

Missouri  
Department of  
Natural Resources

Proposed 2014 303(d)  
PUBLIC COMMENTS

Public Notice  
October 15, 2013 – January 31, 2014

Missouri Department of Natural Resources  
Water Protection Program  
PO Box 176  
Jefferson City, MO 65102-0176  
800-361-4827 / 573-751-1300

Attorneys and Counselors at Law

James A. Kessinger †\*

Luke A. Demaree †\*

Natig R. Guseynov †

Melika T. Harris †

**RECEIVED**

Licensed in Missouri †

Licensed in Kansas \*

DEC 02 2013

November 27, 2013

**WATER PROTECTION PROGRAM****Via: Regular Mail & Fax: (573) 522-9920**Department of Natural Resources  
Water Protection Program  
Attn: Trish Riley  
P.O. Box 176  
Jefferson City, MO 65102

Re: -Missouri Department of Natural Resources Proposed 2014 Section 303(d) Impaired Waters List (hereinafter "List")  
-Weatherby Lake – WBID 7071.00 (hereinafter "Lake")  
-Weatherby Lake Improvement Company (hereinafter "Company")

Dear Ms. Riley:

This firm represents the above-referenced Company. The Company is the owner of the Lake and all the surrounding community lake access areas. We are writing in regards to your aforementioned proposed List.

It is our understanding that the List includes the Lake, alleging the Lake as being "impaired" and not meeting the water quality standards under the federal Clean Water Act (hereinafter "Act").

It is our position that the Act does not apply to the Lake. Under 33 U.S.C. § 1315, each state is required to provide a report regarding the discharge of pollutants from point sources only to the waters of the United States and navigable waters. The Act defines "point source" as a point from which pollutants are discharged, and it is intended to ensure the protection of receiving waters.

Please be advised that the Lake is an artificial private lake. It is a dam and there is no regular flow of water. There are also no receiving waters to protect from the Lake. It does not empty into any waters of the United States, both above or beneath ground. Finally, the Lake is not "navigable waters" as defined under the Act.

Please be further advised that the Lake conducts private testing of its waters on a consistent basis to ensure the water quality. Your tests that rely overwhelmingly on "Nutrient Data by Univ. of Missouri" from 1996-2010 are likely inaccurate.

As such, please accept this letter as our objection to you including the Lake in the List and ask that you remove the Lake from it. In the alternative, we ask that you please provide us with information as to your procedure to remove the Lake from the List.

Please contact the undersigned to discuss this matter.

Sincerely,



Natig R. Guseynov,

Attorney &amp; Counselor at Law

## **EPA Comments to MoDNR on 2014 Draft 303(d) List**

Bruce Perkins, Region 7 Integrated Reporting Coordinator  
December 16, 2013

In the assessment of causes like dissolved oxygen and pH; the binomial is only applicable when there are 30 or fewer samples according to the 2014 listing methodology. There are instances in the proposed delistings where this methodology is not followed. These include the North Fork Cuivre River (WBID 0170) and Williams Creek (WBID 3594). There are some water bodies where the binomial is used with greater than 30 samples but that there are less than 30 samples in the last three years and an application of the binomial shows the water body is meeting water quality standards for the last three years. These include Burris Fork (WBID 0968), Coldwater Creek (WBID 1706), Dardenne Creek (WBID 0221), Dardenne Creek (WBID 0222), Dark Creek (WBID 0690), Grand Glaize Creek (WBID 2184), Maline Creek (WBID 1709), Tributary to Big Otter Creek (WBID 1225) and Watkins Creek (WBID 1708).

Hays Creek (WBID 0097) and Dry Fork (WBID 3178) Using watershed size to assess biological samples is allowed in the MO water quality standards [MO 10 CSR 20-7.031(4) (R)] where the size is not significantly different than reference streams in the same ecoregion. For these two streams the statistical significance was not calculated to show that reference streams in the same ecoregion were significantly larger. Additionally, for Hays Creek the state used control streams instead of reference streams identified in Table I as directed by the state's water quality standards.

Urban stream sampling by the U.S. EPA Region 7 environmental services division has identified streams which should be listed for toxic bottom sediments according to the state's methodology. These include Brush Creek (Jackson County, unclassified tributary to Blue River, USGS Reach Code 10300101000565 and 10300101000566) for numerous PAH compounds (These findings are consistent with USGS studies performed in the earlier portions of the 2000's), Blue River (WBID 0419 and 0418), Line Creek (WBID 3575), Shoal Creek (WBID 0397) and East Fork Shoal Creek (WBID 0398) for cadmium, Wilsons Creek (WBID 2375) for lead and numerous PAH compounds, North Branch Wilsons Creek (WBID 3745) for zinc, Jordan Creek (WBID 3374) for numerous PAH compounds and Jones Branch (unclassified tributary to Pearson Creek, USGS Reach Code 11010002001683) for lead. This data is available in the EPA on-line data management program STORET. Data for Brush, Line, Shoal and East Fork Shoal creeks for the years 2010 and 2011 were not successfully uploaded to STORET and are included with this comment for consideration. The data is also available on the web site [KCWaters.org](http://KCWaters.org).

The TMDL for Wilsons, Jordan and Pearson creeks has been withdrawn so these waters again need a TMDL and should be relisted.

For Troublesome Creek (WBID 0074) the habitat is stated as not being acceptable for the bioassessment to yield acceptable results. In this case one reason stated for poor habitat is sediment. Sediment is itself a pollutant and if sediment is preventing the stream biota from meeting full compliance, it would seem that the water body segment should be 303(d) listed for sediment.

The TMDL used to delist Whetstone Creek (WBID 1505U) was not approved for the upstream unclassified segment. The TMDL does not target a loading capacity which would result in meeting water quality standards. Further information on this can be obtained from the final EPA action on the 2012 Missouri 303(d) List where this water body was added back to the list.

The TMDL proposed to delist Chat Creek (WBID 3168) for cadmium was only approved for zinc. As such this water body should remain listed for cadmium.

Fox Creek (WBID 1842), is the unknown listing from 2012 being replaced with the aquatic macroinvertebrate bioassessment new to the 2014 listing cycle?

Dardenne Cr (WBID 0221) does the Aquatic Macroinvertebrate bioassessment replace the unknown cause from 2012?

Koen Creek (WBID 2171), the data collected in 1995 was discounted because of questions about its quality. As the data was collected under the EPA REMAP program according to the EPA QAPP for data collection it should be considered valid if that program's requirements meet the state's methodologies. As such, if there is no additional data to change the assessment done for the 2012 list and this water should remain listed as impaired.

