

Missouri
Department of
Natural Resources

**DRAFT MISSOURI AQUATIC HABITAT USE ATTAINABILITY ANALYSIS:
STREAM SURVEY AND ASSESSMENT PROTOCOL**

PUBLIC COMMENTS

**Public Notice
Dec. 3, 2014 – Feb. 2, 2015**

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



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7**

11201 Renner Boulevard
Lenexa, Kansas 66219

02 FEB 2015

Mr. John Hoke
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, Missouri 65102-0176

Dear Mr. Hoke:

The Missouri Department of Natural Resources recently invited the public to submit written comments on the draft report, *Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol* (<http://dnr.mo.gov/env/wpp/wqstandards/docs/pn-announcement-aqh-uaa-protocol.pdf>). This letter transmits the comments of the U.S. Environmental Protection Agency. Thank you for providing this opportunity to provide formal feedback on the draft report.

General Comments

1. Before adopting and implementing a UAA protocol, the MDNR should ensure that all associated field procedures are thoroughly tested and found to yield accurate, meaningful and reproducible results.
2. The draft protocol considered in this letter provides guidance to individuals and organizations interested in conducting aquatic habitat UAAs. Section 1 reads, in part, "it is not required that these guidelines be followed, and the department will accept for consideration any complete UAA that has been conducted using alternate methods" (emphasis added). However, the draft protocol seemingly contains a number of compulsory elements, as indicated by words and phrases such as "shall" and "must" and "minimum requirements necessary." The EPA interprets this to mean that a "complete UAA" would in all cases contain such elements. Is this the state's intended interpretation?
3. Revised use designations stemming from this (or any alternative) UAA protocol should not be submitted to the EPA for approval unless water quality criteria for the uses in question also have been adopted by the state and submitted to the EPA. Simply put, the level of protection accorded aquatic life under the revised designations must be known before the designations can be acted upon by the EPA.

Specific Comments

1. As indicated by the report's title and stated purpose (see section 1), the protocol addresses only the aquatic habitat uses of streams. However, references are made in the protocol to Table G of the water quality standards (see pages 3 and 6). This table pertains to the designated uses of lakes. Please explain.
2. For clarity's sake, it is recommended that the second paragraph on page 5 be amended to read "Provisions for the establishment of a UAA are set forth at 40 CFR § 131.10(j)."



3. Based on the wording of Section 3.3, all aquatic habitat UAAs must be based on (i) an approved quality assurance project plan, (ii) formal biological surveys, (iii) representative sampling sites, (iv) field data obtained during periods of stream flow (with certain exceptions for ephemeral streams), (v) established biological sampling procedures and (vi) accompanying data from least-disturbed reference streams. The EPA interprets this to mean that a complete UAA will always incorporate such elements. Is this the state's intended interpretation?
4. According to section 3.4, UAAs supporting either the removal or downgrading of an aquatic habitat use must cite and satisfy at least one of the six factors identified at 40 CFR § 131.10(g). The EPA supports the incorporation of this federal requirement in the protocol.

Section 3.4 (page 9) also addresses 40 CFR § 131.10(g)(2) and reads, in part, "The Use Attainability Analysis must, at a minimum...identify stream flow class based on presence or absence of pools." Based on the actual wording of 10 CSR 20-7.031(1)(F), however, it is recommended that the cited language be revised to read "The Use Attainability Analysis must, at a minimum...identify stream flow class based on the flow regime and pool characteristics of the stream segment." This same recommendation applies to the language addressing 40 CFR § 131.10(g)(5) (page 10); specifically, element (a.ii) reads "stream flow class based on presence or absence of pools" but should read "stream flow class based on the flow regime and pool characteristics of the stream segment."

5. Section 4 identifies informational elements that should accompany all aquatic habitat UAAs. It reads, in part, "While it is not required that any or all of these guidelines are to be followed—understanding that situations and conditions may vary among water bodies—adherence to these policies and procedures will help ensure UAAs that are complete and acceptable to the department and EPA." Because most of the identified informational elements are needed to properly identify the stream segments of concern, and to determine whether weather, flow and site conditions are representative of the norm, these elements should be included in any aquatic habitat UAA submitted to the EPA. Bear in mind that the removal or downgrading of an aquatic habitat use cannot be approved by the EPA in the absence of sufficient documentation supporting such an action.
6. Section 4.3 addresses the collection of field data and reads, in part, "[A] QAPP must be completed and approved [by the department] prior to the initiation of data collection." The EPA supports the inclusion of this quality assurance-related requirement.
7. Section 4.4 reads, in part, "The actual aquatic life use of a water body is defined by the resident biota..." We recommend that the word "condition" be applied rather than the word "use" in this sentence. Such a revision would be consistent with other language appearing in this section; for example, one sentence reads "After performing a biological inventory and calculating indices of biological health, one should be able to adequately describe the condition of the aquatic life in the water body" (emphasis added).
8. Section 4.4.1 reads, in part, "Field activities generally begin with a visual inspection of the targeted stream at multiple locations, typically bridge crossings or other available public access points. Those segments deemed most representative of the water body should be selected for further study." However, bridge crossings generally exhibit some degree of human disturbance (e.g., channelization, rip-rapping) and will not necessarily provide representative sampling locations or reflect the highest attainable use of the targeted stream segment. Ideally, sites should be selected after wading and visually inspecting the entire stream segment or, where this is not possible, selected based on a careful analysis of aerial photographs.

Section 4.4.1 also reads, in part, “If a segment is believed to afford exceptional aquatic habitat, it should be included as an additional study location even if it is unrepresentative of the water body as a whole.” The EPA agrees with this recommendation, because the overarching purpose of a UAA is to identify, and ultimately to designate and protect, the highest attainable use of the water in question.

9. Section 4.4.2 reads, in part, “Benthic macroinvertebrates, including mussels, should be sampled from mid-March to mid-April and [from] mid-September to mid-October, which coincides with stable base flow conditions prior to aquatic insect emergence....” As applied to mussel surveys, however, this recommendation may be overly restrictive. Estimates of mussel species richness and total abundance are unaffected by the potential complications arising from rapid generational turnover (i.e., from the seasonal emergence cycles seen in many aquatic insects). Also, mussel populations can be readily surveyed throughout the broader summer “low flow period,” identified in the draft protocol on page 14 as June 1 through September 15.
10. Section 4.4.3 reads, in part, “Where water or flow are not present in the stream, demonstrations as to the ephemeral nature of the water should be documented.” Under such circumstances, individuals conducting the field surveys should seek to determine whether the lack of water or stream flow is attributable to temporary water diversions (e.g., irrigation) or temporary flow obstructions (e.g., beaver dams). Also, waters exhibiting no flow but maintaining “permanent” pools would not meet the definition for ephemeral aquatic habitat established at 10 CSR 20-7.031(1)(C)1.D, which reads, in part, “Ephemeral Aquatic Habitat (EAH)—Waters having surface flow or pools in response to precipitation events or snow melt, but without permanent surface flow or permanent pools....” It is recommended that the protocol include guidance for distinguishing between pools that are permanent versus those that are ephemeral (i.e., formed only in response to precipitation events). Such a distinction could be made in many instances by considering the types of organisms inhabiting a pool; for example, the presence of bivalves or aquatic snails would imply that water has persisted in the pool for a comparatively long period.
11. Pursuant to section 4.4.4, aquatic habitat UAAs must quantify the local rainfall amount for the 15-day period preceding the performance of field work. This same section discourages the performance of field work during “abnormally dry or drought conditions” and requires that UAAs contain information on the drought status prevailing “at the time of data collection.” The EPA supports these requirements as applied to habitat studies, fish community surveys, and general macroinvertebrate surveys. However, bear in mind that abnormally dry periods and droughts can provide ideal opportunities for conducting qualitative mussel surveys (i.e., surveys focusing on the presence/absence of live mussels and spent shell materials) owing to reduced stream current velocities, shallower water, and exposed gravel bars and sand bars.
12. Section 4.4.5 reads, in part, “The length and location of the UAA survey must be representative of the entire water body segment as described in Table H of 10 CSR 20-7.031, or represented in the Missouri Use Designation Dataset.” It also states that “Biological sampling sites within less accessible stretches of the water body segment should be included in the survey if possible.” As noted previously, sites generally should be selected after wading and visually inspecting the entire stream segment or, where this is not possible, selected based on a careful analysis of aerial photographs. Sampling sites should not be restricted to bridge crossings or other readily accessible locations, because such locations may be unrepresentative of the stream segment as a whole. Moreover, where exceptional aquatic habitats are known to occur in a stream segment, these habitats should be sampled preferentially. Such an approach recognizes that the overarching purpose of a UAA is to identify the highest attainable use of the water in question.

Section 4.4.5 also states that “If there are large gaps in long stream segments, the reason(s) for the gaps should be documented.” The words “large” and “long” are subjective and will be interpreted differently from individual to individual. It is recommended that this sentence incorporate quantitative expressions of distance, which will result in more defensible and reproducible UAAs. Similarly, the phrase “should be documented” should be changed to “must be documented” to ensure that gaps in survey coverage are adequately explained and justified in the UAA. Also, the protocol should stipulate (rather than merely recommend) a minimum number of survey sites and a minimum separation distance between sites to prevent arbitrary clustering.

13. Sections 4.4.8 and 4.4.9 address numeric and narrative “criteria” applied in the assessment of stream biological communities. To avoid confusion, it is recommended that the term “criteria” be replaced with the term “thresholds” to denote that the referenced values and/or narrative expressions are not codified in the state’s WQS.

