Piper Creek in Missouri
Draft Total Maximum Daily Load

Public Notice Period
Sept. 15 – Oct 15, 2010

COMMENTS received by the Environmental Protection Agency (EPA), Region 7
Water, Wetlands and Pesticide Division

To: rondar@windstream.net,
Cc:
Bcc:
Subject: Follow up from our phone conversation today.
From: R7TMDL - Monday 09/27/2010 01:03 PM
Sent by: Debby White/R7/USEPA/US

Good Afternoon,

Thank you for talking with me on the phone this afternoon. I understand your concerns about how the draft TMDL may affect your facility in the future. As I stated on the phone the public notice for the draft TMDL is sent to all permitted facilities in the watershed. EPA is establishing the TMDL at this time to meet a consent decree deadline, but the TMDL will be implemented by Missouri Department of Natural Resources who has the authority to issue and enforce state operating permits -- not the EPA.

You stated that you're part of the Karlin Subdivision and I found reference to it in the TMDL on page 71 under Point Sources. However I think the paragraph that you're looking for is the following on page 38 of the TMDL:

"The other permitted facilities in the watershed each discharge an insignificant volume of effluent compared to the Bolivar WWTF, and are unlikely to discharge during the critical low flow periods. **Their WLAs therefore remain equal to existing permit limits, which are summarized in Table 14, for the facilities with individual site specific permits.**"

The public notice period is offered so people have the chance to comment. As I stated on the phone, all comments do become part of the record and receive a response. On the phone you commented that you're concerned about how the TMDL would affect your subdivision expansion in the coming years and how your subdivision could be negatively impacted by issues the Bolivar Waste Treatment Plant may be having. You stated that you wouldn't know how to phrase your comment, but I suggest that you simply restate that concern in your comment.

Sincerely.

Debby White

Please direct further comments (before public notice closes) to:

Ms. Debby White
Environmental Protection Agency, Region 7
Total Maximum Daily Load Program
Mail Code 3121A/WWPD/WQMB
901 North 5th Street
Kansas City, Kansas 66101

FAX: 913-551-9886

FW: Comments, TMDL, Piper Creek (Town Branch), Missouri
Sam Kirby to: R7TMDL 10/14/2010 05:02 PM

First try failed. Am trying with lower caps. Sam

From: Sam Kirby [mailto:sckirby2@gmail.com]
Sent: Thursday, October 14, 2010 4:58 PM
To: 'Region 7 Kansas City Kansas EPA (RTMDL@EPA.GOV)'
Cc: Arleen Ferguson; Delbert Simpson; John Lower; Kim Jarrell; Larry Ferguson; Sam Kirby (sckirby2@gmail.com); Susan Anderson
Subject: Comments, TMDL, Piper Creek (Town Branch), Missouri

Attention: Debby White

Attached are our comments on the Draft TMDL for Piper Creek (Town Branch) in the state of Missouri. We appreciate the opportunity to comment. If there are problems with this attachment or if you have questions call me at (417)777-8020 or e-mail me at

sckirby2@gmail.com . Sam Kirby, Jr. TMDL Letter to EPA (comments).docx

Bolivar Community
Watershed Improvement Group

2121 E. Thornridge Dr.
Bolivar, MO 65613
September 14, 2010

U.S. Environmental Protection Agency, Region 7
Water, Wetlands and Pesticides Division
901 North 5th Street
Kansas City, Kansas 66101

Attention Ms. Debby White

Dear Ms. White:

We, as the Bolivar Community Watershed Group (BCWIG) Board of Directors, represent the membership of this volunteer, 501-c-3 group. We were approved for a 319 watershed management plan grant beginning September 1, 2008 with an end date of July 31, 2011. Our membership consists of 25 members. Our mission statement is as follows:

"The purpose of the Bolivar Community Watershed Improvement Group (BCWIG) is to restore the water quality of Town Branch of Piper Creek to the highest practical level and improve the quality of the water in these streams to equal or exceed the standards of water quality set by the Missouri Department of Natural Resources."

With that brief introduction, we wish to comment on the Draft Total Maximum Daily Load (TMDL) For Piper Creek (Town Branch) in the State of Missouri as solicited by the Public Notice dated September 13, 2010.