For Coldwater Creek (WBID 1706) all available data was not assessed. The chloride concentration on 2/21/2012 was 274 mg/L which exceeds the chronic water quality criterion. This data is available from the state's web data search site ( [http://www.dnr.mo.gov/mocwis\\_public/wqa/waterbodySearch.do](http://www.dnr.mo.gov/mocwis_public/wqa/waterbodySearch.do) ) With the sample taken on 1/5/2010 identified in the assessment spreadsheet for this water body, there were greater than one exceedance of the chronic chloride criterion in the last three years.

The *E. coli* data used to delist the North Fork Cuivre River (WBID 0170) was collected in a different segment of the stream below the confluence with Indian Creek (WBID 0171). As such this shows North Fork Cuivre River (WBID 0158) is not impaired but does not provide good cause that the upstream segment is not impaired.

For Turkey Creek (WBID 3282) the assessment sheet indicates impairment for lead in water not sediment. Additionally, this water body was listed as impaired for lead in water for 2012.

Peruque Creek (WBID 0217 and 0218) The delisting of inorganic sediment is not accompanied by any data files that show the inorganic sediment is no longer exceeding the narrative translator. MDNR water quality data search does not indicate that any new sediment samples have been collected since the 2012 list. Additionally, there is no fish assessment data provided on the review web site for the new listed impairment for these two segments.

Center Creek (WBID 3203) The impairment for zinc is covered by a TMDL.

Little Beaver Creek (WBID 1529) Is the sediment impairment being used as a pollutant for the macroinvertebrate community impairment. Should it be listed for both?

Salt River (WBID 0103) No DO data in assessment sheet for this site.

Shibboleth Branch has an EPA approved TMDL for lead and zinc in sediment and need not be listed in category 5 (303(d)) but category 4a (TMDL).

Is there an available site where WBIDs and the water body are identified and geolocated up to date with this proposed list?

## Comments on the Draft 2016 Listing Methodology

In the 2016 methodology the state proposes to modify the bioassessment procedure to apply a different narrative translation to headwater streams from other wadeable streams. Using watershed size to assess biological samples is allowed in the Missouri water quality standards [MO 10 CSR 20-7.031(4) (R)] where the size is significantly different than reference streams in the same ecoregion. For these two streams the statistical significance was not calculated to show that reference streams in the same ecoregion were significantly larger. Additionally, the state proposes to use control streams instead of reference streams identified in Table I as directed by the state's water quality standards. Missouri's bioassessment procedure for fish is limited to stream orders of 3-5; presumably because this type of statistical significance process was integrated into the assessment methodology. The proposed demarcation is that a stream is "significantly smaller" than reference streams. There is no procedure outlined to identify such significance nor do the state's water quality standards make a reference to using control streams. The state's reference streams are outlined in Table I in the state's water quality standards. If a watershed size cutoff statistical methodology is defined for significantly smaller streams, then the public can meaningfully comment of the state's assessment of a water body's biological condition. Meaningful public comment is difficult to obtain if the methods used by the state to determine the results of bioassessment are not identified.

Has monitoring of raw water from drinking water reservoirs been discontinued or is it no longer being used for assessment?

Is the RAM monitoring program by MDC integrated into the DNR bioassessment web site? Is it available for stakeholder review?

In the discussion of toxic chemicals in Table 1.1 there is an exclusion for fish kills due to natural causes. Is there information to indicate that natural toxic chemicals are released at a frequency of more than once every three years on average?

In Table 1.1 the compliance column for dissolved oxygen references a footnote which states that the data is only used for wide scale 305(b) assessments and not 303(d) listing. If that reference is a typographical error and instead should reference footnote 10, then that footnote should not apply to dissolved oxygen either. If samples taken during a critical period of the year, for example high temperature low flow summer samples, and all of the samples show an excursion of the state's water quality standards, that data should not be averaged out over an annual period. An aquatic life use is not being met if there is a seasonal period where no life can exist in the assessment unit.

There is a reliance on appropriate or representative control streams for many assessments. There is no guidance on how the characteristics of such a control stream are determined. As there are many reference streams listed in the state water quality standards should there be an emphasis to shift from those reference streams to control streams. For small streams bioassessment targets see the first listing methodology comment above.

In relation to footnote 16 in Table 1.2, there are only two Mississippi Alluvial Plains reference streams identified in the state's water quality standards; these are Main Ditch and Maple Slough Ditch. This is to cover three Ecological Drainage Units. Because of the limited number of reference streams it is even more important that a method for choosing appropriate control streams is outlined in the state's listing methodology where the use of control streams is allowed in the state's water quality standards.

Table B-1 methods use a two-sided test for bottom deposits. Since the goal is to determine if the deposits are too high not just different from the control site, the test should be single-sided.

Table B-1 redefines how the binomial probability will be assessed for greater than 30 samples but there is no note or comment that this is being changed from the commission approved 2014 methodology. In later discussion in that appendix this change is identified in comment D42. The previous methodology, and the deleted text here, states that the use of a binomial is “difficult for larger sample sizes.” How has the state’s reconsideration of this difficulty led to the removal of the sample size mediated analysis?

For toxic sediments in Table B-1 the sample mean is identified as the assessment number. If this is the mean at a site it is appropriate. However, if it is the mean of multiple sites along a segment it could result in one site, of many sampled, being toxic but being averaged out by cleaner sites above and/or below that site. This could result in a portion of a segment being undeniably impaired but the segment not being listed. To alleviate this, the table should identify the site mean rather than the sample mean to eliminate any confusion.

## Rielly, Trish

---

**From:** Perkins, Bruce <Perkins.Bruce@epa.gov>  
**Sent:** Monday, December 30, 2013 11:49 AM  
**To:** Rielly, Trish; Ford, John  
**Subject:** RE: EPA comments on the proposed 2014 303(d) list

This message has been archived. Click on the archive banner at the top of this message to open this item. [If you are a Mac or Entourage User click here to view the original item.](#)

Trish and John,

I was looking over my comments again and found an error. The proposed listing of Shibboleth Branch is for the segment downstream of the approved TMDL. As such my statement that there was a TMDL was in error and segment 2119 is not covered.

Bruce

Bruce Perkins

Re

## Rielly, Trish

---

**From:** Mona Menezes <mmenezes@bransonmo.gov>  
**Sent:** Tuesday, January 14, 2014 8:56 AM  
**To:** Rielly, Trish  
**Subject:** RE: Comment on the 2014 Proposed Section 303(d) List

Thanks Trish. That makes sense. I will inform our MS4 team.