Section 4.4.9 also indicates that the biological condition gradient (BCG) paradigm will be used by the state as a general framework for interpreting biological data. However, Missouri currently does not recognize biological use categories corresponding to the upper levels of the BCG (naturally occurring condition and near naturally occurring condition). Missouri considered, but ultimately did not adopt, the “exceptional aquatic habitat” use during the 2014 WQS rulemaking process. The EPA strongly encourages the state to adopt this use and to develop criteria (particularly biological criteria) for exceptional aquatic habitats reflecting their capacity to support highly diverse aquatic communities.

14. Figure 1 of the draft protocol suggests that waters supporting very few sensitive taxa, or exhibiting markedly diminished ecosystem structure and function, are potential candidates for the modified aquatic habitat use or limited aquatic habitat use. However, in designating a water for a less protective use, a UAA must show that this use represents the highest attainable use. To avoid confusion, a footnote should be inserted at the bottom of Figure 1, reiterating that a water can be designated for a less protective use only if supported by a UAA and consistent with 40 CFR § 131.10(g).
15. The opening sentence of section 4.5 reads “Once the biological assessment portion of the UAA establishes that an aquatic habitat designated use is not attainable and that removal or revision of that use may be appropriate, a justification must be demonstrated based on one or more of the factors established in 40 CFR § 131.10(g)” (emphasis added). Although a biological assessment may show that the designated use of a stream segment is not being attained, it cannot, in and of itself, establish that the use is unattainable. Rather, use attainability must be evaluated in light of the prevailing physical and chemical characteristics of the segment (40 CFR § 131.10(g)(1-5)) and/or the prevailing socioeconomic conditions in the surrounding community and region (40 CFR § 131.10(g)(6)). Therefore, in the opening sentence of section 4.5, we recommend that the phrase “is not attainable” be replaced with the phrase “is not being attained.”
16. Section 4.5.2.2 reads, in part, “The habitat assessment reach should be centered in the sinuosity reach.” We recommend that any exceptional habitats encountered (or known to occur) in the sinuosity reach also be evaluated as part of the UAA. This is consistent with section 4.4.1 of the draft protocol, which reads, in part, “If a segment is believed to afford exceptional aquatic habitat, it should be included as an additional study location even if it is unrepresentative of the water body as a whole.” This recommendation should be reiterated in section 4.5.2.2, because the overarching purpose of a UAA is to identify the highest attainable use of the water in question.

17. Section 4.5.2.3 reads, in part, “The length of the survey segment should be 20 times the average width of the stream determined in Step a.” This sentence should reference “Step 1” rather than “Step a.”
18. Section 4.5.6 reads, in part, “Universal Transverse Mercator (UTM), North American Datum 1983 (NAD83), Zone 15, coordinate system shall be used and recorded for each site...” The reference to Zone 15 should be amended to read “Zone 15 or Zone 16” because eight counties in southeastern Missouri are located, in whole or in part, in Zone 16.

Section 4.5.6 also identifies a number of informational elements that should be incorporated into the maps accompanying UAAs. Because most of the referenced elements are needed to properly identify the stream segments of concern, and to document natural or man-made features that may affect the interpretation of field data, these elements should be included in essentially all aquatic habitat UAAs. Again, in the absence of sufficient supporting documentation, the EPA cannot approve the removal or downgrading of an aquatic habitat use.

19. In section 4.5.8, the protocol recommends, but does not require, that photographs be taken of all field sites. The EPA believes that photographic documentation is a vital component of any UAA involving field work. Again, in the absence of sufficient supporting documentation, the EPA cannot approve the removal or downgrading of an aquatic habitat use.
20. Section 4.6 reads, in part,

In order to ensure a complete UAA is submitted to the department, the instructions and guidance provided in this document should be followed to the maximum extent possible and the UAA report must contain the following [emphasis added]:

1. *statement of the issue,*
2. *presentation and evaluation of all evidence (including data),*
3. *maps of the water body segment,*
4. *all completed data sheets,*
5. *all photographs,*
6. *any interviews that were conducted.*

According to the above-cited paragraph, maps and possibly other informational elements must be included in any aquatic habitat UAA. This appears to conflict with the wording of section 4.5.6 and, possibly, the wording of sections 4.5.8 and 4.5.9. Please explain.

21. *Data Sheet A*, as shown in Appendix 3 of the draft protocol, contains a box labeled “Segment I.D. (from Use Designation Dataset).” However, the Missouri Use Designation Dataset (version 1.0) does not appear to contain any fields with a “Segment I.D.” header. Please explain.

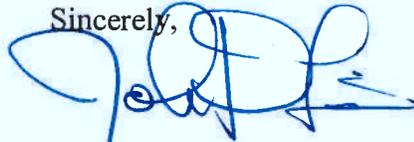
Data Sheet A also contains a box with the instruction “Include a Site Location Map(s)”, which implies that at least one map must be included in every UAA. This does not appear to comport with the wording of section 4.5.6. Please explain.

22. *Data Sheet B*, as shown in Appendix 3, contains a footnote that directs field workers to label all sampling transects in an upstream to downstream order. In contrast, section 4.4.5 states that all sampling sites must be

numbered in a downstream to upstream order. We recommend that all sites and all transects be ordered in the same directional manner to avoid confusion.

Thank you again for this opportunity to provide comments on the state's draft protocol for conducting aquatic habitat UAAs. If you would like to discuss the above comments, please contact me at (913) 551-7821, or Bob Angelo of my staff at (913) 551-7060.

Sincerely,

A handwritten signature in blue ink, appearing to read 'John DeLashmit', with a stylized flourish extending to the right.

John DeLashmit, P.E.
Chief, Water Quality Management Branch



**Metropolitan St. Louis
Sewer District**

2350 Market Street
St. Louis, MO 63103

February 2, 2015

Mr. John Hoke
Water Protection Program
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

***RE: Public Comments for the Draft Missouri Aquatic Habitat Use Attainability Analyses:
Stream Survey and Assessment Protocol***

Dear Mr. Hoke:

The Metropolitan St. Louis Sewer District (MSD) is offering this letter into the public record during the public notice period for the draft "Missouri Aquatic Habitat Use Attainability Analyses (UAA): Stream Survey and Assessment Protocol" proposed by the Missouri Department of Natural Resources (MDNR or Department).

Although we understand the need for issuing aquatic life habitat UAA guidelines, it is not clear to us why the Department is having a formal public notice process for this draft protocol. We believe that the current draft was developed with limited stakeholder input, and we hope the Department is not using the public notice process to limit dialogue on this matter. It is important that the Department consider input that is provided after the expiration date of the public comment period (February 2, 2015).

We support the development of aquatic life habitat UAA procedures but believe that the current protocol should be revised to include provisions for conducting streamlined, common-sense UAAs. The draft protocol appear to suggest a "one-size-fits-all" assessment approach and do little to acknowledge the varying level of effort needed to identify tiers of aquatic life uses present across the state. This is especially true for smaller waters, such as intermittent, ephemeral, and effluent dominated streams, as well as highly modified watercourses. (Highly modified watercourses include concrete or manmade ditches, but may also include urban streams that have been significantly modified by flow, development, and stream bank stabilization necessary to preserve property.) These water features do not and cannot support the same robust aquatic communities that larger, perennial streams support and therefore, should not be subject to the same time or resource-intensive UAA protocol.

As MDNR is aware, stakeholders have long-supported development of streamlined aquatic life UAA protocol for smaller or highly modified stream systems. These common-sense procedures would help avoid costly assessments for evaluating obvious limited or modified use situations, and for correcting waters that were misclassified when 80,000 miles of new intermittent and ephemeral waters were classified during the recent triennial review. *We therefore request that (1) the draft UAA protocol not be finalized until they are revised to include an assessment procedure that is more appropriate for smaller or highly modified waters (as described above), or (2) this protocol acknowledge the suggested level of assessment may be "overkill" for these types of waters, and suggest development of a supplemental protocol for smaller and highly modified waters.* For the smaller and highly modified waters, greater detail to the numeric translators that define the tiered uses should be developed (see comment below), and then protocol developed to evaluate those tiered uses. This link has value beyond the UAA process, such as prioritizing watersheds and projects designed to produce water quality improvement.

In addition to including an assessment procedure appropriate for smaller and highly modified waters, specific items in the current draft must be addressed to improve consistency and clarity of the document. These items are outlined below.

It is not clear if the protocol is guidance or requirements.

The purpose of the document (Page 3, Section 1) specifically states that *“it is not required that these guidelines be followed, and the department will accept for consideration any complete UAA that has been conducted using alternate methods.”* However, throughout the document words such as “must”, “should”, and “will” are used. These prescriptive inferences are not consistent with the statement that “no two circumstances, or streams, may be identical” and that “the intent is to establish a set of guidelines, rather than a prescriptive, one-size-fits-all approach.” The document should be revised to clearly indicate that this protocol is a guideline.

Factor 6 UAA demonstration items should be revised.

We question the list of demonstration items for conducting a Factor 6 UAA found on page 10. It is unclear why there must be a differentiation between privately vs. publicly owned and point vs. nonpoint source. It is also unclear how to interpret what *“far-reaching and serious impacts”* means and are concerned this phrase could be misinterpreted as requiring a level of demonstration that goes beyond what is required in other well-defined protocol for addressing economic and social impacts. Simply referencing other well-defined protocol is sufficient. These references should also include the USEPA affordability memorandum (November 24, 2014) and municipal financial capabilities reports by the US Conference of Mayors, American Water Works Association, and Water Environment Federation (2013), and National Association of Clean Water Agencies (May 2013). Therefore, we recommend removing parts a through c under Factor 6 on Page 10 and adding the most recent affordability guidance documents.

The type of biological data recommended to perform the UAA is unclear.

