



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7

11201 Renner Boulevard

SEP 27 2013

Ms. Sara Parker Pauley
Director
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Dear Ms. Pauley:

On December 1, 2011, the Missouri Department of Natural Resources proposed a number of changes to the state's water quality standards (36 MoReg 2521). A public hearing on the proposed changes was held in Jefferson City on January 4, 2012, and written comments on the proposed changes were accepted by the MDNR through January 18, 2012. The Missouri Clean Water Commission adopted six new or revised WQS provisions on March 9, 2012, but the final rule, published on May 31, 2012, included only five new or revised provisions. These included (1) an amended compliance schedule authorizing provision at 10 CSR 20-7.031(10), (2) new site-specific dissolved oxygen criteria for the protection of aquatic life in Table K, (3) new and revised phenol criteria for the protection of aquatic life in Table A, (4) new and revised sulfate and chloride criteria for the protection of aquatic life in Table A and (5) stream use designation changes for whole body contact recreation and secondary contact recreation in Table H.

The revised WQS were submitted to the U.S. Environmental Protection Agency under a cover letter dated December 10, 2012.¹ The EPA has acted upon the following parts of this submission, to date:

- On January 25, 2013, the EPA partially approved and partially disapproved the amended compliance schedule authorizing provision.
- On May 10, 2013, the EPA disapproved the new site-specific dissolved oxygen criteria.

Today's action addresses use designation changes applied to 143 classified stream segments in Table H of the Missouri WQS. This action does not address the 28.3-mile portion of the Mississippi River designated by the state for secondary contact recreation but not primary contact recreation. The EPA will continue to review the Mississippi River's recreational use designation and will act on this and other components of the WQS at a later date.

¹Some supporting electronic files were inadvertently omitted from the original WQS submission package, but these files were subsequently forwarded by the MDNR and arrived at the EPA regional office in Lenexa on January 30, 2013.



SUMMARY OF REVISIONS TO TABLE H

Missouri's WQS rule at 10 CSR 20-7.031(1)(C) recognizes three recreational use categories: whole body contact – category A (WBC-A); whole body contact – category B (WBC-B); and secondary contact (SCR).² The state's December 11, 2012, WQS submission adopted new or revised recreational uses for 143 classified stream segments, as follows:

- Seventeen segments previously designated for WBC-B were upgraded to WBC-A, and SCR was designated as an additional use for 14 of these segments.
- Sixteen segments previously lacking a WBC use were designated for WBC-B, and SCR was designated as an additional use for seven of these segments.
- WBC-B was removed from 92 segments, and SCR was designated as the sole recreational use for each of these segments.
- Seventeen segments previously lacking a recreational use were designated for SCR but not WBC.
- SCR was designated as an additional use for one segment previously designated for WBC-B.

SUBMITTED DOCUMENTATION

The December 11, 2012, WQS submission included use attainability analyses for all but eight of the 143 classified stream segments.³ Stream photographs, site maps, water depth measurements/summary statistics, MDNR's summary findings and recommendations, and other pertinent materials accompanied each UAA. Most UAAs were conducted during the 2007 or 2008 recreational seasons and followed procedures set forth in the MDNR report, *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol* (December 19, 2007), hereafter referred to as the Protocol. The stated purpose of the Protocol is to provide "guidance for any party interested in conducting investigations to provide scientifically defensible information on existing and attainable recreational uses of the classified waters of the State." The Protocol identifies pre-assessment and field procedures applied when preparing for and conducting a recreational UAA. It is intended to assist in determining whether "natural, ephemeral, intermittent or low flow conditions, as per 40 CFR 131.10(g)(2)...prevent the attainment of recreational uses."

Under the Protocol, WBC is deemed an attainable use if a surveyed stream segment has a maximum recorded depth of at least 1.0 meter or a median depth of at least 0.5 meter. SCR is considered attainable

²These recreational use categories are associated with the following water quality criteria for *Escherichia coli*: 126 counts per 100 milliliters for WBC-A; 206 counts per 100 mL for WBC-B; 1134 counts per 100 mL for SCR. Pursuant to 10 CSR 20-7.031(4)(C), the *E. coli* criteria are applied as seasonal (April 1 - October 31) geometric mean concentrations.