There has been confusion regarding the impairment area designations. You are proposing impairment designation from Town Branch at Highway 83 to its confluence with Piper Creek and continuing to Piper Creek's confluence with Pomme de Terre River. Your Piper Creek test site #1 at the bridge on County Road 425 appears to be the furthest downstream that test data is available. That is also the furthest site we (BCWIG) have locally been field testing. Can you, or we, justify designating Piper Creek from the bridge at 425 road (Piper Creek test site #1) downstream to Pomme de Terre River as impaired without data to confirm that designation?

On page 2 under item 2.1 The Setting, we suggest adding to the first paragraph "The watershed of the Town Branch targeted area contains approximately 3,800 acres."

On page 3 under item 2.2 Physiographic Location, Geology and Soils, we suggest adding "However, local physical evidence indicates that Karst Topography underlay's this watershed and sinkholes can serve as a direct channel to groundwater."

From what we can decipher from the various sections of the draft TMDL and discussed in items 5.1 through 5.2.3 beginning on page 25 under Applicable Water Quality Standards and Numeric Water Quality Targets, the following appear to be stated:

5.1 Designated Beneficial Uses. The impaired use is "Protection of Warm Water Aquatic Life".

5.2 Criteria. A statement of what follows.

5.2.1 Dissolved Oxygen. Daily minimum of 5 mg/L DO.

5.2.2 Organic Sediment. Target based on chart in Appendix C.

5.2.3 Total Nitrogen and Total Phosphorus. TN = 0.289 mg/L, TP = 0.007 mg/L.

It appears to us that the target for Total Phosphorus (0.007 mg/L) is extremely low and would not be attainable in the waters of Town Branch or the receiving portion of Piper Creek. Realizing that the City of Bolivar has a population of 10,000 inhabitants residing in the watershed and the fact that Polk County is the #l cattle producing County in the State, it seems to us that even a watershed without those challenges and with almost pristine conditions and dispersed inhabitants with large springs emanating from the watershed would not have phosphorus content consistently that low. We respectfully request further review of the data from which that standard was derived and that the phosphorous standard be reconsidered. We feel that setting a standard unrealistically low for a given watershed would only serve as a disincentive to even try to meet the standard.

Flow information in this document is given in both cubic meters per second (cms) and cubic feet per second (cfs). Data would be more compatible and helpful if cubic feet per second (cfs) were used consistently.

It would be a tremendous benefit to the users of the data and standards if concentration (mg/L) could be used instead of other measures such as pounds per day. That would make users of this information happier than going through the gyrations of converting to mg/L or PPM.

In summary, we appreciate the opportunity to comment on the monumental work that has gone into this document. We also hope that you, in turn, appreciate the need to make the information as usable as possible for the people, governmental agencies and groups who will be working to make our streams and waters healthy and environmentally sound.

Please direct your response and/or questions to:

Sam Kirby, Jr.
Secretary, BCWIG
1590 E. 422nd Rd.
Half Way, MO 65663
(Tele. 417-777-8020)
(E-mail = sckirby2@gmail.com)

CITY OF
BOLIVAR
345 S. MAIN AVENUE • BOLIVAR, MISSOURI 65613 • Office (417)326-2489
Fax (417)777-3212

WQMB Rec'd OCT 1 8 2010

(3)

October 14, 2010

EPA Region 7
Water, Wetlands and Pesticides Division
901 North 5th Street, Kansas City, Kansas 66101

ATTN: Ms. Debby White, Water Quality Management Branch

RE: Piper Creek Draft TMDL
Public Comments, City of Bolivar

Dear Ms. White:

The City of Bolivar, Missouri is submitting the following public comments in regards to the draft Total Maximum Daily Load (TMDL) on Piper Creek and a tributary to Piper Creek named Town Branch; both water bodies are referenced by the identification number MO_1444. It is our opinion that the draft TMDL does not meet the requirements of Section 303(d) of the Clean Water Act (CWA), 33 USC 1313(d)(1)(c) and the US Environmental Protection Agency's (EPA) implementing regulation, 40 CFR 130.7(c)(1). Our objections include, but are not limited to, the following items:

1) Incorrect pollutant listing. The Pollutant is identified as Organic Sediment and Unknown. Multiple sediment testing performed by MDNR in 2004 showed that sediment deposition at the test and control stations was primarily made up of Non-Volatile Suspended Solids (NVSS) and not Organic Sediment. Also, the draft TMDL concluded that the results of the 2004 testing "do not indicate Organic Sediment impairment due to the treatment plant". The Pollutant listing appears to be unjustified based on conflicting field testing and study conclusions. Additional field testing should be performed to either validate Organic Sediment as a pollutant or it should be removed as a pollutant.