The document states that, at a minimum, the biological assessment would *“include biological surveys for fish and macroinvertebrates (including mussels) conducted a minimum of one time each”* (Section 3.3, #2; emphasis added). However, later the document says that, *“the actual aquatic life use of a water body is defined by the resident biota and the UAA can be accomplished using any major biological trophic levels”* (Page 13, Section 4.4; emphasis added). These statements are contradictory. We recommend that the protocol be revised to clearly indicate that **“one or more trophic levels”** may be used to adequately describe the condition of the aquatic life in the water body. It should be noted that the Department routinely uses single trophic level surveys to perform biological assessments and make use attainment conclusions. The surveys used to list the water as impaired should be the same as those used to delist the same water. \

The draft UAA protocol should clearly outline limitations of the recommended biological assessment methodologies.

In Sections 4.4.6 and 4.4.7, the document indicates that the referenced macroinvertebrate and fish sampling methodologies are applicable to Headwater, Creek, and Small River classifications. We note that the referenced methodology documents also include biocriteria calculation methods that do not necessarily apply to those same waters (as discussed in Section 4.4.8). To avoid confusion with Section 4.4.8, we suggest that Section 4.4.6 and 4.4.7 be revised to clearly indicate that only the sampling procedures outlined in the methodology documents apply to the aforementioned classifications.

The proposed method by which narrative criteria will be interpreted is subjective and of limited use. Numeric translators are needed.

Section 4.4.9 states that until numeric criteria are developed, fish and macroinvertebrate data will be interpreted by utilizing narrative language in the biological condition gradient developed by USEPA. While we support the concept of a tiered use system along levels of biological condition, we are very concerned that the descriptions used are too nebulous to be interpreted consistently. Furthermore, the gradient does not appear to differentiate between modified, limited, or impaired aquatic life uses as

currently presented. We recommend that the Department work with stakeholders to develop numeric translators for interpreting the narrative criteria. This is necessary for developing a protocol that is appropriate for the situation and use.

Suggested fish community sampling periods are inconsistent with the referenced guidance.

In Section 4.4.2., the document states that fish community data can be collected either between June 1st and September 15th or during periods when early life stages would be expected. This sampling period is inconsistent with the sampling period identified in the recommended Missouri Department of Conservation (MDC) sampling methodology discussed in Section 4.4.7. The MDC methodology only identifies the sampling period as being between June 1st and September 15th, and does not address early life stages. To make appropriate comparisons across streams and to established numeric criteria which are currently only available for some streams in the Ozarks, the sampling periods should be consistent with the methodology. We request that the reference to sampling when early life stages are expected be removed.

The document should clarify how additional habitat characteristic measurements (Section 4.5.2) will be used and should consider including them in a streamlined UAA procedure.

In Section 4.5.2, the document indicates that the Department prefers one of two habitat assessment methodologies, the Stream Habitat Assessment Procedure (SHAPP) and EPA's Environmental Monitoring and Assessment Program (EMAP) procedure. These procedures are well-established and form the basis for many of the past biological assessments conducted in the state. However, in Section 4.5.2 the Department also suggests that alternative channel metrics such as sinuosity, width, depth, etc. can be used. It is not clear if the Department intended to require these alternative metrics be used in addition to or instead of the established procedures. These alternative metrics would likely be very useful in a streamlined UAA procedure intended for small or highly modified streams.

Thank you for the opportunity to review the Draft Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol. We appreciate the Department's consideration of public comments on this matter and look forward to discussing revisions to the draft protocol with you in the future. Please contact Jay Hoskins at (314) 436-8757 or jhoskins@stlmsd.com, if you have any questions or would like to discuss these issues further.

Sincerely,



Susan M. Myers
General Counsel

SMM/lad

cc: Jay Hoskins - MSD

February 2, 2015

Mr. John Hoke
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176

Re: Comments on the draft *Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol*

Dear Mr. Hoke,

The City of Springfield (City) appreciates this opportunity to provide comments on draft *Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol* (UAA protocol). As you are aware, we have submitted extensive information regarding our local stormwater conveyances and streams to outline appropriate water quality protections consistent with Missouri water quality standards regulations. We understand that Department of Natural Resources (Department) staff has not yet fully reviewed this information in light of Missouri regulations to determine applicability of beneficial use presumptions and pathways through use assignment. Therefore, the City cannot make fully informed comments on the UAA protocol and looks forward to continued work with the Department to improve the protocol and make appropriate decisions for local waters. In light of the above, we may have additional comments that are not now appropriate until reviews have been completed, however, we offer the following comments regarding the draft UAA protocol:

UAA complexity and data requirements should be tailored to specific waterbodies and beneficial use decisions.

The City strongly agrees with the Department that “no two circumstances, or streams, may be identical” and that “the intent is to establish a set of guidelines, rather than a prescriptive, one-size-fits-all approach.” However, the draft protocol specifically requires prescriptive data collection requirements (e.g., macroinvertebrate data collection and fish surveys) for any and all UAAs. The City questions the necessity of applying the same set of rigorous protocols to all circumstances. Not all situations call for a Quality Assurance Project Plan, or a biological survey of fish and macroinvertebrates (including mussels), or a thorough biological assessment, or characterizing channel characteristics at 11 transect sites.

There are many cases where a less intensive, more practical analysis may be warranted. By creating a protocol that requires a one size fits all extensive level of analysis for every case, regardless of circumstance, the procedures place a significant, and unnecessary, financial burden on communities that are already struggling to fund their water quality needs. The UAA document should include simplified procedures where appropriate.

The City met with the Department on several occasions over the last year and responded to the Department's request to provide specific examples of stream segments that the City felt warranted a less intensive procedure. Despite numerous commitments from the Department, we have yet to receive a formal response to our specific examples. We will continue to work with the Department to draft procedures that are truly adaptable for Missouri's streams. The City recommends and requests that the portion of the UAA protocol that prescriptively requires minimum data collection, which appears to be extensive, be modified to provide greater flexibility for more simple beneficial uses decisions.

Waterbody exemptions need to be addressed.

Missouri water quality standards at 10 CSR 20-7.031(2)(D)3 provide exceptions to presumptive beneficial uses. The City requests that the Department include language in the UAA protocol clarifying that the UAA factors at 40 CFR 131.10(g) do not apply to the categories of structures set forth in 10 CSR 20-7.031(2)(D)3.

A simplified process is needed for demonstrating ephemeral aquatic habitats

The draft UAA protocols should provide a streamlined procedure for assignment of the ephemeral aquatic habitat (EAH) subcategory, which should be fundamentally different from UAAs for other subcategories (e.g., limited and modified aquatic habitats). The EAH subcategory refers to hydrologic conditions and not stream modifications. This distinction is important because both a pristine reference stream and a highly modified stream can be ephemeral. Therefore, we question the value of collecting biological and habitat data.

In addition, ephemeral conditions preclude using the biological monitoring protocols referenced in the UAA protocols, which require flowing water and sampling from three aquatic habitat types. Although the UAA protocols partially address this situation on page 8 (i.e., ". . . or be able to demonstrate that the ephemeral nature of the stream precludes assessment . . ."), additional clarity is needed. Given the fundamental differences from other subcategories (i.e., modified and limited aquatic habitat), the City requests the Department develop a simplified procedure explicitly for ephemeral waters, which should not include biological or habitat data collection.

Additional flexibilities are needed for modified and limited aquatic habitats.

The City recommends that the UAA procedures take into account the wide range of circumstances that may warrant application of the modified and limited aquatic habitat subcategories. As drafted, the UAA protocols are overly burdensome and unnecessary in some circumstances. An obvious example is the case of concrete-lined stream. The fact that a concrete-lined stream has been modified is readily apparent without a "structured, comprehensive and scientifically-defensible biological assessment."

Additional flexibilities and a simplified process are needed for circumstances where the draft protocols make little sense. For example, Missouri's biological monitoring protocols require sampling within the three predominant habitats (e.g., flowing water over coarse substrate, non-flowing water over depositional substrate, and rootmat substrate). However, all three habitats may not exist in highly modified streams. Absence of habitat type should be used as a simple method to modify a use.

It is unclear how to define the highest attainable use.

The UAA protocols are intended to identify the highest attainable aquatic habitat designated use, but provide little to no guidance for doing so. The Department should clearly specify the relevant criteria or method it will use to determine the appropriate subcategory of aquatic habitat.

The purpose of requiring mussel surveys is unclear.

The City questions the purpose of requiring mussel surveys in the UAA protocols. The Department has characterized the presence of mussels as being ubiquitous throughout Missouri. As such, it is conceivable that mussels could be found in highly modified streams with limited aquatic life. The City requests the Department remove the requirements for mussel surveys as it places an unwarranted financial burden on communities.

It is unclear how to apply the narrative criteria.

Page 16 of the UAA protocols specify that macroinvertebrate and fish communities in streams lacking numeric criteria should be interpreted utilizing narrative criteria based on the biological condition gradient (i.e., Figure 1 on page 17). However, it is unclear which levels in Figure 1 apply to which aquatic habitat use designations. Although the figure includes a dotted line below which modified or limited aquatic life uses apply, it is unclear how to differentiate criteria between the two levels. It is also unclear what criteria apply to ephemeral or headwater streams.

Factor 6 UAA demonstration items should be revised.

The City questions the list of demonstration items for conducting a Factor 6 UAA found on page 10. It is unclear why there must be a differentiation between privately vs. publicly owned and point vs. nonpoint source. It is also unclear how to interpret what "*far-reaching and serious impacts*" means and are concerned this could phrase could be misinterpreted as requiring a level of demonstration that goes beyond what is required in other well-defined protocols for addressing economic and social impacts. Simply referencing other well-defined protocols is sufficient. These references should also include the USEPA affordability memorandum (November 24, 2014) and municipal financial capabilities reports by the US Conference of Mayors, American Water Works Association, and Water Environment Federation (2013), and National Association of Clean Water Agencies (May 2013). Therefore, we recommend removing parts a through c under Factor 6 on Page 10 and adding the most recent affordability guidance documents.

