wastewater systems and CAFOs 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. Specifically, 40 CFR 122.23(d) sets forth this duty for CAFOs. EPA is establishing this TMDL at this time to meet the requirements of the Consent Decree. Missouri has the authority to monitor and access state waters to ensure protection of the designated beneficial uses. Missouri may submit, and EPA may approve, a revised or modified TMDL for this water at any time.

Comment: Why was Ecoregion 40, Level III chosen as a reference for this stream? What's the justification for using TSS to represent the numeric target and how does it pertain to its beneficial use.

Response: Numeric criterion for nutrients in freshwater streams are nonexistent for the state of Missouri, therefore water quality criteria recommendations provided by EPA were used to quantify TN and TP LCs in Ecoregion 40 and Willow Branch. Ecoregion 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.

LIST OF COMMENTORS

1. Mike McKee, Missouri Department of Conservation, Columbia, Missouri
2. Melody Torrey, citizen, Unionville, Missouri
3. Robert Brundage, Missouri Agribusiness Associates, Jefferson City, Missouri

END SUMMARY OF COMMENTS 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
Columbia, MO 65201

573-882-9909 ext 3255

EPA, Region 7 June 24, 2010
Water Wetlands and Pesticides Division
Attn: Ms Debby White, Water Quality Management Branch
901 North 5th St
Kansas City, MO 66101

Comment on Willow Branch Stream for TMDL List

Dear Ms. White

I would like to make the following comments about Willow Branch Stream, the stream needs to say on the list as impaired for unknown pollutants due to the pollution PFS continues to run into their fresh water lakes that in return drain into this stream. Before PSF moved in this was a pristine stream with a person finding several different species of pollution sensitive organisms such as Stonefly nymph, Caddis fly larva, and Mayfly nymph just to name a few. This stream was has been studied and has been checked in the past by DNR with reports being filed. Until this company cleans up their fresh water lakes this stream, will never again be clean as it once was.

Again, I urge you to keep the stream on the TMDL list for unknown pollutants with the hope that one day this stream will again be as pristine as it once was.

Sincerely,

Melody Torrey
MO Stream #714
14747 ST HWY 129
Unionville, MO. 63565
660-947-2067

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June 25, 2010

VIA U.S. MAIL & EMAIL: 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 Willow Branch (MO_0654U-01)

Dear Ms. White:

Please accept these comments on the public notice of the draft TMDL for Willow Branch on behalf of my client the Missouri Agribusiness Association.

Comment No. 1:

Over the MDNR's objections, EPA listed Willow Branch 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.

Comment No. 2:

On page iii, it notes that the impaired segment of Willow Branch that was impaired was 0.6 miles long. However, without explanation the TMDL was written for a two mile length of Willow Branch. There was no data on the upper 1.4 miles of Willow Branch to indicate that it was impaired. Therefore, the TMDL should not incorporate this unimpaired stretch of Willow Branch.

Comment No. 3:

Please find enclosed my letter dated February 4, 2010, addressed to Rebecca Landewe at EPA Region 7. Please consider this letter as part of the administrative record for the TMDL. The purpose of this letter is to suggest that Willow Branch is not impaired. According to the 2006-2007 macroinvertebrate survey, Willow Branch is "fully supporting is aquatic life uses." Therefore, a TMDL should not be written for this waterbody and it should be removed from the 303(d) list.

Comment No. 4:

As described in the 2008 *Stressor Identification* study, the habitat of Willow Branch is in poor condition within the 0.6 miles specified in the 303(d) list. 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. 5:

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. 6:

Under § 2.4, the TMDL estimates the Willow Branch watershed to contain a population of 157 people. From knowledge of the watershed, I believe this is an overestimate. EPA should conduct field research to determine the exact population of both people and cattle and re-public notice the TMDL.

Comment No. 7:

In § 3.1, on page 10, 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 Willow Branch." There is no data in the TMDL that substantiates this claim. Therefore, this statement should be stricken from the TMDL. Furthermore, the EPA did no investigation of any potential pollutant pathways for the application of manure in the watershed of Willow Branch. The positive impact of the two impounds located in the watershed of Willow Branch is not discussed. These impounds have a positive impact on the water quality of Willow Branch.

Comment No. 8:

In § 3.1, on page 10, 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. 9:

In § 3.2.1, on page 14, EPA states that they do not have enough detailed information to investigate or determine if there are any unpermitted CAFO's or AFO's in the watershed. EPA should defer implementation and finalization of this TMDL until this investigation is completed.

Furthermore, the last paragraph of § 3.2.1, contains an irrelevant discussion of when CAFO's are required to obtain permits. This paragraph should be stricken from the TMDL.