2) The EPA nutrient ecoregion 39 reference concentrations have been applied to this TMDL for Piper Creek and Town Branch without appropriate justification. Nutrient criteria should not be based on ecoregional reference conditions but rather they should be set at levels that protect fisheries and mussels as described in the Clean Water Act. It is unrealistic to expect an urban influenced stream to achieve pristine conditions. The usually low DO indicator of high nutrient levels and resulting decaying organic solids are not occurring in Town Brand and therefore, the implementation of the ecoregion 39 values are not justified.

3) Whether the validity of the testing results for Organic Sediment is an accurate representation of present day levels. The draft TMDL indicates that testing for, and subsequent impairment conclusions, were based on testing performed during a period from 2003 to 2004, and again from 2005 to 2006. Since the last testing performed in 2006, the City of Bolivar has installed and placed in operation additional sludge holding and digestion tanks including a RAS pumping station at the WWTP. This enables the WWTP to reduce potential solids being discharged from the final clarifiers to the receiving stream by providing ample sludge wasting and digestion capacity at the WWTP. More recent sediment deposition testing should be performed to represent actual, present day levels.

4) Inaccurate assessment of the contribution of nutrients and decaying organic solids to low dissolved oxygen (DO) levels in Town Branch from the Bolivar WWTP. Per Section 5.2.1 on page 26, "The WQS for all Missouri streams except cold water fisheries require a daily minimum of 5 mg/L DO". Per Tables 3 through 6, the lowest DO level immediately below the Bolivar WWTP (sampling location #2) was 5.70 mg/L, which coincided with an upstream measurement (sampling location #1) of 6.84 mg/L. All other measurements at these locations were much higher. At approximately the same testing time, a sample was taken in Piper Creek (sampling location #3) of 2.77 mg/L. Sampling location #3 is upstream from the confluence with Town Branch which carries effluent from Bolivar's WWTP. The low DO levels in Piper Creek at sampling location #3 is likely a naturally occurring DO level caused by low flows, summer temperatures, and poor riparian habitat (e.g. lack of shade from a forested riparian corridor).

a) This data would suggest that the WWTP is actually increasing DO levels over naturally occurring DO levels in Piper Creek. The DO levels downstream of the Bolivar WWTP are above that established by the WQS, and that the DO problems are occurring in a location (Pipe Creek) that is not being influenced by the Bolivar WWTP.

b) A common contributor to low DO levels is excessive nutrient loadings, such as higher amounts of nitrogen and phosphorus. The DO data collected at sampling locations #1 and #2 would suggest that the discharge from the Bolivar WWTP does not contain these nutrients in excessive amounts as to significantly impair the DO level in Town Branch. Placing extremely stringent effluent limits on total nitrogen (TN) and total phosphorus (TP) would not appear to be warranted.

5) Significant technical errors are present in the Waste Load Allocation (WLA) as presented in Table 13 on page 38 of the draft TMDL. The development of the TMDL relied heavily on the reference approach as discussed in Appendix C of the draft TMDL. In reviewing Appendix C, many streams are dominated by major springs such as Meramec Spring, Current River, Jacks Fork, Welch Spring, Pulltite Spring, Round Spring and Alley Spring. Several errors arise from including these spring fed systems as a reference condition such as:

a) Piper Creek is heavily influenced by surface water and the temperature regime is much different than that of the reference sites. The importance of water temperature is clearly highlighted on page 4 of the draft TMDL but this fact has clearly been ignored by including the spring dominated streams in the ecoregion references.

b) Spring fed streams as opposed to surface water dominated streams have different pollutant pathways. Nutrient and TSS concentrations are dramatically different for the two systems. For example the selected Regional Control was Dry Fork #1 located in Polk County as indicated in Appendix A of the draft TMDL. Page 28 of the draft TMDL states the "recommended TN and TP ecoregion criteria are used directly in developing LCs for TN and TP." When we compare the ecoregion TP (0.007 mg/l) to the Regional Control, we find the Regional Control violates the selected loading capacities for TP. The 3/18/2004 sampling of the Regional Control indicated a TP of 0.02 mg/l or roughly 2.9 times higher than the WLA shown in Table 13 on page 38 of the draft TMDL. It is not surprising the Regional Reference has a higher TP concentration than the ecoregion due to the inclusion of the spring fed systems previously discussed. The reference approach should be re-evaluated to correct the sample bias that results by including the spring dominated systems.