To summarize, the City is concerned that the UAA protocols do not provide the necessary flexibilities to address Missouri's wide range of waterbodies and potential beneficial use decisions, while requiring extensive analysis in every case, regardless of circumstance. Without additional flexibilities, the procedures will be unnecessarily burdensome and inapplicable in some circumstances while placing a significant and unnecessary financial burden on communities already struggling to fund their water quality needs. The City recommends refining the procedures to explicitly address the various categories of aquatic life use designations. We look forward to working with the Department on addressing these issues. If you have questions or comments, please do not hesitate to contact Steve Meyer (471.864.2047) or Errin Kemper (471.864.1910).

Sincerely,



Errin Kemper, P.E. D.WRE
Assistant Director
Department of Environmental Services

Interdisciplinary Environmental Clinic

February 2, 2015

Mr. John Hoke
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176

Dear Mr. Hoke,

On behalf of the Missouri Coalition for the Environment (MCE) the Washington University Interdisciplinary Environmental Clinic is providing comments on the *Draft Missouri Aquatic Habitat Use Attainability Analysis: Stream Survey and Assessment Protocol* (the "Draft Protocol"). MCE is a grassroots environmental organization in St. Louis City that advocates for the protection of rivers, lakes, wetlands, and floodplains throughout Missouri. MCE has been participating in Missouri Department of Natural Resources (DNR) water quality standards workgroups in their various forms and has a long history of participation in issues related to clean water. MCE appreciates the opportunity to provide these comments. We offer the following comments.

The Draft Protocol must clearly state that it is only applicable for the removal or revision of the aquatic habitat designated use and not for the purposes of applying the aquatic habitat designated use.

Federal regulations establish a rebuttable presumption that all jurisdictional waters should be assigned "fishable/swimmable" uses, unless a Use Attainability Analysis ("UAA") – a structured scientific assessment demonstrating that attaining the designated use is infeasible -- has been performed.¹ Further, each state is required to specify the appropriate water uses to be achieved and protected, taking into consideration the particular water body's "use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation."² Missouri accomplishes this through Section 644.011 of the Missouri Revised Statutes which clearly sets forth the state's policy for protecting waters of the state including protection of recreational uses and aquatic life uses:

¹ 40 C.F.R. § 131.10(j)

² 40 C.F.R. § 131.10(a)

“...it is hereby declared to be the public policy of this state to conserve the waters of the state and to protect, maintain, and improve the quality thereof for public water supplies and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses and for the propagation of wildlife, fish and aquatic life;...”

“Waters of the state” are also clearly defined in the statute as “all rivers, streams, lakes, and other bodies of surface and subsurface waters lying within or forming part of the boundaries of the state which are not entirely confined or located completely upon lands owned, leased or otherwise controlled by a single person or by two or more persons jointly or as tenants in common and includes waters of the United States lying within the state.” Thus, Missouri state law clearly identifies that waters of the state should support aquatic habitat use.

A state may remove a designated use which is not an existing use if the state can demonstrate that attaining the designated use is not feasible through a UAA.³ Thus, both state and federal law support the development and use of UAA protocols.

However, the Draft Protocol contains language that could be interpreted to require use of the Draft Protocols for the purpose of assigning the protection of Warm Water Habitat designated use or one of the other aquatic habitat designated uses⁴ to waters of the state or US that are not identified in the Missouri Use Designation Dataset and Table G and H. Section 1 of the Draft Protocol states that

“Information and data obtained using the guidance presented in this document will be used to:

- Comply with federal requirements for the designation of aquatic life uses,
- Assist in identifying waters of the State which support aquatic life uses,”⁵ ...

The presumption that all waters of the US and all waters of the state shall be suitable for fishing and swimming requires nothing more than a determination that the waters fall within those definitions. Anything more stringent would create an unnecessary and illegal impediment to protecting waters that fall under the rebuttable presumption. The Draft Protocol requires resources and expertise that would impose an undue burden upon land owners, citizens and organizations seeking to apply the aquatic habitat designated uses to waters of the state that are duly entitled to this designation and the accompanying water quality standards. MCE requests that the DNR revise the Draft Protocol to clearly state that it is not required for assigning the aquatic habitat designated use for waters of the state or US that are not identified in the Missouri Use Designation Dataset and Table G and H.

³ 40 C.F.R. § 131.10(g)

⁴ In this letter, we use the term aquatic life habitat use to collectively identify the uses defined in the 10 CSR 20-7.031(1)(C)1.A., (1)(C)1.B. and (1)(C)1.C.

⁵ Draft Protocol at 3.

The Draft Protocol should require that UAAs include a comprehensive search of biological and water chemistry assessments for the segment being surveyed.

A UAA will capture the data and conditions present only at the time of the UAA. Section 4.2 of the Draft Protocol requires that pre-assessment plans should review any biological data previously collected. To ensure that all relevant scientific data is used for the assessment, the Draft Protocol should require anyone conducting a UAA to obtain and review all relevant biological and water chemistry data for the segment and watershed under assessment. The UAA should include a review of all available fish, mussel, amphibian, macroinvertebrate and other aquatic and semi-aquatic wildlife surveys and data, whether published or not. Sources for this information should include the MDNR, Missouri Department of Conservation (MDC), US Fish and Wildlife Service (USFWS), and academic institutions.

The Draft Protocol must include a section outlining the UAA review process and the opportunities for public participation.

The Draft Protocol does not explain how DNR's Internal Review Committee will review the UAAs, make recommendations and the process for modifying state water quality standards regulations to incorporate any proposed changes. Appendix 2 of the Draft Protocol includes an abbreviated flow chart which is the only mention of the review process. DNR has clearly defined the UAA review process and the public participation opportunities in the document *Missouri Recreational Use Attainability Analysis: Water Body Survey and Assessment Protocol*.⁶ DNR should use a similar process to review and make recommendations on aquatic habitat UAAs. Opportunities for public input and participation should be clearly identified in the Draft Protocol.

Thank you for the opportunity to provide comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "E. Hubertz", is placed on a light blue rectangular background.

Elizabeth J. Hubertz

⁶ Missouri Recreational Use Attainability Analysis: Water Body Survey and Assessment Protocol, December 19, 2007 at 19.



February 2, 2015

John Hoke
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176

Dear Mr. Hoke:

I submit these comments regarding the draft “Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol” on behalf of the River des Peres Watershed Coalition (RdPWC). The mission of the RdPWC is to improve, protect, and maintain the River des Peres, its tributaries, and its watershed as a vital natural and cultural resource in the St. Louis metropolitan area.

The River des Peres, like urban streams nearly everywhere, has suffered from longstanding neglect and mistreatment. That damage is not irreversible, however, nor is the river’s restoration into a healthy and attractive civic asset not feasible, as increasing numbers of cities in the US and around the world have learned in rehabilitating their urban waters. Key to successful river rehabilitation is the protection and enhancement of water quality, not only for enhancing habitat and supporting an increasingly diverse community of aquatic life but for driving improvements in stormwater management and pollution control in the broader watershed that are then reflected in the hydrology and health of the river system. We were pleased, therefore, that additional segments of the River des Peres system received basic Clean Water Act (CWA) fishable/swimmable protections in last year’s state water quality standards revisions. We look forward to the day when all waters in the River des Peres watershed, and all waters in the state, receive those essential protections.

The state water quality standards revisions unfortunately also included elements we find quite disturbing in their implications for the River des Peres. Chief among these were the creation of three designated “non-use” categories: Ephemeral Aquatic Habitat (EAH), Modified Aquatic Habitat (MAH), and Limited Aquatic Habitat (LAH). Produced at the behest of the regulated community, these categories would enable the assignment of protections less stringent than those supporting the fishable/swimmable goals assumed to apply to all of the nation’s waters. Rather than treating the failure of a water body to meet those goals as an impairment to be rectified, that failure, through use of those categories, would effectively provide the basis for the water’s permanent degradation. Those entities whose pollution caused the impairment would, in reality, be rewarded with a license to continue to pollute. We anticipate that the River des Peres system, several previously classified segments of which are already on the state impaired waters 303(d) list, will be targeted for assignment to one or more of these substandard designated uses. The only protection the river, and those who have worked so hard on its behalf, have from such

efforts is a robust Use Attainability Analysis process that honors the intent of the CWA to maintain full fishable/swimmable uses whenever feasible and to make removal or reduction of those uses a rare, temporary event.

A strong Use Attainability Analysis protocol is necessary to ensure that the requirements for removing or degrading uses are fully met and that the intent of the CWA for protection of all waters is preserved. The protocol should clearly and unambiguously define what a UAA is and is not intended to do and set forth, in detail, the required actions and documentation necessary to show that a designated use cannot be met and can therefore be removed or replaced with a less protective use. This draft protocol, unfortunately, does none of that. While much of the following review will deal with specific concerns (by section number) with this draft, we will first address a few more fundamental issues with the protocol.

An optional protocol?