*Mona Menezes*

Environmental Specialist  
City of Branson

110 W. Maddux St., Suite 310  
Branson, MO 65616  
[mmenezes@bransonmo.gov](mailto:mmenezes@bransonmo.gov)  
Phone (417) 337-8566 Fax (417) 337-8181

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---

**From:** Rielly, Trish [<mailto:trish.rielly@dnr.mo.gov>]  
**Sent:** Tuesday, January 14, 2014 8:54 AM  
**To:** Mona Menezes  
**Cc:** Rielly, Trish; Bloomer, Susan  
**Subject:** Comment on the 2014 Proposed Section 303(d) List

*Good Morning Ms. Menezes,*

*I was forwarded your comment regarding the 303(d) listing for Table Rock Lake. When we assign GPS (UTM) data points for impaired lakes we give the location of the Dam. If only an arm of the lake is impaired, we would give the downstream point of the impairment and assume everything in the upstream direction from that point is impaired.*

*Hope this helps.*

---

**Trish Rielly** | Water Quality Monitoring and Assessment Unit | 1101 Riverside Drive, Jefferson City, Missouri | Phone: 573-526-5297 | E.mail: [trish.rielly@dnr.mo.gov](mailto:trish.rielly@dnr.mo.gov) | Water Protection Program URL: <http://dnr.mo.gov/env/wpp/wp-index.html>

*The Department of Natural Resources envisions a Missouri where people live and work in harmony with our natural and cultural resources; make decisions that result in a quality environment and a place where we can prosper today and in the future.*

**From:** Mona Menezes [<mailto:mmenezes@bransonmo.gov>]  
**Sent:** Wednesday, January 08, 2014 11:51 AM  
**To:** Bloomer, Susan  
**Subject:** Comment on 2014 Proposed Section 303d list

Hello

I noticed that on the 2014 proposed list, Table Rock Lake is listed as "Taney County." However, only a very small percentage of Table Rock Lake is located in Taney County. It should probably be listed as "Stone County." More of

Table Rock Lake is located in Barry County than Taney County, but the largest portion of it is Stone County. Can this be corrected?

*Mona Menezes*

**Environmental Specialist**  
City of Branson

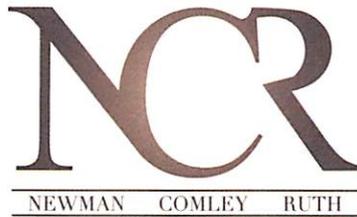
110 W. Maddux St., Suite 310  
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ROBERT J. BRUNDAGE  
EDWARD C. CLAUSEN  
MARK W. COMLEY  
SHARIE L. HAHN  
JOSHUA L. HILL  
CATHLEEN A. MARTIN



STEPHEN G. NEWMAN  
JOHN A. RUTH  
THOMAS C. SMITH  
NICOLE L. SUBLETT  
ALICIA EMBLEY TURNER

January 9, 2014

Via Email Only

Trish Rielly  
Unit Chief, Water Protection Program  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102-0176  
[trish.rielly@dnr.mo.gov](mailto:trish.rielly@dnr.mo.gov)

Re: Proposed 2014 303(d) List

Dear Trish:

I was reviewing the public notice of the proposed 2014 303(d) list. I noted a proposed listing for Strother Creek for 2014. The name of the pollutant is "unknown/aquatic macroinvertebrate bioassessments." I decided to review the bioassessment worksheets. However, when I reviewed the "303(d) list assessment worksheets" on the MDNR website, I could not find any macroinvertebrate bioassessments for Strother Creek. Without this data, is the proposed Strother Creek listing for macroinvertebrate bioassessments an inadvertent, errant proposed listing?

Sincerely,

By:

A handwritten signature in blue ink that reads "Robert J. Brundage". The signature is fluid and cursive, with a long horizontal stroke at the end.

Robert J. Brundage  
[rbrundage@ncrpc.com](mailto:rbrundage@ncrpc.com)

RJB:la

ROBERT J. BRUNDAGE  
EDWARD C. CLAUSEN  
MARK W. COMLEY  
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CATHLEEN A. MARTIN



STEPHEN G. NEWMAN  
JOHN A. RUTH  
THOMAS C. SMITH  
NICOLE L. SUBLETT  
ALICIA EMBLEY TURNER

January 14, 2014

**VIA EMAIL ONLY**

Trish Rielly  
Chief, Water Quality and Monitoring Unit  
Water Protection Program  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102-0176  
[trish.rielly@dnr.mo.gov](mailto:trish.rielly@dnr.mo.gov)

Re: Comments on Use of Sediment Data for 303(d) Listing of Nickel in West Fork Black River

Dear Trish:

In an October 29, 2013 open records request, I asked for the data sheets and results of sample analysis and QA/QC for lead and nickel in sediment samples taken from the West Fork Black River. These samples were used by DNR to make a determination of impairment for the 303(d) List of Impaired Waters. In email correspondence dated November 12, 2013, DNR provided me an Excel spreadsheet with analytical results of sediment samples from the West Fork Black River. In cooperation with LimnoTech, I have reviewed the data provided and have identified the following concerns with respect to the analysis of nickel in the sediments:

- Two samples (Sample ID 183646 and 184200) are included in the results provided in response to the open records request but are not included in the 303(d) worksheet. No information is provided for why these samples were not included or considered. The results of both samples are low values that fall below the sediment threshold value (12.5 and 32.25 mg/kg).
- The results from two samples (Sample ID 184201 and 184203) appear to be averaged and then included in the 303(d) worksheet (107 and 116.7 mg/kg, for an average of 112 mg/kg). No information or explanation is provided why these samples may have been averaged.
- Note that a number of samples have the same location as defined by the easting and northing. Also, many samples are indicated to be field duplicates by the Sample Type identifier "FieldDupl." If samples are collected from the same location and are actual field duplicates, results for all duplicate samples should be averaged before being used in a 303(d) determination. Were these samples averaged? If not, why not?

- Samples 184195 and 184196 did not include results for nickel in the file provided in response to the open records request. However, these two samples were included in the 303(d) worksheet with values of 0 mg/kg. If no analysis was performed for these samples, they should not be included in the 303(d) assessment.
- Some samples are collected from the same location but at a later date. It appears the 303(d) determination did not handle samples from the same location but collected in different years consistently. For the location at 667353/4150904, the older sample (Sample ID 183646) was not included in the 303(d) worksheet. This sample had a result of 12.5 mg/kg. However, for the location at 667558/4150808, the most recent sample (Sample ID 184200) was not included in the 303(d) worksheet. This sample had a result of 32.25 mg/kg. In both cases, the lower value was not included in the 303(d) worksheet.