c) The systems evaluated in the ecoregion are much larger than Piper Creek. Reviewing the sampling for the ecoregion, only one flow value was close to the flows reported in Piper Creek. USGS Gage 7064555 sampled on 9/21/1981 had a reported flow of 9.8 CFS and TP of 0.02 mg/l. All of the other data points had much larger flows than Piper and Town Branch. The one and only data point within the ecoregion seems to indicate a higher TP should be used (0.02 mg/l versus the reported 0.007 mg/l). The method to take into account the size of the stem appears flawed as it produces much lower concentrations than the data suggests. The Regional Reference reported flow rate was 0.02 CFS on 09/25/2003 and 11.2 CFS on 03/18/2004. The reported TP concentration was 0.02 mg/l, again much higher than the calculated ecoregion values.

6) The proposed WLAs indicated in Table 13 on page 38 appear to be based on a stream in 'pristine' condition and are not indicative of a stream receiving discharge from both non-point and point sources in an urban setting. It is unrealistic to expect an urban influenced stream to achieve pristine conditions as being attempted by the TMDL. The proposed TN and TP effluent limits indicated would require very advanced and costly treatment technology to achieve. The most restrictive nutrient effluent limits in a few permits in southwest Missouri are approximately 3 to 5 mg/L for TN and are approximately 0.5 mg/L for TP. These effluent limits can be achieved through biological nutrient removal with chemical addition for precipitation. The cost of these improvements would be significant; requiring the installation of selector basins to aid in the biological removal process, as well as the everyday material and operation cost for the chemical addition. Effluent limits lower than 3 to 5 mg/L for TN and 0.5 mg/L for TP would require the installation of an extremely advanced treatment technology in order to achieve the lower limits at costs that are projected to result in user rates well above 2% of the medium household income level.

7) The draft TMDL does not reduce any future WLA for any of the other permitted facilities within the watershed. The Bolivar WWTP is the only permitted facility that is being proposed with reduced WLA. Even though the Bolivar WWTP accounts for the majority of the flow into Town Branch, the other permitted facilities should also receive proportional reductions in their WLA.

We request the opportunity to meet with you and representatives from Missouri Department of Natural Resources to discuss the Piper Creek and Town Branch TMDL and the content of this letter. Please call me at the City of Bolivar at (417) 326-2489 to set up an appropriate time to meet. In the mean time, please contact me if you have any questions.

Sincerely,

Ronald L. Mersch

Ronald L. Mersch
City Administrator

cc: Mr. Robert Brundage, Newman, Conley & Ruth P.C.
Mr. Eric Dove, Scott Consulting Engineers, a division of Olsson Associates

Hoke, John

From: Hoke, John
Sent: Monday, October 18, 2010 8:35 AM
To: 'Adkins.Tabatha@epamail.epa.gov'
Subject: Additional Comments on Town Branch/Piper Creek

TJ,

For your consideration and incorporation into the Town Branch/Piper Creek TMDL. These comments took a backseat to our submittals last week, but hopefully you'll be able to make these minor edits to the document. If you have questions or would like additional details, let me know. Thanks

1. At your convenience, the Department would like a copy of the EPA 2009a, Piper Creek Sampling Report prepared by URS Group for our administrative record.

2. Page 3, Sec. 2.3, 1st sentence. Shouldn't reference be to Figure 1 not Figure 3?

3. Table 4 is missing headings in the version we reviewed.

4. Suggest adding conversion from MGD to cfs as a footnote, and perhaps the conversion from cms to cfs as well.

5. Page 29, 1st paragraph, last sentence: low DO is not listed as an impairment for these creeks. Please correct wording.

6. Page 29, Add Ozark/Osage as the EDU and Level III 39 as the ecoregion where Piper Creek is located for clarity.

7. Section 6.1, Please include the TSS data used to calculate the 25th percentile target (appendix?) and what that target is.