The draft protocol is not, in fact, a protocol. In the first section, the draft states that it is only “a set of guidelines” and a “framework [offering] factors to consider.” In fact, “it is not required that these guidelines be followed, and the department will accept for consideration any complete UAA [however that might be determined] that has been conducted using alternate methods.” This “not required” language is interspersed throughout the document, often in locations where one might well have expected an actual requirement. (Adding confusion to the document are a few procedures, to be discussed later, that appear to be mandated but may not be so, given the optional nature of the protocol overall.) This elective language stands out when this draft is compared to the first draft of the protocol produced by the Missouri Department of Natural Resources. The first draft, done with the intent of completing the protocol for, and possibly referencing it in, the water quality standards revisions, was released for review on August 30, 2013. While much of the text is largely similar to the current draft, the first draft differs markedly in the lack of “not required” and “alternative methods” language. In fact, it is clear from the use of “must,” “shall,” and “required” in places where the current draft employs “may,” “can,” and “not required” that the first draft was intended to be a protocol to be followed, and indeed, it states as much in several locations. A second draft was produced in time for the November 6, 2013, Clean Water Commission meeting at which the water quality standards revision was adopted. Although it was not referenced in the new rule, in order that it not be subject to review by the Environmental Protection Agency as a standard, it had been substantially modified to reflect the regulated community’s concern for “flexibility” and “site-specific situations.” The language specifying “requirements” was gone; in its place was noncompulsory language essentially identical to that in the current version.

Does it matter whether the protocol stipulates requirements, as did the first draft by DNR staff, or simply offers suggestions, as does the current draft, reflecting the influence of the regulated community? One must suppose that it does, at least to the regulated community, members of which would be the ones producing UAAs in order to remove or degrade uses on streams into which they discharge. The current draft justifies the flexibility sought by the regulated community in stating that “recognizing that no two circumstances, or streams, may be identical, the intent is to establish a set of guidelines, rather than a prescriptive, one-size-fits-all approach.” It is certainly true that no two streams are identical. It is also true that no two people are

identical. Do we then abandon the principle of equal treatment under the law in dealing with individuals as some sort of outmoded “one-size-fits-all approach” and employ different legal standards and processes for different people? Of course we don’t (or shouldn’t), as a matter of fairness and due process. The removal of basic water quality protections from streams is one of the most serious regulatory actions allowed under the Clean Water Act. There are strict requirements specified in federal regulations that, in effect, guarantee equal protection under the law for different waters, all of which are presumed to support fishable/swimmable uses, regardless of their individual characteristics. It is the state’s responsibility to spell out the procedures and documentation that will ensure that these requirements are carried out in full, on all streams subject to a UAA. That can only be done with a clear, detailed, “one-size-fits-all” protocol to which all UAAs are mandated to conform. (As a practical matter, it will be far easier for DNR staff to implement a single protocol than to try to address the variety of approaches, many of which we can assume would try to skirt federal requirements, that they would otherwise encounter.) The current draft currently lacks the clarity and enforceability that would ensure that UAAs comply with the letter and intent of federal regulations and restrict removals and reductions in uses to waters where it can in fact be legally justified. We strongly suggest that the department start over and produce a draft that possesses that clarity and enforceability.

What is a UAA?

One basic area in which clarity is needed in the draft protocol is in the discussion of the purposes and uses of use attainability analyses. The protocol’s “Purpose” suggests that UAAs are a general assessment tool, to identify waters “which support aquatic uses” and waters “which do not support aquatic life uses.” It also indicates that a UAA is done “to identify the highest attainable aquatic habitat designated use and, where applicable, address the removal or revision of such use.” This point is repeated and elaborated upon in section 3.2 (Revision of Designated Uses). Both of these statements are inaccurate and misleading. According to federal regulations,

Use attainability analysis is a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in § 131.10(g). (40 CFR § 131.3(g)).

Note that the UAA addresses the factors that may be preventing the attainment of uses, not the uses themselves, and does not come into play until it is determined that the use is not attained. It is not a general stream assessment tool for the determination and designation of uses. In fact, the only action for which a UAA is required is the removal of fishable/swimmable uses or the adoption of “subcategories of uses...which require less stringent criteria” (§ 131.10(j)). UAAs are expressly not required of the state in order to designate fishable/swimmable uses (§ 131.10(k)). Indeed, it would make no sense to make use of such a stringent process as a UAA for that purpose, since fishable/swimmable uses are presumed for all waters by the Clean Water Act, unless it can be affirmatively demonstrated for a given water that those uses are not existing and not feasible. While it is conceivable that in the course of doing a UAA it could be determined that a higher use is being attained than is currently designated, it is a highly unlikely outcome for a water on which someone is going to the expense of a UAA. In any event, since there is no designated use for a warm water stream higher than “Warm Water Habitat” in Missouri (the Exceptional Aquatic Habitat” use having been dropped from the water quality

standards revisions at the last minute at the insistence of the regulated community), there would currently be no designated use to apply to it.

The first step in conducting a use attainability analysis is not to identify the highest attainable use (a difficult, involved process), as the protocol indicates. The first step is determining whether the use is existing (at any time since 1975) or currently attained at any point in the stream. If either is true, the designated use is attained, and the UAA process comes to an end. Only if neither is the case is there an attempt to determine if the designated use is attainable (not the same as “attainment” or “highest attainable use”; the three are often conflated in the protocol). To clarify what is meant by attainable use:

‘Attainable uses’ are, at a minimum, the uses (based on the State's system of water use classification) that can be achieved 1) when effluent limits under sections 301 (b)(1)(A) and (B) and section 306 of the Act are imposed on point source dischargers and 2) when cost-effective and reasonable best management practices are imposed on nonpoint source dischargers.’ (EPA Water Quality Standards Handbook, Section 2.4)

If the designated uses are projected to be attainable under the above conditions, the lack of current attainment is considered “impairment,” and the water should be placed on the state’s impaired waters 303(d) list for attention to rectify the impairment. Those conducting the UAA and attempting to remove or reduce the designated use must show, by use of one or more of the six factors listed in 40 CFR § 131.10(g), that that use cannot feasibly be attained, by the above conditions, at any time or location in the water body. For those who would seek to reduce the designated use, it is only at this stage in the UAA process, having demonstrated the unattainability of the current designated use, that there is any need to determine the highest attainable use.

Asserting that a use attainability analysis is an assessment tool employed even-handedly to establish whether designated uses are being met or not being met thus mischaracterizes its purpose and use, as does placing the determination of highest attainable use at the forefront of the UAA process. The former serves only the public relations purpose of enabling those pursuing a UAA to claim that they are “just trying to get the use right” on a given stream, rather than having to acknowledge that their sole interest is in removing or downgrading the use on the stream. The fact that they conduct UAAs only on streams that already have the designated use puts the lie to that claim. A more serious consequence of portraying the UAA as a mere assessment tool, with the initial work being the assessment of highest attainable use, is that the substantial burden of proof that the UAA places on those conducting it is effectively pushed back and diminished. By shifting the focus and principal goal of a UAA from proving that the current designated use cannot be met, a very high bar, to the less demanding, more interpretive task of determining the highest attainable use, the UAA process effectively becomes reduced to a choice between the designated use and what is claimed to be the highest attainable use. The fundamental presumption that the designated use can be met until proven otherwise is lost, with the UAA process no longer serving its intended purpose of protecting that presumed use.

We therefore request that the discussion of use attainability analyses be revised in the protocol to accurately reflect its purpose and to foreground the burden of proof it imposes on those

attempting to remove or degrade designated uses. The latter would require that efforts to determine the highest attainable use be pursued only after it has been affirmatively demonstrated that the current designated use cannot be attained.

The remainder of our comments are largely concerned with specific sections of the draft protocol, which will be identified by the section number.

2.2: Federal regulations state that a use attainability analysis must be performed in order “to adopt subcategories of uses specified in 101(a)(2) of the Act which require less stringent criteria.” (CFR 40 § 131.10(j)(2)) Currently, Missouri has no criteria at all, much less “less stringent criteria” specified for the recently established subcategories of Ephemeral Aquatic Habitat, Modified Aquatic Habitat, and Limited Aquatic Habitat. It is unclear to us how the state can allow the adoption of uses for which there are no protective water quality standards in place or, for that matter, how EPA could approve the adoption of such categories. We believe that until criteria for these categories are adopted that have been determined to be protective of existing aquatic life the downgrading of designated fishable/swimmable uses to these categories should not be permitted.

2.3: The definition of Modified Aquatic Habitat states that “habitat and resulting water quality conditions *may prevent* the maintenance of a wide variety or diversity of aquatic biota” (our emphasis). This indicates that the MAH use, which presumably would have less stringent criteria than Warm Water Habitat use, could be used in downgrading a water that still attains WWH use. We do not believe that such a subcategory can be assigned through a UAA to a water that still attains its basic fishable/swimmable use.

3: The last sentence of the opening paragraph incorrectly states that a UAA is conducted “to identify the highest attainable aquatic habitat designated use and, where applicable, address the removal or modification of such use.” 3.2 Revision of Designated Uses expands on this, putting the steps in numerical order. As discussed above, this not an accurate portrayal of the UAA process. Any attempt to determine the highest attainable use would be needed and appropriate only after it was determined that the designated use was unattainable, based on the factors stipulated in 40 CFR § 131.10(g). We request that the statement and listing of steps be modified to reflect proper UAA procedure.

3.3: The first sentence is incorrect (see 3 above). The first step in demonstrating use attainability is to determine existing uses and, if necessary, attained uses. The latter would require a biological assessment, as well as clear criteria determining attainment. The biological assessment presented in this section would only be useful, at present, for documenting the current aquatic assemblage and habitat at sampled locations and times and, were appropriate criteria established, determining currently attained use. It would not be adequate to address attainability or a highest attainable use. It is not clear if the phrase “at a minimum” means that the elements of the biological assessment specified here would constitute a requirement for those conducting UAAs.