The 303(d) listing process and subsequent impairment determination and associated TMDL development can have a profound impact on the protection of Missouri's water resources and the regulated entities within the watershed of an impaired waterbody. Therefore, the data and assessment process should be conducted with a high level of rigor. Our initial review of the data provided through the open records request as compared to the data used in the 303(d) worksheet raises a number of concerns. I would look forward to an opportunity to work with DNR to clarify the concerns expressed above.

Sincerely,

By:



Robert J. Brundage  
[rbrundage@ncrpc.com](mailto:rbrundage@ncrpc.com)

RJB:la

c: LimnoTech (via email)



# City of Independence

## WATER POLLUTION CONTROL DEPARTMENT

P.O. Box 1019 • INDEPENDENCE, MISSOURI 64051-0519 • (816) 325-7711 • FAX (816) 325-7722

AN EQUAL OPPORTUNITY EMPLOYER

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JAN 14 2014

January 9, 2014

WATER PROTECTION PROGRAM

Ms. Trish Rielly  
Missouri Department of Natural Resources  
Water Protection Program  
P.O. Box 176  
Jefferson City, Missouri 65102

Re: Proposed 2014 303(d) listing for Little Blue River - WBID 0422

Dear Ms. Rielly:

The following comments regarding the proposed 303(d) listing for the Little Blue River are submitted on behalf of the City of Independence Water Pollution Control Department.

The Department of Natural Resources (DNR) bacterial data table for the Little Blue River does not include U.S. Geological Survey (USGS) *E. coli* data collected at the Little Blue River at 39<sup>th</sup> Street from 2006 to 2009. USGS has been sampling the Little Blue River and other waters under a cooperative agreement with the City of Independence to satisfy requirements of the City's Municipal Separate Storm Sewer System (MS4) permit. USGS data for the Little Blue River at 39<sup>th</sup> Street, sample site number 06893910, are available on the USGS website. This site is located upstream from most of the Independence MS4.

DNR's Little Blue River data summary indicates that a statistical procedure was used to adjust *E. coli* data to give greater weight to non-storm water flows, given that the data set was biased toward storm water influenced sampling. However, the assumed storm water flow frequency of 45 percent may be unrealistically high. Extended periods of high flow can largely be attributed to upstream reservoir releases, not storm water runoff.

The following comments relate more to total maximum daily load (TMDL) development than to the listing process itself. We are concerned about future TMDL requirements that may be established for the Independence MS4.

In *Water Quality and Ecological Condition of Urban Streams in Independence, Missouri, June 2005 through December 2008*, USGS reported that storm water samples at all sites had greater median *E. coli* densities than base-flow samples. This is true of the Little Blue River before it enters the City of Independence as well as at the downstream sampling site. The USGS report states that the increased bacteria density is likely the result of increased suspended sediment

Ms. Trish Rielly  
Missouri Department of Natural Resources  
January 9, 2014

during storms. USGS cites studies that have shown that *E. coli* can survive for extended periods in bottom sediments. During a storm, these bottom sediments can be re-suspended resulting in increased bacteria densities. USGS found a positive relation at all sample sites between *E. coli* concentrations and suspended sediment.

USGS has been evaluating Independence streams using Microbial Source Tracking (MST) methods to identify the host organisms (sources) of bacteria in the stream. Preliminary MST results indicate multiple sources of bacterial contamination to the Little Blue River, with substantial fecal bacteria from other than human sources.

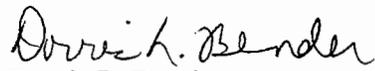
When DNR develops the Little Blue River TMDL, please keep the following in mind:

- If storm water influenced sample data are included, the Little Blue River exceeds the bacteria standard for whole body contact recreation before the river enters the City of Independence.
- TMDL development efforts may require a broader scope beyond the MS4 to address non-human sources of bacteria.

We hope to work DNR as the TMDL is developed, and we will continue to implement our Storm Water Management Program Best Management Practices to reduce the discharge of pollutants from the MS4 to the maximum extent practicable.

If you have any questions regarding our comments, please feel free to contact me.

Sincerely,



Dorris L. Bender  
Environmental Compliance Manager

c: Dick Champion, Jr.  
Eric Christensen, USGS

## Rielly, Trish

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**From:** Perkins, Bruce <Perkins.Bruce@epa.gov>  
**Sent:** Thursday, January 23, 2014 11:31 AM  
**To:** Rielly, Trish; Ford, John  
**Subject:** Re: EPA comments

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Trish and John,

In response to your request for clarification on the use of the binomial for longer than a three year period. The answer is not necessarily, I was only suggesting a way that the state could use its CWC approved methodology to assess using the binomial. That methodology states that for more than 30 samples the binomial will not be used.

As a further comment on the second point raised by the EPA in its comment letter. The state's response explains the reasoning behind the assessment of watersheds of similar size. It does not however, address the requirement of significance required by the state's water quality standards. The EPA is commenting on the lack of a significance test showing the reference streams are of differing size.

In response to the state's comment that urban water data supplied by the EPA was received too late for assessment in this listing cycle, the EPA notes that the state is required to consider all readily available data in the preparation of its Section 303(d) list.

The sediment impairment for Troublesome Creek being assessed as a Category 4c, impaired but not by a pollutant, will need to have an assessment showing that this is appropriate. A comparison to other water bodies in the same glacial till soil type would be needed to show that this is a condition applicable to all water bodies in this condition. If other water bodies with the same parent soils are able to meet the translator for macroinvertebrate community assessment the classification of this water body in Category 4c would seem to be in error.

The TMDL for Whetstone Creek does allocate a load of zero for nonpoint sources. However, the waste load allocation is not zero as stated in the state's response to the EPA's comment. the TMDL states:

WLACBOD =  $194.2 - 19.4 = 174.8$  lb/day

WLANH3-N =  $29.1 - 2.9 = 26.2$  lb/day

Winter:

WLACBOD =  $291.3 - 29.1 = 262.2$  lb/day

WLANH3-N =  $48.55 - 4.85 = 43.7$  lb/day

The waste Load Allocation for the West Plant is 174.8 lb/day for summer. The WLA for the East Plant is zero lb/day.

The East plant was to be combined with the West plant, hence the zero WLA for the West Plant.

