



Missouri
Department of
Natural Resources

DRAFT VILLAGE CREEK TMDL
PUBLIC COMMENTS

Public Notice
July 27, 2009 – August 26, 2009

Village Creek
WBID # 2863 and 2864

Madison County, Mo.

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



Public comment-2863-2864-village-ck-tmdl

THOMAS BALL to: John Hoke

08/19/2009 01:07 PM

Follow Up: Normal Priority.
History: This message has been forwarded.

Dear Mr. Hoke,

I send this to you as you are likely to know how to add my comment to the public record Village Creek (Madison County) currently open for public comment. I was unable to find established for this comment, as was done for instance with the UAA public comment p I send it to you with my advance thanks.

I have read the TMDL documents and I am thankful that persons of good will, and appa scientific expertise, have put so much thought and effort in to the thinking and writing of comment is not meant to, in any way, devalue or negate their effort. You folks are my h the past-- upholding the veracity of science while engaged in the difficult work of "rule n

Nevertheless, I was a little surprised to see this TMDL document being put forward with illuminating of the potential negative human health effects at all. While I am painfully aw makes clear) that the State of Missouri has no water quality standard for inorganic sedir wonder that the standard for dissolved metals for aquatic life (sect 3.4.2) is used for im standard as may be appropriate for WBCR-b.

Perhaps, I have misread something. In any case, it seems to me a section regarding wh current possible human health impacts might be included.

For instance, I have copied and pasted the following from the EPA's document found a http://www.epa.gov/region7/cleanup/npl_files/mod098633415.pdf (page 3 of 6)

"In 1999, approximately 16% of the children tested in Madison County had blood lead le ug/dL, the level of health concern for EPA and its partner, the Agency for Toxic Substan Registry. In 2005, that percentage had decreased to 6%, due to the removal and replac lead-contaminated residential soil by the Superfund Removal Program and EPA-funded provided by the Madison County Health Department."

A precedent for similar language including this kind of consideration of human health ef approved 2008 TMDL for Big River, St. Francois County (page 6) : <http://www.dnr.mo.gov/env/wpp/docs/2074-2080-2168-2170-big-r-tmdl.pdf>

Something like this would be my suggestion and only public comment at this time. Than the opportunity to comment and to serve.

Thomas Addison Ball
1477 Crossbrook Drive, Webster Groves, MO 63119
314-962-1241
Missouri Stream Team AmeriCorps #2793

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Mark N. Templeton, Director

www.dnr.mo.gov

August 31, 2009

Mr. Thomas Addison Ball
1477 Crossbrook Drive
Webster Groves, MO 63119

RE: Comments on Village Creek Total Maximum Daily Load
Water Body IDs: 2863, 2864

Dear Mr. Ball:

Thank you for your comments and interest in the Total Maximum Daily Load (TMDL) process. Citizen participation and cooperation is crucial for successful watershed management and is the key to protecting our natural resources. For these reasons, the Department of Natural Resources values comments such as yours.

A TMDL is a calculation of the maximum amount of a pollutant that a body of water can absorb before its quality is affected. The TMDL process is a tool used to restore and protect water quality in our streams, rivers and lakes. If a water body is determined to be impaired, a watershed management plan will be developed that will include the TMDL calculation.

All classified waters of the state are identified in state rule by how the water body is used. These water uses are called designated beneficial uses and water quality criteria are associated with each use to ensure the water body can be safely used as intended. Waters that do not meet the criteria for one or more of their designated uses are placed on Missouri's 303(d) List of impaired waters. Water bodies included on the 303(d) List are required by the federal Clean Water Act to have a TMDL developed to restore the affected use. In the case of Village Creek in Madison County, the impaired use is the protection of warm-water aquatic life.

In your comment letter, you inquire as to why the warm-water aquatic life designated use was cited as impaired and not the whole body contact recreation use. The reason for this is that water quality data obtained from Village Creek indicate exceedences of the dissolved lead criterion associated with the warm-water aquatic life use, or in the case of inorganic sediment, violations of the state's general water quality criteria were observed. Currently, Missouri's water quality standards do not have a lead human health criterion associated with fish consumption. Additionally, the available data did not indicate any impairment due to exceedences of the state's bacteria criteria associated with the whole body contact recreation use.



Recycled Paper

Mr. Thomas Addison Ball
Page Two

Also in your letter, you suggest the inclusion of language similar to what is found in the Big River TMDL regarding human health effects of lead. The Department also believes such language should be included in the Village Creek TMDL. A statement regarding human health effects of lead will be included in the final version of the Village Creek TMDL.