3.3.2: We are doubtful that a single sampling per sampling period would be adequate for biological surveys, but it should be stipulated that any sampling should be done at times and at

weather and flow conditions when the likelihood of locating the various forms of aquatic life that might be present is highest. Other forms of life that are dependent on the aquatic system (for life stage development, food, water, etc.) and that form the broader ecological community should also surveyed.

3.3.3: Survey locations should be those that have the highest likelihood of harboring the broadest range of aquatic life, not those that are “most representative.” To make the required determination that the use cannot be attained (or is existing) in the water body, it must be established that the use is not attained anywhere in the water body, not just in representative locations. For that reason, the UAA burden of proof demands that attainment be determined at the most likely times and places for the use to occur.

3.3.6: It is not clear why “least-disturbed reference streams” would be compared to the “subject stream” as part of the biological assessment, nor is there any further discussion about reference streams in Section 4.4 (indicated as the source for additional information). If they are to be compared to determine use attainment in the subject stream, such comparison seems unnecessary. The use standard Warm Water Habitat is “a wide range of warm-water biota,” which must be assumed to exist not only in “least-disturbed reference streams” but those that are more disturbed as well. To judge use attainment in a given stream by comparison with the highest quality streams is clearly inappropriate. In any event, to even understand what is intended by this comparison, much more information needs to be provided.

3.4: The opening sentence incorrectly states that “an explanation or justification for this lack of use attainability must be provided, based on one or more of the following factors.” The six factors do not provide justification for unattainability; they are the means by which unattainability is determined.

3.4(4)(c): A water body would not necessarily (or likely) need to be restored to a “natural condition” in order to allow for the use to be attained. This should be revised to something like “not feasible to restore the water body to a condition that would allow attainment of the use.”

3.4(6)(a): This factor does not apply only to “anthropogenic source(s) of pollution.” It is not clear why a determination of the source should be restricted in this way. It is also unclear why (a) includes a requirement to “differentiate between: Privately vs. publicly owned, and Point vs. nonpoint source.” We see no obvious justification for this and, barring a reasonable rationale, request that this element be rewritten to simply identify the source of unattainment.

3.4(6)(b): We believe this financial analysis is too narrow to fully address the economic costs and benefits of bring the water body to attainment. It should include forms of pollution control that do not have obvious capital or operational costs, such as regulatory measures that may mitigate these other costs. It should also factor in economic benefits to residents and businesses that may accrue from the measures taken (such as the reduction in home buyouts when stormwater controls and regulations are instituted).

3.4(6)(c): Similarly, we believe an assessment of social impacts should address those that may be positive as well as negative.

4: The opening paragraph is considerably weaker than that in the first protocol draft (8/30/13), the latter specifically stating that the aquatic habitat survey procedures are merely guidelines and need not be followed. We request that the paragraph from the original, which identified “the processes by which Aquatic Life Use Attainability Analyses are initiated, conducted, and completed in the State of Missouri” be reinstated.

The sentence beginning the listing that follows the opening paragraph states “All aquatic habitat UAAs must, at a minimum, include the following information,” which is largely locational information. “At a minimum” should be deleted, since it implies that this information may be all that is required for a UAA.

4.1: Again, “not required” language was added to this paragraph concerning the UAA pre-assessment meeting following the first draft. We ask that the original language be reinstated.

We also request that these meetings include not only department staff and those initiating the UAA but other “interested parties” as well. These would include watershed groups, stream teams, and others known to have interest and involvement with the water bodies potentially affected by a removal or reduction of designated uses. We believe this would allow the development of a more robust pre-assessment plan and UAA process overall. Contacting these interested parties and scheduling a meeting at a time when all can attend should be the responsibility of those initiating the UAA.

4.2: Here, too, “not included” language was included regarding UAA pre-assessment plans. We believe these should be required and ask that the paragraph from the original draft be reinstated, along with a second section from the first draft listing guidelines for providing locational data. We also repeat our request that this plan be developed with the input of other interested parties.

4.3: We are happy to see that the Quality Assurance Project Plan is required. We retain some concern, however, given the statements at the outset of the draft protocol (and repeated throughout) that it consists only of guidelines that need not be followed. Is in fact the production of a QAPP a requirement or is there the possibility that at least that some engaged in UAAs will misunderstand this to be not required. We believe this ambiguity would best be removed by making the protocol as a whole a clear and detailed set of requirements for an acceptable UAA process.

We also believe that the development of a QAPP should involve not only department staff and those initiating the UAA but other parties with interests in the water bodies under consideration for UAAs as well (see 4.1 and 4.2 above).

4.4: The opening paragraph on field survey procedures has been substantially weakened since the first draft by changing the elements from required to optional and allowing for less qualified personnel to conduct the assessment. We strongly request that the paragraph from original draft be reinstated in place of this one.

The second paragraph limits the assessment sampling to fish and macroinvertebrates. While these are certainly key groups to address, they are not the only groups that live part of their lives in streams or that depend substantially on the streams for sustenance. We believe that other components of the aquatic community, particularly amphibians, which can be highly sensitive to water quality, should be included in the biological assessment.

Two important paragraphs from this section in the first draft of the protocol do not appear in the current draft. We ask that they be reinstated, since they make clear both the limitations of a biological assessment with respect to a UAA and the complexity of the aquatic system to be addressed. The paragraphs are reproduced below:

"The following sections detail field survey procedures that are recommended to be followed in order to satisfy the data and information requirements needed to assess aquatic life uses per 40 CFR 131.10(g)(1-5). **It should be noted that these field survey procedures are intended as a means to collect the data necessary to conduct a use attainability evaluation. These procedures and the results of these procedures are not intended to serve as the evaluation itself, nor as a means to implement water quality standards.**" (bold in original)

"The complexity of an aquatic ecosystem does not lend itself to simple evaluations; there is no single formula or model that will provide all the answers. Thus, the professional judgment of the evaluator is critical to the interpretation of data which is gathered (USEPA 1983). Questions regarding these procedures and data analyses should be directed to the department's Use Attainability Analysis coordinator."

4.4.1: The field reconnaissance would begin with visits to an unspecified number of locations, "typically bridge crossings" or other "public access points," in order to select three possible sampling locations, only one of which need represent the reach as a whole (and may be the only site sampled). We believe this to be entirely inadequate. Bridge crossings and other public sites would likely be the most altered and damaged locations on the reach, least likely to indicate attainment of the designated use. The burden of proof, however, is on those conducting the UAA to affirmatively demonstrate that the use is unattainable on the entire stream segment. This can only be done by sampling the best biological habitat on the segment. To find that habitat, which is likely well away from bridges and public accesses, those doing the field reconnaissance would need to walk and closely inspect the entire reach, specifically looking both for the best habitat and the most plentiful and diverse aquatic community. We request that this section be rewritten to reflect the need to find the best habitat in order to meet the burden of proof the UAA imposes.

4.4.2: We are concerned with sampling fish communities principally during the low flow months. While they may be more visible during the summer, it is also when they would be most stressed by pollutants (given less dilution), low dissolved oxygen, and high water temperatures. Again, the sampling regime needs to be driven by the need to assess the fish community when it is healthiest in order to meet the UAAs burden of proof.

4.4.3: We agree that assessments should be conducted during normal base flow conditions. It needs to be recognized that base flows vary throughout the year, depending on the water table.

“Normal base flow” has been misconstrued in the past by DNR as being the same as summer low flow conditions. It is not, and we request clarification here for the benefit of those conducting the sampling.

4.4.5: The first draft of the protocol stated that “a UAA segment should be equivalent to the entire water body segment,” while the current draft states that the UAA survey length and location should be “representative” of the entire water body segment. Since the UAA would remove or reduce uses on the entire segment, the survey must address the entire segment. We ask that the sentence from the original draft be reinstated.

The first draft required three survey sites per five miles of stream, with a minimum of two sites for segments less than five miles long, where the current draft reduces these to only recommendations. We believe that three sampling locations should be the minimum for any segment under five miles in length, given the inherent variability of stream habitat and of aquatic community presence (i.e., they move), and we would certainly encourage more than three locations per five miles.

The first draft had an additional section (numbered 4.4.6) concerning data collection on water bodies in urban areas. It made some important points, and we believe that paragraph, reproduced below, should be reinstated in the draft.

“Aquatic life uses of waters are more likely to be impacted in areas where higher population densities exist. An aquatic habitat UAA for a water body in an area of higher population density is the same process as a UAA for a rural water body. However, the collection of data on existing or attainable aquatic life uses in populated areas must be thorough and may need to involve additional data including, but not limited to, multiple biological field surveys, expanded habitat assessments, and additional water chemistry data. A thorough spatial analysis of the watershed using GIS tools may be particularly useful when assessing streams in urban settings.”

4.4.8: It is quite unclear what the purpose or relevance of this section to the UAA process could be. We suggest that it be removed unless significant explication is added to justify its inclusion.

4.4.9: Again, this is a mystifying section, particularly since there are no “streams lacking numeric criteria” that would be likely candidates for a UAA (those previously classified and those added by the recent water quality standards revisions). We make the same suggestion as for section 4.4.8. Similarly, Figure 1 (the Biological Condition Gradient) should be removed unless some relevance for it can be demonstrated.

4.5: The opening paragraph once again presents an entirely incorrect description of the UAA process. First, the biological assessment does not “establish that an aquatic habitat designated use is unattainable.” The most it can do is describe the aquatic community and habitat conditions in a given stream at the times and locations sampled. It does not begin to address attainability. Second, the § 131.10(g) factors do not provide “justification” for removal or reduction of a designated use; they are the basis by which it may be determined that a designated use is unattainable.

The third paragraph states that the protocol will only address § 131.10(g) factors (1) through (5) and that those pursuing factor (6) (economic and social impact) should refer to specified EPA documents. Why then does section 3.4 present the outline of an assessment process for factor (6)? If the protocol will only address factors (1) through (5), we believe, to avoid confusion, that assessment process for (6) in 3.4 should be removed.