8. Table 9, state that the point source flow is the sum of the 5 site-specific WWTFs.

9. Appendix C-3: This graph seems incomplete, please add the TSS data.

10. Appendix F: Point sources, 1st paragraph - Please change the following sentence as indicated: "... quarterly instream monitoring for DO, TSS and nutrients upstream and downstream of Outfall 001 is required. This will provide additional data with which to assess the impact of the WWTF on Town Branch.

11. Please add this paragraph to the end of the Point Source section: "It should be noted that the state is currently developing nutrient criteria for rivers and streams. When this has been accomplished, the TMDL will be revised to reflect the new criteria for TP and TN. In expectation of these criteria, the nutrient WLAs developed in this TMDL will not be immediately added to the Bolivar WWTF permit. Rather, nutrient monitoring will first be added to the facility operating permit to determine the current nutrient loading from the facility.

John Hoke
Env. Specialist IV, TMDL Unit Chief
Water Quality Monitoring & Assessment
Missouri Department of Natural Resources
Phone: (573) 526-1446 Fax: (573) 522-9920

Hoke, John

From: Adkins.Tabatha@epamail.epa.gov
Sent: Thursday, October 28, 2010 4:35 PM
To: Hoke, John
Subject: Re: Additional Comments on Town Branch/Piper Creek

Tabatha Adkins, TMDL Coordinator
Water Quality Management Branch-WWPD,
USEPA Region 7
901 North 5th Street
Kansas City, KS 66101
913.551.7128
adkins.tabatha@epa.gov

From: "Hoke, John" <john.hoke@dnr.mo.gov>

To: Tabatha Adkins/R7/USEPA/US@EPA

Date: 10/18/2010 08:35 AM

Subject: Additional Comments on Town Branch/Piper Creek

TJ,

For your consideration and incorporation into the Town Branch/Piper Creek TMDL. These comments took a backseat to our submittals last week, but hopefully you'll be able to make these minor edits to the document.
If you have questions or would like additional details, let me know.
Thanks

1. At your convenience, the Department would like a copy of the EPA 2009a, Piper Creek Sampling Report prepared by URS Group for our administrative record. EPA will provide MDNR a copy of the Piper Creek Sampling Report once the material is approved by EPA and the final version sent by RTI. Per contractual agreement, all contract deliverables are to be delivered by the end of the the task order period of performance on Dec. 31, 2010.

2. Page 3, Sec. 2.3, 1st sentence. Shouldn't reference be to Figure 1 not Figure 3? Reference to Figure 3 is correct.

3. Table 4 is missing headings in the version we reviewed. Table 4 has headings in the Word version - this appears to be an Adobe conversion error. Will attempt to avoid this in the final established version.

4. Suggest adding conversion from MGD to cfs as a footnote, Done see pg 18 and perhaps the conversion from cms to cfs as well.Done converted to cfs.

5. Page 29, 1st paragraph, last sentence: low DO is not listed as an impairment for these creeks. Please correct wording.Done deleted sentence.

6. Page 29, Add Ozark/Osage as the EDU and Level III 39 as the ecoregion where Piper Creek is located for clarity. Done

7. Section 6.1, Please include the TSS data used to calculate the 25th percentile target (appendix?)Done and what that target is.Done

8. Table 9, state that the point source flow is the sum of the 5 site-specific WWTFs.Done

9. Appendix C-3: This graph seems incomplete, please add the TSS data.
Done

10. Appendix F: Point sources, 1st paragraph - Please change the following sentence as indicated: "... quarterly instream monitoring for DO, TSS and nutrients upstream and downstream of Outfall 001 is required. This will provide additional data with which to assess the impact of the WWTF on Town Branch.Done

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"It should be noted that the state is currently developing nutrient criteria for rivers and streams. When this has been accomplished, the TMDL will be revised to reflect the new criteria for TP and TN. In expectation of these criteria, the nutrient WLAs developed in this TMDL will not be immediately added to the Bolivar WWTF permit. Rather, nutrient monitoring will first be added to the facility operating permit to determine the current nutrient loading from the facility.Done

John Hoke
Env. Specialist IV, TMDL Unit Chief
Water Quality Monitoring & Assessment
Missouri Department of Natural Resources
Phone: (573) 526-1446 Fax: (573) 522-9920