All comments pertaining to this TMDL will be reviewed and any needed changes will be made to the final TMDL document prior to its submittal to the U.S. Environmental Protection Agency for approval. Your comments, along with any others concerning the Village Creek TMDL, will be included in the administrative record, which also includes the studies, data and calculations the TMDL is based on.

If you have questions or require additional information, please contact Mr. John Hoke of my staff at (573) 526-1446, via e-mail at john.hoke@dnr.mo.gov, or by mail at Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102.

Sincerely,

WATER PROTECTION PROGRAM



Philip A. Schroeder, Chief
Water Quality Monitoring & Assessment Section

PAS:mkl



Lead Content, Village Creek, Fredericktown, Missouri

Scott Mier to: John Hoke

08/03/2009 03:18 PM

History: This message has been replied to.

Dear Mr. Hoke,

I received your Streamgram concerning the inorganic sediment and lead loads in waters receiving input from the old lead mines .

I am a Stream Team leader, as well as a teacher of biology and environmental science at the high school and college levels . The Streamgram seemed to be only for informational and comment purposes .

I have been aware of the unacceptable level of lead content in that water for years . Several years ago, my daughter conducted a science fair experiment in which she correlated the acidity of rain in different rain events over the course of one year to the amount of dissolved lead in the waters at the "Slime Pond," Village Creek area, and water exiting mine openings .

If you need manpower to help with sampling and/or testing, I will be able to assist .

Rosemarie Mier
1082 Madison 500
Fredericktown, MO 63645

(H) 573-783-2203
(C) 573-631-6726

Stream Team 2098



Fw: Lead Content, Village Creek, Fredericktown, Missouri

John Hoke to: Michael Kruse

08/10/2009 08:38 AM

Response to Mrs. Mier's e-mail comment regarding Village Creek.

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

----- Forwarded by John Hoke/WPCP/DEQ/MODNR on 08/10/2009 08:38 AM -----

From: John Hoke/WPCP/DEQ/MODNR
To: "Scott Mier" <scott.mier@att.net>
Cc: John Ford/WPCP/DEQ/MODNR@MODNR, Priscilla Stotts/WPCP/DEQ/MODNR@MODNR
Date: 08/04/2009 02:13 PM
Subject: Re: Lead Content, Village Creek, Fredericktown, Missouri

Mrs. Mier,

Thank you for your e-mail. The Department very much appreciates the dedication and assistance of citizen volunteers such as yourself to monitor and report water quality issues on your local streams . For the Village Creek TMDL, we have sufficient monitoring data to establish the necessary reductions and will be monitoring during and after any implementation activities that reduce lead and sediment loading to the creek. However, we will routinely review water quality data submitted by Volunteer Water Quality Monitors and incorporate those data into our analysis, as appropriate.

For additional information on the Village Creek TMDL, please visit the Department's website at the link below. The public comment period is open until August 26th. If you have questions on the TMDL or need additional information or assistance, please let me know. Thank you again for your interest and involvement in protecting the quality of Missouri's waters.

<http://www.dnr.mo.gov/env/wpp/tmdl/PN-villagecr-TMDL.pdf>

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

"Scott Mier" Dear Mr. Hoke, I received your Streamgram con... 08/03/2009 03:18:23 PM

From: "Scott Mier" <scott.mier@att.net>
To: "John Hoke" <John.Hoke@dnr.mo.gov>
Date: 08/03/2009 03:18 PM
Subject: Lead Content, Village Creek, Fredericktown, Missouri

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Streamgram seemed to be only for informational and comment purposes .

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If you need manpower to help with sampling and/or testing, I will be able to assist.

Rosemarie Mier
1082 Madison 500
Fredericktown, MO 63645

(H) 573-783-2203

(C) 573-631-6726

Stream Team 2098

STATE OF MISSOURI Jeremiah W. (Jay) Nixon, Governor • Mark N. Templeton, Director
DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

August 31, 2009

Rosemarie Mier
1082 Madison 500
Fredericktown, MO 63645

RE: Comments on Village Creek Total Maximum Daily Load
Water Body IDs 2863 and 2864

Dear Ms. Mier:

Thank you for your comments and interest in the Total Maximum Daily Load (TMDL) process. Citizen participation and cooperation is crucial for successful watershed management and is the key to protecting our natural resources. For these reasons, the Department of Natural Resources values comments such as yours.