³UAAs were not submitted for the following stream segments: Burton Branch (WBID 1572), Dry Hollow (WBID 3163), Keifer Creek (WBID 3592), Main Ditch (WBID 3115), Mattese Creek (WBID U3596-01), Rising Creek (WBID 0828), Tributary to South Moreau Creek (WBID 0992) and Wolf Hole Lateral (WBID 3136).

if the segment has a maximum recorded depth of at least 0.5 meter. The Protocol emphasizes that (1) UAAs should be conducted during the defined recreational season (April 1–October 31) under conditions of normal base stream flow and (2) UAAs must incorporate a minimum of three evenly-spaced survey sites, the length of which must be 20 times the average width of the segment or a minimum of 150 meters, or a maximum of 300 meters. The Protocol also establishes procedures for measuring and recording water depth at each survey site. Irrespective of water depth, WBC is considered an existing use under the Protocol if “the photographic record, interviews, or other evidence of use provide sufficient reliable evidence that whole-body contact recreation has occurred on the water body on or after November 28, 1975.”

In addition to the UAAs performed in 2007 and 2008 under the Protocol, several other UAAs, conducted in 2005 and 2006 under an earlier procedure, were included in the December 11, 2012, WQS submission. These earlier UAAs supplemented the 2007 and 2008 UAAs by (1) providing data on maximum recorded water depth that could be compared to the previously mentioned 0.5- and 1.0-meter thresholds, (2) documenting observed instances or other physical evidence of recreational use and (3) providing other forms of information useful in the assessment of WBC and SCR attainability (e.g., MDNR field staff comments).

REVIEW OF SUBMITTED DOCUMENTATION

Section 101(a)(2) of the CWA establishes an interim water quality goal that provides for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water, where such uses are attainable. Section 303(c)(2)(A) requires that WQS “protect the public health and welfare, enhance the quality of water, and serve the purposes of [the CWA].” The EPA’s WQS regulation interprets and implements these provisions by requiring WQS to protect the uses specified in Section 101(a)(2) of the CWA unless these uses have been demonstrated to be unattainable, effectively creating a rebuttable presumption of attainability (40 CFR §§ 131.2; 131.5(a)(4); 131.6(a) and (f); 131.10(g), (j) and (k)).

If a state wishes to remove a section 101(a)(2) use (e.g., WBC) that is not an existing use, or to adopt a use subcategory that requires less stringent criteria than previously applicable (e.g., SCR), it must demonstrate, through a UAA, that the section 101(a)(2) use is unattainable (40 CFR §§ 131.10(j)(2)). Federal regulations at 40 CFR § 131.3(g) define a UAA as 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 40 CFR § 131.10(g).” A state must provide the information needed to determine whether a section 101(a)(2) use is unattainable and to justify the application of any use subcategory affording a lesser degree of water quality protection. In other words, the administrative record must contain an adequate scientific and technical rationale for changing the use designation (40 CFR §§ 131.5(a)(4) and 131.6(f)). In demonstrating that the attainment of a section 101(a)(2) use is not feasible, a state must cite and satisfy at least one of the six regulatory factors described at 40 CFR § 131.10(g).

The EPA evaluated the new and revised recreational use designations included in Table H of the Missouri WQS by reviewing the submitted UAAs to ensure they were based on appropriate technical and scientific data and analyses and consistent with the CWA and implementing regulations found at 40 CFR Part 131. Supplemental materials provided in the WQS submission and other available informational materials (e.g., topographic maps; aerial images; information on local and regional

weather conditions prevailing during the UAAs) also were considered by the EPA. The removal of a WBC designation, or the assignment of SCR in the absence of a WBC designation, was approved by the EPA in instances where (1) WBC was shown to be unattainable because water depth was insufficient to support this use and no other available information (e.g., public comments; data from earlier studies; aerial photographs) indicated that WBC was an existing or attainable use and (2) the removal of WBC and/or assignment of SCR was otherwise consistent with the CWA and federal regulations at 40 CFR §§ 131.2, 131.5, 131.6 and 131.10.