Thank you for your response to the EPA comments. I hope the information here provides further clarification of the previous comments

Bruce Perkins  
Regional Integrated Report Coordinator  
US EPA Region 7

Water Wetlands and Pesticides Division  
Water Quality Management Branch  
11201 Renner Blvd.  
Lenexa, KS 66219  
(913) 551 7067

## Rielly, Trish

---

**From:** Steve Hunt <sshunt@gocolumbiamo.com>  
**Sent:** Wednesday, January 29, 2014 3:58 PM  
**To:** Rielly, Trish  
**Cc:** David Sorrell  
**Subject:** Fwd:  
**Attachments:** 20140129154137686.pdf

Ms. Rielly,

Please see attached comment letter from City of Columbia Public Works Department regarding the proposed 2014 303(d) list.

Hard copy of this letter has been placed in the mail.

Please confirm receipt of this email and comment letter.

r/

Steve Hunt, P.E.  
Engineer Supervisor  
Sanitary Sewer and Stormwater Utilities  
City of Columbia, MO  
[sshunt@GoColumbiaMO.com](mailto:sshunt@GoColumbiaMO.com)  
Phone: 573-874-7264

----- Forwarded message -----

From: <[pw1copier@gocolumbiamo.com](mailto:pw1copier@gocolumbiamo.com)>  
Date: Wed, Jan 29, 2014 at 2:41 PM  
Subject:  
To: "Hunt, Steve" <[sshunt@gocolumbiamo.com](mailto:sshunt@gocolumbiamo.com)>

This E-mail was sent from "RNPDDBFBD" (Aficio MP 4000).

Scan Date: 01.29.2014 15:41:37 (-0500)  
Queries to: [pw1copier@gocolumbiamo.com](mailto:pw1copier@gocolumbiamo.com)



## CITY OF COLUMBIA, MISSOURI

PUBLIC WORKS DEPARTMENT

January 29, 2014

Trish Rielly  
Missouri Department of Natural Resources  
Water Protection Program  
P.O. Box 176  
Jefferson City, MO

RE: Proposed 2014 303(d) List

Dear Ms. Rielly:

The purpose of this letter is to make comment on MDNR's proposed 2014 303(d) list as follows.

### GRINDSTONE CREEK:

MDNR is proposing to place the Grindstone Creek on the 303(d) list for E-Coli. Data used to by MDNR to judge the stream impaired is from 2004 - 2011. Portions of this data are 10 years old and are not believed to be representative of the current conditions in the Grindstone Creek. Five wastewater treatment plants have been removed from this watershed since 2004.

The proposed 2014 303(d) list identifies the E-Coli source as "Runoff from Forest/Grassland/Parkland, Rural, Residential Areas, Urban Runoff/Storm Sewers." Given the very limited water quality data, it is quite unclear how MDNR has determined the source of the E-Coli. It is respectfully requested that MDNR provide written explanation on how it made this determination. Furthermore, MDNR should not make assumptions of the source. If no solid proof of a specific source, then the source should be listed as "unknown".

### HINKSON CREEK:

MDNR is proposing to place the Hinkson Creek on the 303(d) list for E-Coli. Data used to by MDNR to judge the stream impaired is from 2004 - 2006. This data is 8 to 10 years old and is not believed to be representative of the current conditions in the Hinkson Creek. 5 wastewater treatment plants have been removed from this watershed since 2004.

The proposed 2014 303(d) list identifies the E-Coli source as "Suburban and Rural Nonpoint Source." It is quite unclear how MDNR has determined the source of the E-Coli. It is respectfully requested that MDNR provide written explanation on how it made this determination. Furthermore, MDNR should not make assumptions of the source. If no solid proof of a specific source, then the source should be listed as "unknown".

HOMINY BRANCH:

MDNR is proposing to place the Hominy Creek on the 303(d) list for E-Coli. Data used to by MDNR to judge the stream impaired is from 2004 & 2005. This data is 10 years old and is not believed to be representative of the current conditions in the Hominy Branch.

The proposed 2014 303(d) list identifies the E-Coli source as "Runoff from Forest/Grassland/Parkland, Rural, Residential Areas, Urban Runoff/Storm Sewers." Given the very limited amount of water quality data for this stream, it is quite unclear how MDNR has determined the source of the E-Coli. It is respectfully requested that MDNR provide written explanation on how it made this determination. Furthermore, MDNR should not make assumptions of the source. If no solid proof of a specific source, then the source should be listed as "unknown".

Lastly, Columbia Public Works does not feel that MDNR has used current and valid data to place the Grindstone Creek, Hinkson Creek and Hominy Branch on the 303(d) list and respectfully requests that these three streams be removed until further data can be collected to determine if the streams are truly impaired.

Respectfully

A handwritten signature in blue ink that reads "John D. Glascock". The signature is written in a cursive style.

John D. Glascock, P.E.  
Director

Cc: Dave Sorrell, Engineering Manager, Public Works Department  
Steve Hunt, Engineering Supervisor, Public Works Department



**Department of Energy**  
Southwestern Power Administration  
One West Third Street  
Tulsa, Oklahoma 74103-3502

**RECEIVED**

JAN 30 2014

JAN 27 2014

WATER PROTECTION PROGRAM

Trish Rielly  
Water Protection Program  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102

Re: Missouri's 2014 303(d) List of Impaired Waters  
Salt River, Waterbody Identification Number 103, Hydrologic Unit Code 07110007

Dear Ms. Rielly:

This is in response to the Missouri Department of Natural Resources publication of Missouri's 2014 Proposed Section 303(d) Impaired Waters List (commonly called the 303(d) List). In particular, Southwestern Power Administration (Southwestern) would like to comment on the proposed listing of the Salt River immediately below Clarence Cannon Dam (Cannon Dam) (Waterbody Identification Number [WBID] 103, Hydrologic Unit Code [HUC] 07110007), which is the re-regulation pool below Cannon Dam (Cannon Dam Re-Regulation Pool), for low dissolved oxygen (DO) with the source cited as Cannon Dam.

Southwestern has a clear and direct interest in this proceeding; Southwestern markets and schedules hydroelectric power from Cannon Dam. Cannon Dam and the Cannon Dam Re-Regulation Pool are features of the Mark Twain Lake project that was designed and constructed, and is owned and operated, by the U.S. Army Corps of Engineers (Corps). The Mark Twain Lake project was completed in 1984, and hydroelectric power production began in 1985. Southwestern, a Power Marketing Administration under the U.S. Department of Energy, is authorized by Section 5 of the Flood Control Act of 1944 to market the power and energy from Cannon Dam to publicly owned bodies, such as municipalities and rural electric cooperatives, at cost-based rates established to recover all the associated costs and expenses (including those attributed to the hydroelectric power features as well as an allocated percentage of joint-use costs of the Mark Twain Lake project) with interest. Therefore, Southwestern is concerned about any proposed actions that could increase the cost of the electricity to the customers.