A TMDL is a calculation of the maximum amount of a pollutant that a body of water can absorb before its quality is affected. The TMDL process is a tool used to restore and protect water quality in our streams, rivers and lakes. If a water body is determined to be impaired, a watershed management plan will be developed that will include the TMDL calculation.

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All comments pertaining to this TMDL will be reviewed and any needed changes will be made to the final TMDL document prior to its submittal to the U.S. Environmental Protection Agency for approval. Your comments, along with any others concerning the Village Creek TMDL, will be included in the administrative record, which also includes the studies, data and calculations the TMDL is based on.

Rosemarie Mier
Page Two

If you have questions or require additional information, please contact Mr. John Hoke of my staff at (573) 526-1446, via e-mail at john.hoke@dnr.mo.gov, or by mail at Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102.

Sincerely,

WATER PROTECTION PROGRAM

A handwritten signature in black ink, appearing to read "Philip A. Schroeder". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Philip A. Schroeder, Chief
Water Quality Monitoring and Assessment Section

PAS:mkl



FW: Public Comment on Village Creek TMDL

Yemm & Hart to: John.Hoke

08/07/2009 04:33 PM

Dear Mr Hoke,

We are aware of an opportunity to add a public comment, regarding our concern for the presence of lead mine tailings alongside the watercourse known as Village Creek, which is located near Fredericktown MO in the Mine La Motte abandoned mining lands.

Having knowledge of remediation efforts that have already occurred in our county of Madison, as part of our designation as a National Priority Superfund Site (known as Madison County Mines Superfund Site), it is our hope that any implementation plan for the Village Creek TMDL Analysis, would utilize Superfund resources **to completely remove all tailings piles that could conceivably leech into the watershed** during any times of seismic event, heavy or prolonged rainfall and/or the seasonal high water periods which occur most years in the springtime.

The ultimate conceivable plan would completely clear the Missouri Mine Lands of ALL tailings piles, anywhere they exist. Already they have been utilized inappropriately and scattered widely over our region. Our region's children, for over half a century, have experienced unsafe levels of lead in their blood. This "ultimate" solution would remove all traces of lead from identified materials and render any such materials benign and inert, while utilizing any useful life the lead in these materials can lend to appropriate and useful applications. Simply put, reprocess all of the tailings using newer technology.

We also have knowledge that located in St Francis county, not geographically far from the contaminated area (south of Farmington alongside and west of Highway 67), is an old quarry, now abandoned and closed to its previous use and operations. Perhaps, such tailings could be transported there and stored (assuming no other watersheds could be adversely affected) until a better plan could be arrived at. This would provide immediate relief regarding our primary concern – the absorption or ingestion of lead particulates by organisms that become food for small fishes, who become food for larger fishes and may be subject to human consumption, as well as the ultimate arrival of any lead contaminated water or sediment into the St Francis river watershed which ultimately do have impacts upon any lands that are traversed by the greater Mississippi River, below the St Francis River's entry.

The issue is, therefore, not only a matter of fenced and overgrown parcels of abandoned mine lands, that most of our county residents have no concept of what lies concealed behind, but about doing the correct thing for all of our region's people and the entire environmental eco-system this relates to. Marginal efforts are better than none but in the long run are not adequate enough.

Sincerely,
Stephen & Deborah Yemm
1417 Madison 308
Marquand MO 63655
Tel 573-783-5141

Email for Stephen – yemmhart@hughes.net

Email for Deborah – dhyemm@hughes.net

STATE OF MISSOURI Jeremiah W. (Jay) Nixon, Governor • Mark N. Templeton, Director
DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

August 31, 2009

Stephen and Deborah Yemm
1417 Madison 308
Marquand, MO 63655

RE: Comments on Village Creek Total Maximum Daily Load
Water Body IDs 2863 and 2864

Dear Mr. and Mrs. Yemm:

Thank you for your comments and interest in the Total Maximum Daily Load (TMDL) process. Citizen participation and cooperation is crucial for successful watershed management and is the key to protecting our natural resources. For these reasons, the Department of Natural Resources values comments such as yours.

A TMDL is a calculation of the maximum amount of a pollutant that a body of water can absorb before its quality is affected. The TMDL process is a tool used to restore and protect water quality in our streams, rivers and lakes. If a water body is determined to be impaired, a watershed management plan will be developed that will include the TMDL calculation.