4.5.2: It is not clear why this lengthy discussion of habitat assessment, which would only be relevant to § 131.10(g) factor (5) (physical features related to the natural features of the water body), not likely to be appropriate to many UAAs, is presented. Given that it references the department's existing habitat assessment protocol, there seems to be little if any need for this discussion here.

4.5.5: We believe that sub-segmentation of water bodies should be strictly restricted and actively discouraged. The examples given in the first paragraph, where effectively a portion of the stream no longer exists or there are lakes or ponds within streams, are the only instances we can see where it could be justified. In any other case, where the sub-segmented portion would be between or upstream of other portions of the channel, downstream uses would likely be compromised and aquatic life that is supported in other segments could be harmed passing through the sub-segmented portion. We would like to see stronger language discouraging attempts at sub-segmentation in the first paragraph, particularly replacing the first sentence and the last sentence, which is ambiguous regarding instream channel modifications (what additional elements would justify them?).

We request that sub-segmentation, if it is sought, be addressed and approved/disapproved at the pre-assessment meeting. Those pursuing designated use removals should know by that time if they wish to sub-segment. We also reiterate our request under 4.1 above that other parties (watershed groups, stream teams, etc.) with interests in the stream segments under consideration be contacted and allowed to participate in discussions at the pre-assessment meetings on possible sub-segmentation.

4.59: Existing uses (since 1975) are given the strongest protections under the CWA, requiring the maintenance of use designations on waters where they are found. Discovering if there are existing uses is the first, key step in a UAA process. If found, there can be no determination of unattainability, and the UAA process comes to an immediate halt. Thus, it is critical to aggressively pursue information about existing uses through documents, previously collected data, and interviews both to protect any use that is uncovered and to save much time, effort, and expense on ultimately failed UAAs. With that imperative in mind, we believe that the language on in the section on interviews should be strengthened to require efforts early in the UAA process to contact local residents, adjacent landowners, businesses, and government to actively seek information concerning uses that may have occurred on the stream in question since 1975.

To summarize: We believe, on reviewing the draft protocol (and prior drafts) closely, that it is far from ready to be used as a protocol for use attainability analyses for aquatic habitat uses. The weakening of this draft from the original, to the point where it is a mere option, with guidelines that do not have to be followed, shows the heavy influence of the very entities that would attempt to make use of UAAs to remove designated uses on waters into which they discharge. This does

not bode well for the streams or aquatic communities of this state. We encourage the department to return to the spirit, if not always the letter, of its first draft and set out a protocol that is clear and detailed in specifying how a UAA is to be done. We also suggest that the protocol accurately reflect the purpose, procedures, and burden of proof of a use attainability analysis. The protocol will also have to be much clearer about how attainment and attainability is to be determined; neither are shown to any degree in the current draft. There are a number of other points we made with respect to particular sections, but one stands out. In the process of developing a particular UAA—the pre-assessment meeting, the pre-assessment plan, and the production of a Quality Assurance Project Plan—there needs to be more than the department and the UAA initiator involved. Across the state, there are many individuals, stream teams, watershed groups, and others who have demonstrated a strong interest and commitment to improvements in local streams. They need to be included in the UAA planning process from the start to make sure that the procedures are adequate and appropriate to their streams. In the long run, it will save a lot of headaches—and litigation.

At the moment, however, there is a fundamental issue with pursuing UAAs (and developing a protocol) at this time. The state has not developed water quality criteria (pollution standards to protect uses) for the new subcategory uses that were approved in the recent water quality standards revisions. Assigning these uses, by conducting a UAA to reduce the current designate fishable/swimmable uses, without appropriate and protective criteria in place is—well, there is no other word—absurd. There should be no way that EPA, which has to confirm such changes, would approve it. The first task the state should undertake, before they resume work on a UAA protocol, is to define the appropriate criteria for those uses. But given the paucity of monitoring data that would be required to develop valid criteria... Well, that's another matter. In any event, we strongly urge the Department of Natural Resources to wait until such criteria are developed and approved by EPA before producing another draft aquatic habitat use UAA protocol. When the department does, we greatly hope they will take our comments into consideration.

We appreciate the opportunity to submit these comments.

Sincerely,



Dan Sherburne
Board member
River des Peres Watershed Coalition

February 2, 2015

John Hoke
Missouri Department of Natural Resources
Water Protection Program
P.O.Box 176
Jefferson City, MO 65102-0176

Re: draft Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol

Dear Mr. Hoke:

I am writing to express concerns regarding the draft Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol. I appreciate the need for a mechanism to adjust the achievable use for segments of classified stream, but I do have some questions about how the guidelines presented achieve that need. Please consider revising the draft language to address the following four comments:

First, the previous draft of the UAA document set minimum requirements for data collection, but this language has been softened to become guidelines, as shown in the last sentence of Section 1 Purpose which states "However, it is not required that these guidelines be followed,..." I recognize that a one-size-fits-all approach for these types of assessments may not provide the best product, because of the variability in the stream types requires flexibility. However, there should be some minimum requirements, and the language has been softened to the point that it is not clear whether there are any minimum requirements. Sections 3 and 4 offer several sets of "minimum requirements" that seem disingenuous in light of the overall statement that these guidelines do not need to be followed. For example section 4.4 now reads, "Field assessments are **best** conducted by a qualified aquatic biologist, or other person trained in aquatic habitat evaluation, macroinvertebrate sampling or fish sampling." (emphasis added) It seems to me that the only people of making acceptable assessments of aquatic biological communities are qualified persons. Please consider revising the draft language to enforce some degree of minimum requirements to protect the integrity of the data on which reclassification decisions will be made.

Second, biological assessments are tools that can identify whether or not a stream segment is currently attaining the designated use (i.e., supports a normal community of aquatic organisms). These assessments are separate from identifying the cause of the impairment, then making a decision on attainability. The cause of the impairment involves identifying the frequency and concentration of pollutant discharges, and where they are coming from. Then, attainability looks at whether or not controls on these pollutants can be implemented, and how feasible it is to implement the controls. In other words, just because current biological assessment reveals that certain aquatic criteria are not present, doesn't mean they wouldn't be if pollution controls were implemented. This general misapplication of logic seems to pervade the guidelines, most importantly in Sections 3.3, 3.4, and 4.5. Please adjust the language to more distinctly define the tasks of biological assessment, identifying the cause(s) of impairment, and making a decision on the feasibility to attain the designated use.

Third, under part 3.4 (UAA Factors), 4c states that the UAA must "demonstrate that it is not feasible to restore the water body to its natural condition." The restoration of a system to 'its natural condition' would require a definition of what is meant by 'natural'. A reasonable person

may accept the difficulty to "restore" all impacted stream segments to their condition before Europeans settled the area. Shouldn't the assessment really be looking at the feasibility of restoring the water body to a condition that will allow support of the aquatic life use? This is very likely not the same as its 'natural condition'. Please clarify the reference condition.

Finally, there are currently no criteria defined for the "Modified Aquatic Habitat" or "Limited Aquatic Habitat" uses. Let us assume that a UAA results in changing the designated use of a water body to either MAH or LAH. For a future UAA, what are the criteria by which one would evaluate biological assessment and ultimately the feasibility of attaining that use? According to the regulations set forth by the Clean Water Act (40 CFR 131.10(j)), criteria must be established before UAAs can be completed and accepted.

Sincerely,



Eric Karch
7310 Shaftesbury Ave
University City, MO 63130

Hoke, John

From: Mike Garvey <mgarvey@garveyteam.com>
Sent: Monday, February 02, 2015 4:07 PM
To: Hoke, John; Mike Garvey; Charlene Waggoner
Subject: public comment on the DRAFT Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol.

john.hoke@dnr.mo.gov.

Mr. John Hoke

Missouri Department of Natural Resources

Water Protection Program

P.O. Box 176

Jefferson City, MO 65102-0176

Mr. Hoke,

Greenway Network is a grassroots volunteer organization with a mission to conserve natural resources and encourage sound management of watersheds. Greenway Network, Inc. appreciates the ability to make a public comment on the DRAFT Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol.

On Purpose page 3 it states that " it is not required that these guidelines be followed, and the department will accept for consideration any complete UAA that has been conducted using alternate methods. Parties wishing to use alternate methods for conducting UAAs are encouraged to contact the department early in the process. This negates the framework and the guidance principles outlined in the draft and allows a party to have ambiguity and too much leeway for a defensible Use Attainability Analysis. Assessments, macro invertebrate sampling or fish sampling must be conducted by a qualified, objective person.

In Part 3,4 UAA Factors 4c states "it is not feasible to restore the water body to it's NATURAL condition" The word NATURAL should be defined. Perhaps instead you might say "to restore a condition allowing for "aquatic diversity".

There is a disparity between the consideration of the present condition of the biota diversity and an assessment of the potential for attainable future biota diversity. A measure of present biotic diversity does not take into consideration all the variables and the time needed to potentially improve the

degradation of the aquatic habitat. Ecosystems have an amazing ability to repair. As an example, in St. Charles County the biologic diversity of the Dardenne Creek which was poor, it even flowed red during the TNT DNT production, but with source reduction from the Weldon Springs superfund site it has been improved over time. It also improved later as septic fields were connected to treatment plants and with a slow down in the rapid development. A riparian setback, which Greenway Network help design was enforced county wide as biological diversity further improved the health of the stream.

One also can look to the Chesapeake Bay to see dramatic improvements after logical land use changes and source reduction. To adequately address the "attainable potential" requires hydrologic flow analysis and geologic assessments over time.