Comment No. 10:

In § 3.2.3, on page 15, 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. 11:

In §§ 4.1 and 4.2, there is a discussion of designated uses in the applicable criteria in this watershed. Since it is an unclassified stream, only the narrative criteria apply. Since the macroinvertebrate surveys indicate the stream is fully attaining its beneficial uses for the protection of aquatic life, there are no pollutants or surrogates that need to be controlled to meet the beneficial use. The TMDL contains no discussion or data that would support the conclusion that excess sediment, or nutrients are causing the impairment of this waterbody.

Comment No. 12:

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 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.

Robert J. Brundage
rbrundage@ncrpc.com

RJB:ccl
Enclosure
cc: Mo-Ag (w/encl.)
John Hoke (w/encl.)

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February 4, 2010

Ms. Rebecca Landewe
Water, Wetlands, and Pesticides Division
US EPA Region 7
901 North Fifth Street
Kansas City, KS 66101

RE: Willow Branch (WBID 0654U)

Dear Rebecca:

I read with interest EPA's final decision on Missouri's 2008 303(d) list. In the *Decision Document* attached to EPA's December 16, 2009, letter to Leanne Tippet Mosby, there is a discussion regarding Willow Branch on pages 19 and 20. Despite the Missouri Department of Natural Resources' repeated attempts to encourage EPA to remove Willow Branch from the 303(d) list, EPA once again made no revision to the 303(d) list thus retaining the waterbody in Category 5.

In the *Decision Document*, EPA said that it decided to retain the listing because "EPA considered the original reason for listing the stream as impaired, the data used to support the original listing, new data and/or information about the biological condition, water chemistry data, the appropriateness of the reference streams, and other observations taken in the field." EPA offered no analysis of these factors but for one observation regarding pollutant tolerant species. EPA stated that it "observed that the percentage of pollution tolerant species found in Willow Branch was marketedly different than those found in the reference streams." EPA cited a study conducted in May 2008 under EPA's direction titled *Stressor Identification for Willow Branch, Putnam County, Missouri*. You were kind enough to forward to me a copy of this report.

The May 2008 *Stressor Identification* study noted that the "2006-2007 benthic macroinvertebrate data for Willow Branch indicate that the stream is <u>fully supporting its aquatic life use</u>." (Emphasis added.) The report also stated that "Willow Branch is influenced by habitat degradation resulting from poorly forested riparian buffers, silt deposition, sedimentation, and bank erosion."

On January 16, 2009, you authored a memorandum analyzing whether Willow Branch should be retained on the 303(d) list. You reported that "MDNR calculated that the MSCI scores were 16, 18, and 16 for the fall 2006, spring 2007 and fall 2007 sampling events, respectively." These scores, according to MDNR and their *Biological Criteria* document, "indicate the stream

is similar to reference conditions and fully support(ing) the aquatic life use." Willow Branch is fully supporting its aquatic uses despite the fact that Willow Branch is a small, unclassified stream that is being compared to macroinvertebrate data and indices from reference streams which are Class P streams.

According to your January 2009 memorandum, "the discharge of these two reference streams and Willow Branch have more than a magnitude in difference." You noted that Missouri's Water Quality Standards state that reference streams should be similar with watershed areas and discharges within an order of magnitude. (Emphasis added.) Therefore, EPA should not be comparing Willow Branch to much larger reference streams. Nonetheless, the macroinvertebrate data show that Willow Branch is fully supporting aquatic uses and therefore is compliant with the Missouri Water Quality Standards.

After reviewing all this information, you concluded that Willow Branch should be retained on the 303(d) list because it had approximately twice as many pollution tolerant species than the two reference streams which were larger by more than a magnitude in difference. If Willow Branch contains more pollution tolerant species, it is likely a result of habitat impairment as discussed in the May 2008 *Stressor Identification* study.

In conclusion, the weight of evidence indicates that Willow Branch is fully supporting aquatic life and is therefore in compliance with the Missouri Water Quality Standards. To the extent there may be any differences in the aquatic community from a similarly sized reference stream, any so-called impairment is caused by habitat impairment as concluded by the *Stressor Identification* study. As you are aware, habitat impairment is not a "pollutant" and may not serve as a basis for a 303(d) listing.

In conclusion, I respectfully request the EPA to reconsider its decision to retain this waterbody on the 303(d) list in light of the overwhelming "weight of the evidence" that indicates this waterbody is not a candidate for the Missouri's 303(d) list.

Sincerely,

NEWMAN, COMLEY & RUTH, P.C.

Robert J Brundage

Robert J. Brundage
rbrundage@ncrpc.com

RJB:ccl
cc: Leanne Tippett Mosby
Scott Totten
John Hoke
Missouri Clean Water Commission