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All comments pertaining to this TMDL will be reviewed and any needed changes will be made to the final TMDL document prior to its submittal to the U.S. Environmental Protection Agency for approval. Your comments, along with any others concerning the Village Creek TMDL, will be included in the administrative record, which also includes the studies, data and calculations the TMDL is based on.

Stephen and Deborah Yemm
Page Two

If you have questions or require additional information, please contact Mr. John Hoke of my staff at (573) 526-1446, via e-mail at john.hoke@dnr.mo.gov, or by mail at Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102.

Sincerely,

WATER PROTECTION PROGRAM

A handwritten signature in black ink, appearing to read "Philip A. Schroeder". The signature is fluid and cursive, with a long, sweeping tail that loops back to the right.

Philip A. Schroeder, Chief
Water Quality Monitoring and Assessment Section

PAS:mkl



Village Creek Comments
Adkins, Tabatha to: john.hoke
Cc: "Michael Kruse"

09/29/2009 03:51 PM

History: This message has been forwarded.

John and Mike,

Comments for Village Creek TMDL.

The TMDL should make clear that while a WLA was calculated for point sources, including the unpermitted abandoned mine, any allocation does not reflect an authorization to discharge from an unpermitted point source.

Section 2.1, page 1, first paragraph indicates there is a figure 1 (unmarked). Please indicate where this is.

Section 2.1, page 1, second paragraph indicates land use percentages and refers to Table 1 for the numbers. The discussion in this paragraph is only for segment 2863, segment 2864 is unmentioned. The rest of the TMDL document discusses both segments.

Section 2.2, page 3, the discussion of the various tailing piles and concentrations is confusing. Please indicated or clarify that these piles are in Madison County or associated with the Village Creek TMDL Mine La Motte piles in some way.

Section 3.4.2, page 11, quote WQS for determining hardness since it is a requirement for the lead equation.

Section 4, page 14, the sentence "..., undisturbed and vegetated areas within the watershed..." needs a little more explanation, e.g., percentage of land in ag, what potential sources of ag lead would be, because ag use in the watershed is primarily grazing and not row crop.

Also it appears there may be a CAFO or two in the watershed. Robert Menteer (SIC 211) and Jason Mink (SIC 217), Fredricktown MO. These should be mentioned as well as possible livestock influence to the TSS translator used for inorganic sediment.

Bruce thought there also might be a small storm water permit in this area, he ran into it while researching for the modeling, though it may be an old one.

Section 5.3.1: It would be good to have a reference that backs up the statement, "...sediment runoff from these areas is likely to be minor due to the stability and nature of the available vegetative cover." Of course, "these areas" referring to forest, grassland, and agricultural land. This is the basis of the argument why there should be no LA and it should be stronger than just the above statement. Facts or a reference saying the runoff from forest and grassland is controlled by vegetative cover would be good. But agricultural land is known for sediment runoff. There, the better argument is perhaps because there is so little of it in the watershed. Here could state the fact of low percentage of land in the watershed is in agriculture.

Section 5.3.2, page 18, Need to include a reference to the method or

Village Creek Comments - Michael Kruse/WPCP/DEQ/MODNR

state what was used to calculate the "relationship" of percent fine sediment data to sampled sediment mass (as in - sampled data in the watershed, a reference, other data in the area).

Section 5.3.2, page 18, Define the target of 13.64 percent of fine sediment, (for example 13.64 percent of fine sediment in bed sediment mass).

Section 6.1, pages 19-22, the graphs (Figures 5,6,7,and 8) indicate tons/day, the tables (Tables 5 and 6) and the general discussions throughout the TMDL indicate lbs/day. Please indicate if this is accurate and if it is, provide a clarifying discussion within the text.

Section 6.5, page 23, second paragraph, last sentence: Need to state whether these numbers are for dissolved lead or sediment. This section discusses both so it becomes confusing.

Section 6.5, page 24, The PS load reduction percentage needs to state it is for dissolved lead.

Section 6.8, page 25, Define EqP.

Need to include in Reference section a citation for:

EPA 2005
MoDNR 2006

Items of note:

Section 5.3.1 (also section 6.5): Whenever referencing a monitoring site, e.g., "(e.g., site 2872/0.2 at Musco Creek), it would be nice to refer the reader to Table 4 which gives the reader some idea where the monitoring site is located.

A map of monitoring site locations in the appendix would be even better.

Indicate in title of Figure 2, page 9, that the USGS 07035000 is a gage monitoring site.

Figures 7 & 8, pages 20 and 21, Include in the title that these are for inorganic sediment.