The hydroelectric power discharge from Cannon Dam can be, seasonally and under certain hydrologic conditions, below the Missouri state water quality standard of 5.0 milligrams per liter (mg/L) for warm-water and cool-water fisheries. Seasonal temperature stratification, a naturally occurring phenomenon, occurs in deep lakes and reservoirs like Mark Twain Lake. In this climate region, temperature stratification causes the deep water in the lake to remain colder than the surface waters and become oxygen deficient (typically beginning in summer and lasting through early fall). In order to reduce the impact of temperature stratification in the hydroelectric power releases, Mark Twain Lake has a water temperature control weir with a crest of elevation 580 feet that is located in the lake 400 feet upstream of Cannon Dam. The hydroelectric power turbine intake structure at Cannon Dam has an invert elevation of 520 feet.

Therefore, as lake temperature stratification begins in the summer, the height of the water temperature control weir allows the highly oxygenated (and warmer) lake surface waters from the upper thermocline to be pulled into the turbine bay during hydroelectric power generation, which provides for better DO concentrations in the releases downstream into the Cannon Re-Regulation Pool. However, in years when the lake elevation is higher than normal (in the flood pool), temperature stratification in the lake can occur at an elevation above the crest of the water temperature control weir. When this occurs, colder oxygen deficient water from the lower thermocline of the lake is pulled into the turbine bay during hydroelectric power generation and released into the Cannon Dam Re-Regulation Pool. It should be clear that the process of hydroelectric power generation itself does not introduce any pollutants or deplete DO, but rather is a water transfer from one waterbody (Mark Twain Lake) to another (Cannon Dam Re-Regulation Pool).

Additionally, the activities in the upstream and lake watersheds appear to have a major influence on the DO concentrations of stratified lakes and reservoirs. A lake has a limited amount of oxygen in its deep waters. As nutrient loading increases from upstream watershed development and increased organics in the runoff (non-point source loading), the oxygen in the deep portion of the lake is consumed by the naturally occurring biological action and the water becomes anoxic. That impact is made more obvious during wet years when high inflows cause more of the upstream and lake area nutrients and pollutants to wash into the lake and result in extremely low DO concentrations in the lower thermocline once the lake stratifies. Therefore, Southwestern believes that **lake stratification and watershed non-point source loading should be listed as causes of the low DO impairment in the Cannon Dam Re-Regulation Pool.**

Recognizing the low DO issue in the Cannon Dam Re-Regulation Pool after a particularly difficult high water and low DO season in 2010, Southwestern joined with the Corps and the Missouri Departments of Natural Resources and Conservation to form the Mark Twain Lake / Cannon Dam DO Working Group (DO Working Group). The purpose of the DO Working Group is to voluntarily address the low DO issue in the Cannon Dam Re-Regulation Pool while preserving the flood control and hydropower benefits of the project by: monitoring DO conditions; cooperating on planning, evaluating, and implementing operations to increase DO concentrations; and cooperatively investigating and implementing long-term solutions to low DO concentrations as funding allows. Toward that effort, in 2010 Southwestern provided funding to the Corps for an initial investigation into short-term and long-term solutions; however, the feasible solutions presented were not pursued due to extremely high installation costs, prohibitive annual operation and maintenance costs, and/or unacceptable operational constraints. The DO Working Group has continued to function effectively by annually preparing and implementing an operational action plan for the potential low DO season affecting the Cannon Dam Re-Regulation Pool. Operational actions include monitoring DO concentrations and effecting tainter gate (spill) and/or hydroelectric power releases as conditions warrant to improve the DO concentration in the Cannon Dam Re-Regulation Pool. As spilling water instead of using it for hydroelectric power generation equates to lost energy, the DO improvement operations have resulted in the loss of an average 4 million kilowatt-hours of hydroelectric power generation, an over \$200,000 benefit, annually. If more expensive solutions or more restrictive operations are implemented and costs are attributed to the Federal hydropower purpose at Cannon Dam, that could increase the cost of the electricity to the customers as well as reduce the

benefit of Federal hydropower further.

Southwestern has also reviewed the Missouri Water Quality Standards (10 CSR 20-7.031) "Rules of Department of Natural Resources, Division 20 – Clean Water Commission, Chapter 7 – Water Quality, Water Quality Standards" (Missouri WQS). The Missouri WQS state that "...For all waters of the state, if existing water quality is better than applicable water quality criteria established in these rules, that existing quality shall be fully maintained and protected. Water quality may be lowered only if the state finds, after full satisfaction of the intergovernmental coordination and public participation requirements, that the lowered water quality is necessary to allow important economic and social development in the geographical area in which the waters are located..." The value of Federal hydropower at Cannon Dam and human activity in the upstream Mark Twain Lake watershed is undeniably important to economic and social development. Additionally, per the Corps design of the Mark Twain Lake project, the Cannon Dam Re-Regulation Pool is a hydropower feature for the purpose of attenuating flows, providing a permanent afterbay for pump-back operations, and providing for the required continuous water quality release from the re-regulation dam downstream. Realizing the economic and social impacts (reduction in Federal hydropower benefits and reduced human development in the watershed), as well as the design intent, Southwestern suggests that the Cannon Dam Re-Regulation Pool should be designated as a transition zone that is needed for mixing and water aeration. Therefore, it is reasonable to **implement a site-specific DO water quality standard for the Cannon Dam Re-Regulation Pool that is seasonally lower than 5.0 mg/l.**

The clean, renewable hydroelectric power generation at Cannon Dam, with an estimated annual energy production of 90 million kilowatt-hours, reduces the need for burning 47 thousand tons of coal, 154 thousand barrels of fuel oil, or 768 million cubic feet of natural gas each year. In addition, the electricity produced at the project annually prevents the emission of 75 thousand tons of greenhouse gases. Southwestern has worked with the Corps and the DO Working Group to improve the DO concentration in the Cannon Re-Regulation Pool in a cost effective manner and which protects the Federal hydropower purpose of the project that, through our customers, serves over eight million electric consumers in Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas.