All surface waters have been degraded by human use. At this time the Missouri River as it flows past our state has higher levels of oil residue from a recent oil line break spill in the headwaters under the Yellowstone River. Widespread and increasing fracking has degraded our groundwater subjecting large portions of America to industrial zoning, restricted water quality and even causing an increase of earth quakes.

To subject a water body to an assessment of "no aquatic habitat use exists" in itself is not defensible as all surface waters have some degree of aquatic biota.

To identify and degrade a water body to its so called "highest attainable aquatic habitat designated use" will dramatically limit the potential improvement in biotic diversity over time as a flood of polluters move to the watershed to easily obtain a discharge permit. To downgrade current uses to a less stringent subcategory will create a laxity in point source identification and reduction and allow for an additional stressors to the health and biologic diversity of the watershed. Mega farms and industry will move readily into the already stressed watershed without any regard to the water quality or concerns about the health of the water body or the watershed downstream.

Thank you for the opportunity to offer Greenway Networks public comment.

Dr. Michael V. Garvey

Board Greenway Network, Inc

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St. Charles, MO. 63304

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Hoke, John

From: Danelle H <danelle.haake@gmail.com>
Sent: Monday, February 02, 2015 4:46 PM
To: Hoke, John
Subject: Comments on the draft Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol

February 2, 2015

Mr. John Hoke
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176

Dear Mr. Hoke,

Please accept the following comments regarding the draft document "Missouri Aquatic Habitat Use Attainability Analyses: Stream Survey and Assessment Protocol."

I am an environmental scientist who once wrote TMDLs for the State of Iowa and who has published peer-reviewed papers on the use of causal analysis (aka. ecological epidemiology) to determine the causes of biological impairments in streams. The language in this draft protocol strikes me as lacking in adherence to the principles of the Clean Water Act and of scientific rigor in several ways, outlined below.

1. In section 2.3 Missouri Clean Water Law and Water Quality Standards (as well as in the standards themselves), the definitions provided for the aquatic habitat designated uses are tremendously vague to the point of being useless. In particular, a strict interpretation of the Modified Aquatic Habitat use could be applied to nearly every body of water in the state. Show me a stream that we have not straightened to make agriculture, home-building, or bridge construction simpler. But I do not believe that it is the intent of the DNR to transition all of our waters to this category. And then tell me what level of diversity of biota must be maintained to attain this use. And then we transition to Limited Aquatic Habitat; how are you defining a community "of poor variety or diversity?" How many species? How many families? Until these uses are properly defined, it is not feasible to assess the attainability of a use that has no recognized benchmarks.
2. Section 3.3 Biological Assessment begins with "The first step in demonstrating use attainability is to identify the highest attainable aquatic habitat use, or lack of attainable use, as appropriate." The section goes on to describe how to perform a biological assessment, implying that the function of the biological assessment is to "identify the highest attainable aquatic use..." In fact, the function of the biological assessment is to determine the current condition of the biological community in the water body. This assessment must then be compared to assessments in reference streams. Even following the comparison of the biological assessment on the segment in question to the reference streams, the protocol will not have identified the highest attainable use, but rather the current attainment or non-attainment of the designated use.
3. Section 3.4 UAA Factors begins, "Once it has been demonstrated through a structured, comprehensive and scientifically-defensible biological assessment that either no aquatic habitat use exists, or a particular aquatic habitat use is not attainable for this water body, an explanation or justification for this lack of use attainability must be provided, based on one or more of the following factors." I very strongly agree that the biological assessment must be structured, comprehensive, and scientifically-defensible; however, no matter how structured, comprehensive, and scientifically-defensible the biological assessment is, it cannot demonstrate that an aquatic habitat use is not attainable, merely that the use is or is not being attained.
4. Under section 3.4 UAA Factors, 4c states that the UAA must "demonstrate that it is not feasible to restore the water body to its natural condition." In reality, the analysis should be looking at the feasibility of restoring the

water body to a condition that will allow support of the currently designated aquatic life use. This is very likely not the same as the 'natural condition' of the water body. The current language sets an inappropriate and impossibly high bar for restoration.

5. Section 4.5 Use Attainability - Habitat Assessment begins by saying "Once the biological assessment portion of the UAA establishes that an aquatic habitat designated use is not attainable and that removal or revision of that use may be appropriate..." Again, biological assessments are tools that can identify whether or not a body of water is currently attaining the designated use; it CANNOT be used to identify whether or not a use is attainable, nor can it establish whether or not the removal or revision of the use is appropriate. Non-attainment is indicative of impairment unless there are other factors that cause the attainment of the designated use to not be feasible as defined by the Clean Water Act.
6. Section 4.4 Biological Assessment – Field Survey Procedures currently reads, "Field assessments are BEST conducted by a qualified aquatic biologist, or other person trained in aquatic habitat evaluation, macroinvertebrate sampling or fish sampling." (emphasis added) This sort of wishy-washy language has no place in a protocol or guidance document. These assessments MUST be conducted by qualified persons!
7. The UAA document needs to lay out a strong set of guidelines that set firm minimum requirements for data collection. The language of the current document is very soft, using verbiage like "could" and "might" when words like "must" and "shall" would be more appropriate. For example, under 4.4.1 Field Reconnaissance, "If a segment is believed to afford exceptional biological habitat, it SHOULD be included as an additional study location even if it is unrepresentative of the water body as a whole." (emphasis added) If the purpose of the UAA is to protect aquatic life use at the level at which it is being attained, then the assessment MUST be conducted at sites that afford the best biological conditions. A second example of this is found in section 4.4.5 Water Body Survey Sites; "For stream segments less than five miles in length, it is strongly recommended that a minimum of two biological samples be collected to complete an assessment. " Based on this language, the "minimum" of two samples is only "recommended," meaning that one (or perhaps even zero) samples might be accepted on segments of five miles or less. This is unacceptable!
8. In section 4.4.1 Field Reconnaissance, the protocol calls for "visual inspection of the targeted stream at multiple locations, typically bridge crossings or other available public access points." These suggested locations for visual inspections are inappropriate. At these locations, streams are often most impacted by conditions that are detrimental to aquatic life, including but not limited to channel straightening, channel scouring, grade and erosion control structures, and illegal dumping of trash and toxic materials. Field reconnaissance should involve walking and photo documenting the entire stream segment in an attempt to identify the highest quality habitat available in the segment.
9. In section 4.4.5 Water Body Survey Sites, the absolute minimum number of sites monitored should be three, regardless of the segment size. Biological communities are notoriously variable in space and time; having one additional site will reduce the potential for erroneously missing a higher quality aquatic measurement by 50%.

These comments speak to the fundamentals of Clean Water Act requirements, language, and protections. There are several major issues with the language being proposed by the DNR and any attempt to pass this off as a completed, approvable document is shameful. We must do better.

Several areas in the protocol refer to the ability of biological assessments to indicate that the use is unattainable; this must be corrected! A truly scientifically-defensible protocol to determine attainability would require:

1. A biological assessment of the water body.
2. Biological assessments of more than one least-disturbed reference water body as described in section 3.3 as a benchmark for comparison (given that numeric criteria do not exist for macroinvertebrates and are only available for fish in certain portions of the state).
3. If the assessment indicates the water body is not meeting the requirements for attainment of the designated use, the cause(s) of this non-attainment (impairment) must be identified. If the cause of the impairment is not identified, it is not possible to determine the feasibility of attaining the use as defined by the Clean Water Act in 131.10(g). To identify the cause(s) of impairment in a scientifically-defensible way, a causal analysis MUST be conducted. EPA has very thorough guidance and excellent tools to assist in the use of this process; they are publicly available at www.epa.gov/caddis/.

4. Once the cause(s) of the impairment are identified, a determination must be made of the degree of improvements necessary to bring the cause(s) into a range that would lead to the attainment of the use.
5. Finally, the information on the degree of improvement required to attain the current designated use must be assessed in the context of the factors outlined in the Clean Water Act in 131.10(g)

Thank you for your consideration and I look forward to seeing a revised draft before this protocol is approved.

Sincerely,
Danelle Haake
910 North Elm Ave.
St. Louis, MO 63119
314-941-0489

Hoke, John

From: Jim Marsteller <jmarsteller@jamesmarsteller.com> on behalf of jim.marsteller@MillcreekMo.org
Sent: Friday, January 30, 2015 2:43 PM
To: Hoke, John
Subject: Missouri Water Quality Standards - Registering a Concern

Hello John,

Thank you for all the good work being done by the DNR. Our watershed coalition received a DNR mini-grant for which we are grateful and put to good use. See www.millcreekmo.org

I'm writing you today on behalf of the Mill Creek Watershed Coalition and it's many hundreds of friends.

I'm taking the opportunity provided by the public comment period to register a serious concern we have about the standards presented to the Clean Water Commission. We are concerned that the language is not tight enough to provide the level of protection that our streams deserve. Of particular concern is the UAA protocol which appears sufficiently lax as to allow significant damage to be done to our streams. We are specifically alarmed by the language protocol associated with Aquatic Habitat Use. As it's currently worded, I believe that it's just too easy to "downgrade" a stream or waterway. It has been brought to my attention that the language has been softened excessively, replacing "must" and "shall" with "could" and "might". Too many teeth have been removed and they need to be put back in. Where I'm sure that there are some instances where there are practical reasons for a downgrade, the current structure and language are way too loose. As a result, it's too dangerous to support in its present form.

I thank you for your consideration of these comments and hope that they will be taken into consideration as you and your team move ahead.

Best regards,

Jim Marsteller



James K Marsteller

President

Mill Creek Watershed Coalition
12942 White Horse Lane
Des Peres, MO 63131
314-378-2056