Section 6.5: It would be nice to provide a reference to the section where the TEC is discussed.

Appendix B, Table B-3: Need to clarify where all of the data originated, appears that B-2 are the gage sites.

Appendix B and C: Change "gauging and gauge" to gage.

Appendix B: include in Table B-2 foot note Madison County Mine (MCM)

References: Cannot find these references in the text: Hansen 2005, MDNR 2008, MDNR 2009, and U of Mo 2005.

Thanks

TJ

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



Village Creek TMDL Comment Responses

John Hoke to: Adkins.Tabatha
Cc: Michael Kruse

12/07/2009 04:18 PM

TJ,

Attached below are the department's responses to EPA Region 7 comments on the draft Village Creek TMDL. The comment response document includes responses to each comment and the location of the revision (if applicable) within the draft TMDL. The draft final TMDL has been placed on the department's FTP site in the folder \Outgoing\TMDL\Village Creek. You can access the department's FTP site at the link below.

As always, the department appreciates the help and assistance of EPA Region 7 on Missouri TMDLs. Please let me know if you have questions or additional comments/concerns on the draft TMDL. Thanks



Village Creek Comment Response - EPA.doc



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

- 1) *The TMDL should make clear that while a WLA was calculated for point sources, including the unpermitted abandoned mine, any allocation does not reflect an authorization to discharge from an unpermitted point source.*

Language similar to what is included in this comment was added to Section 6.5, on page 22.

- 2) *Section 2.1, page 1, first paragraph indicates there is a figure 1 (unmarked). Please indicate where this is.*

Figure 1 was located on page 8 of the original submitted document. This figure has been moved (unmodified) to page 2 to place it more closely to where it is referenced in the text. Likewise, Figure 2 was moved from page 9 to page 3 for the same reason. Additionally, Figure 1 includes sample site locations which should alleviate the concerns noted in comment 17(b) below.

- 3) *Section 2.1, page 1, second paragraph indicates land use percentages and refers to Table 1 for the numbers. The discussion in this paragraph is only for segment 2863, segment 2864 is unmentioned. The rest of the TMDL document discusses both segments.*

WBID 2864 is the upper reach of Village Creek and is contained within the watershed of 2863. The language in this paragraph was modified to eliminate confusion and a reference to Table 1, which shows land use percentages, was added.

- 4) *Section 2.2, page 3, the discussion of the various tailing piles and concentrations is confusing. Please indicated or clarify that these piles are in Madison County or associated with the Village Creek TMDL Mine La Motte piles in some way.*

Paragraph 7 of Section 2.2, on page 5 was modified to indicate that these other mine sites are within the same Superfund operable unit as the Mine la Motte piles, but are not located within the Village Creek watershed and are not associated with the Village Creek in any way.

- 5) *Section 3.4.2, page 11, quote WQS for determining hardness since it is a requirement for the lead equation.*

A statement was added to Section 3.4.2, on page 9 stating that hardness values were calculated in accordance with 10 CSR 20-7.031(1)(Y).

- 6) *Section 4, page 14, the sentence "..., undisturbed and vegetated areas within the watershed..." needs a little more explanation, e.g., percentage of land in ag, what potential sources of ag lead would be, because ag use in the watershed is primarily grazing and not row crop.*

Language defining undisturbed and vegetated areas as forest and grassland was added. Additional language regarding erosion reductions due to vegetative cover as well as the limited amount of row crop usage in the watershed was also added to provide a stronger rationale for limited expectations of nonpoint source loading.

- 7) *Also it appears there may be a CAFO or two in the watershed. Robert Menteer (SIC 211) and Jason Mink (SIC 217), Fredricktown MO. These should be mentioned as well as possible livestock influence to the TSS translator used for inorganic sediment.*

Although our records indicate there are no CAFOs in the Village Creek watershed, additional language regarding possible livestock influences and contributions of inorganic sediment was added to Section 4, page 12.

- 8) *Bruce (Perkins) thought there also might be a small storm water permit in this area, he ran into it while researching for the modeling, though it may be an old one.*

We did not find any storm water permittees in the Village Creek watershed. The nearest storm water permit, MO-R240053, discharges to Saline Creek.