Southwestern appreciates the opportunity to provide comments on the 303(d) List. If you have any questions, please contact Ms. Fritha Ohlson at (918) 595-6684 or [Fritha.Ohlson@swpa.gov](mailto:Fritha.Ohlson@swpa.gov).

Sincerely,

  
Stephanie Bradley  
Acting Director  
Division of Resources and Rates

cc:

Ted Coombes  
Executive Director  
Southwestern Power Resources Association  
3840 South 103rd East Avenue, Suite 117  
Tulsa, OK 74146

Kevin P. Slattery  
Chief, Environmental & HTRW Section  
Environmental & Munitions Branch  
St. Louis District  
U.S. Army Corps of Engineers  
1222 Spruce Street  
St. Louis, MO 63103-2833

## Rielly, Trish

---

**From:** Mike McKee <Mike.McKee@mdc.mo.gov>  
**Sent:** Thursday, January 30, 2014 12:50 PM  
**To:** Rielly, Trish  
**Cc:** Bataille, Karen; O'Hearn, Rebecca; Matt Combes  
**Subject:** DNR's proposed 2014 303(d) List and 2016 Listing Methodology

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Trish,

Please find below comments from MDC regarding the proposed 2014 303(d) impaired waters list and 2016 proposed listing methodology. Thanks for the opportunity to comment and let me know if you have questions.

### MDC Comments

#### 2014 303(d) impaired waters list

##### *De-listed waters-*

- Big Creek- The 10% rule was used for the assessment of Big Creek (45 samples), but the binomial method was used for other water bodies. For consistency, the Big Creek delisting should be confirmed using the binomial method.
- Dardenne Creek- Dardenne Ck WBIDs 221 (above and below Hwy 40) and 222 are recommended for delisting for DO impairment based on a new assessment of the data using the binomial statistical method. Dardenne Ck crosses through St. Charles County which is one of the most rapidly developing counties in Missouri. There have been 4 fish kills in these two WBIDs, or their tributaries, over the past 10 years (MDC Fish Kill database). According to the worksheets, WBID 221 and 222 have each been sampled for DO on only 4 separate days since 2003. Given the high degree of development in St. Charles County and occurrences of fish kills, MDC recommends that a more recent and comprehensive DO assessment be developed before delisting these particular WBIDs.
- Tiff Creek- In the "Delisting Reason" suggest changing "WQS attained; new assessment method" to "Suspected Impairment- no habitat data". This change will make consistent with the Worksheet.

##### *Newly listed waters-*

- No comments

#### 2016 Listing methodology

- No comments

Thanks  
Mike McKee  
Resource Scientist

Missouri Department of Conservation Central Office and Research Center  
3500 Gans Road  
Columbia, MO 65201

573-815-7901 ext 3923



**Metropolitan St. Louis  
Sewer District**

2350 Market Street  
St. Louis, MO 63103

January 31, 2014

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FEB 05 2014

Ms. Trish Rielly  
Water Protection Program  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, Missouri 65102

WATER PROTECTION PROGRAM

***RE: Public Comments for Missouri's proposed 2014 303(d) List***

Ms. Rielly:

The Metropolitan St. Louis Sewer District (MSD) is offering this letter into the public record during the public notice period associated with the Missouri Department of Natural Resources (MDNR or Department) proposed 2014 303(d) List of impaired waters. We have reviewed the waters in our service area MDNR has identified as impaired and believe there are two issues that should be addressed before the list is finalized and total maximum daily loading (TMDL) studies are scheduled. These issues are outlined below.

**Waterbodies currently listed as impaired for water quality standards that are changing or may be changing in the near future should be considered a low priority.**

A number of new water quality standards regulations were adopted following the recent triennial review. These new regulations represent a significant change in how water quality standards will be administered in the state. Additionally, several existing water quality criteria may be changing in the near future. Stakeholders have requested that MDNR evaluate the implementation issues related to these changes and if necessary, modify the regulations during the next one to three triennial reviews to address any uncertainties. MSD is concerned that these new and changing regulations introduce significant uncertainty into the water quality standards and assessment process. Based on our understanding of planned and potential water quality standards changes, we request that MDNR identify existing impairments for chloride, ammonia, losing stream bacteria, recreational bacteria, dissolved oxygen, and nutrients as low TMDL priorities. Water quality improvement continues to be made in the MSD service area, as MSD implements a multi-billion dollar and decades long capital improvement program for its sanitary system, and as MSD and its municipal co-permittees carry out stormwater quality requirements (pursuant to the small MS4 stormwater permit). This would allow MDNR to concentrate resources on waters where impairment thresholds are more certain.

**The Department should indicate that the mercury impairment for Bee Tree Lake (WBID 7309) is considered a low or medium TMDL priority.**

Bee Tree Lake was added to the draft 303(d) list because MDNR judged it to be impaired for mercury. The cause of the impairment was listed as atmospheric deposition. As the Department knows, elevated mercury levels are a common issue in waters across the State. In 2009, MDNR produced a fact sheet which indicated waterbodies impaired for mercury by atmospheric deposition were considered a "medium" TMDL priority. We agree that, given the widespread nature of the problem and diffuse source, the Department should not devote significant resources to developing TMDLs for these waters. We therefore request that MDNR revise the listing to clearly indicate that Bee Tree Lake is a low or medium TMDL priority.

Thank you for the opportunity to comment on the proposed 2014 303(d) list. Please contact John Lodderhose, Assistant Director of Engineering, at (314) 436-8714 or [jlodderhose@stlmsd.com](mailto:jlodderhose@stlmsd.com) if you have any questions or would like to discuss these issues further.

Sincerely,



Susan M. Myers  
General Counsel

cc: Jay Hoskins, MSD  
John Lodderhose, MSD  
Rich Unverferth, MSD  
Kristol Whatley, MSD

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FEB 04 2014

WATER PROTECTION PROGRAM

January 31, 2014

Ms. Trish Rielly  
Water Protection Program  
Missouri Department of Natural Resources  
P.O. Box 176  
Jefferson City, MO 65102

Subject: Public Comments Regarding the Proposed 2014 Section 303(d) List

Ms. Rielly:

The City of Springfield, Missouri (City) submits these comments regarding the proposed 2014 303(d) List of impaired waters placed on public notice by the Missouri Department of Natural Resources (MDNR or Department) on October 15, 2013. Our primary comments pertain to assignment of Wilsons, Jordan, and Pearson Creeks on various categories within the 2014 305(b) Report and 303(d) List. In addition to the 2014 303(d) listings and delistings, we assert that MDNR should provide public notice for waters considered impaired or potentially impaired within the 305(b) Report (i.e., Categories 2B, 3B, and 4). The City also offers comments regarding the proposed Methodology for the Development of the 2016 Section 303(d) List in Missouri under separate correspondence.