- 9) *Section 5.3.1: It would be good to have a reference that backs up the statement, "...sediment runoff from these areas is likely to be minor due to the stability and nature of the available vegetative cover." Of course, "these areas" referring to forest, grassland, and agricultural land. This is the basis of the argument why there should be no LA and it should be stronger than just the above statement. Facts or a reference saying the runoff from forest and grassland is controlled by vegetative cover would be good. But agricultural land is known for sediment runoff. There, the better argument is perhaps because there is so little of it in the watershed. Here could state the fact of low percentage of land in the watershed is in agriculture.*

A citation and additional information were added to support the premise that runoff from vegetated areas, in this case forest and grassland, is limited. Additionally, language was added to point to the fact that agriculture comprises a small portion of the watershed area.

10) Section 5.3.2, page 18, *Need to include a reference to the method or state what was used to calculate the "relationship" of percent fine sediment data to sampled sediment mass (as in - sampled data in the watershed, a reference, other data in the area).*

Additional text was added to this section to clarify that a reference approach was used and that the sampled data was collected from the Castor River.

11) Section 5.3.2, page 18, *Define the target of 13.64 percent of fine sediment, (for example 13.64 percent of fine sediment in bed sediment mass).*

Additional text was added to this section to provide the reader with additional clarification.

12) Section 6.1, pages 19-22, *the graphs (Figures 5,6,7,and 8) indicate tons/day, the tables (Tables 5 and 6) and the general discussions throughout the TMDL indicate lbs/day. Please indicate if this is accurate and if it is, provide a clarifying discussion within the text.*

The graphs and text are both accurate, despite being in different units. Clarifying text was added to this section.

13) Section 6.5, page 23, *second paragraph, last sentence: Need to state whether these numbers are for dissolved lead or sediment. This section discusses both so it becomes confusing.*

The numbers provided are for dissolved lead. Clarifying language was added to this section.

14) Section 6.5, page 24, *The PS load reduction percentage needs to state it is for dissolved lead.*

Text stating the load reduction percentage is for dissolved lead was added.

15) Section 6.8, page 25, *Define EqP.*

The abbreviation EqP was removed and replaced with the text "Equilibrium partitioning."

16) *Need to include in Reference section a citation for:*

EPA 2005

MoDNR 2006

The citation “EPA 2005” originally appeared in Section 2.2 within the same parenthetical citation as “EPA 1999”, “Hassan *et al.* 1996,” and “McIntosh 1991.” Since the Department did not write this section and does not know what document the “EPA 2005” citation refers to, this citation was removed. However, because the other three citations remain this portion of the document remains appropriately cited.

The “MoDNR 2006” citation refers to a Sediment Deposition and Nonvolatile Solids Evaluation Report prepared by the Department’s Environmental Services Program. The appropriate citation was added to the reference section of the TMDL.

17) *Items of note:*

- a. *Section 5.3.1 (also section 6.5): Whenever referencing a monitoring site, e.g., "(e.g., site 2872/0.2 at Musco Creek), it would be nice to refer the reader to Table 4 which gives the reader some idea where the monitoring site is located.*

Figure 1 (topographic map showing the Village Creek area and department sampling sites), was referenced in the sections mentioned above to give the reader an idea as to where the monitoring sites are located.

- b. *A map of monitoring site locations in the appendix would be even better.*

Monitoring sites are included in Figure 1.

- c. *Indicate in title of Figure 2, page 9, that the USGS 07035000 is a gage monitoring site.*

The title for Figure 2 was changed to indicate that USGS 07035000 is a monitoring gage site.

- d. *Figures 7 & 8, pages 20 and 21, Include in the title that these are for inorganic sediment.*

Titles for these figures were changed to show that these figures are referring to inorganic sediment.

- e. *Section 6.5: It would be nice to provide a reference to the section where the TEC is discussed.*

A reference to Section 2.2, where the TEC is discussed, was added to this section.

- f. *Appendix B, Table B-3: Need to clarify where all of the data originated, appears that B-2 are the gage sites.*

Additional description information was added to Table B-3 to clarify data origins.

- g. *Appendix B and C: Change "gauging and gauge" to gage.*

All instances of gauging and gauge were changed to gage.

- h. *Appendix B: include in Table B-2 footnote Madison County Mine (MCM) References: Cannot find these references in the text: Hansen 2005, MDNR 2008, MDNR 2009, and U of Mo 2005.*

Description of MCM was added to the footnote for Table B-2.

Citation for "MoDNR 2009" was added to Section 1. Citation for "U of Mo 2005" was changed to "MoRAP 2005" and was added to Section 2.1, page 1. Citation for "MoDNR 2008" was added to Sections 3.4.1 and 3.4.2.