**Potential Biological Impairments.** MDNR originally listed Wilsons and Pearson Creeks for biological impairments in 1998 and Jordan Creek in 2008. The data used to make the original listing decisions are not readily available on MDNR's website; however, worksheets are available for the 2010 and 2012 303(d) Lists. MDNR apparently relied on fish, macroinvertebrate, and toxicity data for the 2010 and 2012 biological impairment decisions.

We assume that MDNR has now assigned these potential impairments to Category 4A after the US Environmental Protection Agency developed total maximum daily loads for these streams; however, this record is not available for our review. We assert that these waters and potential impairments should be considered suspect and included in Categories 2B or 3B since the 2014 LMD states that these categories are appropriate if "data are insufficient to support a statistical test or to qualify as representative data to assess any of the designated beneficial uses". Our rationale for this assertion is provided below.

Office of the Director  
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Springfield, Missouri 65802 • 417-864-1919 • [springfieldmo.gov/recycling](http://springfieldmo.gov/recycling)



**Old data is no longer representative of current condition.** Much of the data used for the previous 303(d) listings are very old. In fact, Wilsons Creek toxicity data from 1989 and 1991 were used for some of the basis. We contend that water quality conditions have greatly improved since these data were collection, with significant improvements to the Southwest Wastewater Treatment Plant. Therefore, previous toxicity data are no longer representative and should be removed from consideration based upon the data age limitations included in Section II.C.3.1 of the 2014 Listing Methodology Document.

Macroinvertebrate and fish data should also be carefully considered when placing these potential biological impairments into the appropriate 305(b) category. Habitat considerations should be taken into account for both fish and macroinvertebrate data analyses. MDNR and the Missouri Department of Conservation have recently chosen a habitat metric (QCPH1) and threshold value (0.39) to determine if habitat limitations lead to fish community impairments. We contend that MDNR should evaluate these habitat metrics prior to evaluating the fish community data in question. In addition, MDC contends that the fish Index of Biotic Integrity (IBI) should only be applied to third to fifth order streams. Therefore, we believe that fish community data should be screened since some of the study stream segments may be smaller than these stream orders.

**Biocriteria reference streams present an inappropriate comparison.** We are also concerned with the previous macroinvertebrate community comparisons. The previous impairment decisions were made using Missouri Stream Condition Index methodology with comparisons of Wilsons, Jordan, and Pearson Creeks to the ecoregional biocriteria reference streams. The City believes that the current MDNR biocriteria reference streams present an inappropriate and unachievable biological target due to the marked differences in watershed and stream characteristics (e.g. size, morphology, land use, hydrology, etc.). For example, the watershed areas of the current reference streams are up to 40 times greater than the study streams. We also believe that habitat quality differences should be taken into account in accordance with the Section II.D.

Lastly, Missouri's recently adopted water quality standards regulation contains a new aquatic life use framework that would require future comparisons to streams of more similar size. Under the Missouri Resource Assessment Partnership's (MoRAP) Valley Segment Type (VST) mapping layer (now referenced by rule in Missouri's water quality standards), the ecoregional reference waters are classified as \_\_\_ rivers compared to the Wilsons, Jordan, and Pearson headwater and creek classifications. Therefore, we contend that MDNR should not use the available macroinvertebrate data for an affirmative impairment decision, rather these data should only be used to categorize these impairments as suspect (Categories 2B or 3B).

**Potential Bacteria Impairments.** MDNR originally listed **Pearson Creek** for impairment of Whole Body Contact Recreation – Class A (WBCR-A) in 2006. This impairment is continued within MDNR's proposed 2014 303(d) List. However, the data used for this decision are nine (9) to thirteen (13) years old. MDNR should evaluate whether these data should be removed from consideration based upon the data age limitations included in Section II.C.3.1 of the 2014 Listing Methodology Document. The City does have *E. coli* data within Jones Branch which is tributary to Pearson Creek. These data were collected as part of the City's Municipal Separate Storm Sewer System monitoring program and demonstrate that bacteria levels are relatively good within this tributary (**Table 1**). Given data age considerations and the Jones Branch water quality observations, the City believes that the potential WBCR-A impairment in Pearson Creek should be assigned to Categories 2B or 3B. At minimum, the source of potential impairment should not include "Urban Runoff/Storm Sewers" as currently proposed.

**TABLE 1.** Jones Branch *E. coli* Data.

Site	Date	<i>E.coli</i> (col/100 mL)
Jones Branch at Jones Mill Lane (UTM 15 S Northing 4115912 Easting 481195)	5/25/10	31
	6/14/11	84
	6/13/13	166

**Wilson's Creek** was originally listed for bacteria impairment for losing stream protection in 2010. We contend that the losing stream *E. coli* criterion (i.e., no more than 10% of *E. coli* samples may exceed 126 colonies/100 mL) is not scientifically supported. In fact, this criterion is likely not met in Missouri streams. To illustrate this point in 2010, we reviewed *E. coli* data from USGS stations 07053810 (Bull Creek near Walnut Shade) and 07057500 (North Fork River near Tecumseh). Both these stations are ecoregional reference. Samples collected from the Bull Creek and North Fork stations since 2003 exceeded the losing stream criterion of 126 colonies/100 mL 20.8% and 13.8% of the time, respectively (**Table 2**).

The City again asserts that Missouri's losing stream criterion is not justified by sound science as this value was meant to be a long-term geometric mean for protection of swimming. We urge MDNR to reevaluate this criterion during the next triennial review of water quality standards.

**TABLE 2.** Summary of *E. coli* Data from USGS Reference Stream Stations.

USGS Water Quality Station	Date Range	Count	Max <i>E. coli</i> (cfu/100 mL)	Count >126 cfu/100 mL
Bull Creek nr. Walnut Shade	10/11/06 – 9/3/2008	24	2,900	5 (20.8%)
North Fork River nr. Tecumseh	1/21/2003-7/27/2010	58	7,900	8 (13.8%)

The City appreciates the opportunity to provide public comment and looks forward to your thoughtful consideration of these comments. Please feel free to contact me at anytime to discuss any of these issues.

Sincerely,  


Errin Kemper, P.E.  
Assistant Director – Environmental Services  
Springfield Missouri

cc: Steve Meyer, P.E. – Director  
Jan Y. Millington – Assistant City Attorney  
Paul Calamita - Aqualaw