TODAY'S DECISION

As Director of the Water, Wetlands and Pesticides Division, I am charged with the responsibility of reviewing and approving or disapproving new and revised WQS under Section 303(c) of the CWA. With this letter, the EPA is partially approving and partially disapproving new and revised recreational use designations for 143 classified stream segments listed in Table H of the Missouri WQS. The EPA's rationale for these actions is described on a segment-by-segment basis in Enclosures A and B.

In summary, the EPA is approving:

- Use designation upgrades from WBC-B to WBC-A for 17 segments and the assignment of SCR to 14 of these segments;
- The assignment of WBC-B to 16 segments previously lacking a WBC designation and the assignment of SCR to seven of these segments;
- The removal of WBC-B and assignment of SCR in 57 instances where new data and analyses submitted by the state demonstrate that WBC is not an attainable use;
- The assignment of SCR in 11 instances where the state previously did not designate a recreational use and where new data and analyses demonstrate that WBC is not an attainable use;
- The assignment of SCR to one additional segment already designated for WBC-B.

Where the state has adopted both WBC-A and SCR, the EPA is approving the SCR designation only because the affected waters will be protected for primary contact recreation. Similarly, where the state has adopted both WBC-B and SCR together for the first time or added SCR to an existing WBC-B designation, the EPA is approving SCR only because the affected waters will be protected for primary contact recreation. The EPA notes that, for stream segments with a dual designation (SCR and either WBC-A or WBC-B), WBC represents the applicable designation for CWA purposes, including all permitting and section 303(d)-related purposes. In the future, if the state wishes to remove the WBC-A or WBC-B designation and retain the SCR use, it must demonstrate that WBC is not an existing use, and it must show, through a UAA, that WBC is unattainable (40 CFR §§ 131.10(j)(2) and 131.10(g)).

The EPA is disapproving:

- The removal of WBC-B and assignment of SCR in 35 instances where (1) no UAA was submitted to the EPA justifying the lack of a WBC designation, (2) the submitted data and analyses were not technically and scientifically defensible as required by 40 CFR § 131.5(a)(4),

or (3) sources of information other than the UAA (e.g., public comments; previous studies; drought maps; aerial images) contradicted or cast uncertainty on the state's findings;

- The assignment of SCR to six stream segments previously lacking a recreational use designation, where (1) no UAA was submitted to the EPA justifying the lack of a WBC designation, (2) the submitted data and analyses were not technically and scientifically defensible as required by 40 CFR § 131.5(a)(4), or (3) sources of information other than the UAA contradicted or cast uncertainty on the state's findings.

As stated previously, WQS must be protective of section 101(a)(2) uses unless these uses have been demonstrated to be unattainable, effectively creating a rebuttable presumption of attainability. Where removal of a WBC designation has not been approved by the EPA, this designation remains in effect for CWA purposes (40 CFR § 131.21). Where a stream segment has not been designated for WBC and the state has not demonstrated that this use is unattainable, WBC is presumed to be attainable and the EPA expects the state to designate the segment for WBC unless and until an adequate UAA is completed and the use change is approved by the EPA. Furthermore, if Missouri receives information for a water body indicating that a use specified in Section 101(a)(2) of the CWA is attainable, federal regulations at 40 CFR § 131.20(a) require the state to revise its standards accordingly.

The EPA appreciates Missouri's continuing efforts to protect and restore water quality and its overall commitment to the triennial WQS review and revision process. We commend the state for actively soliciting public comments on the recreational uses of its surface waters and for factoring such comments into use designation decisions. We would encourage Missouri to correct any identified deficiencies in the UAA reports discussed in this letter, to consider any new comments or other evidence bearing on the recreational potential of the state's classified streams, and to revise Table H accordingly, taking care to include the corrected UAA reports and other forms of evidence in the state's next WQS submission.

The EPA looks forward to working with the MDNR, the Commission and interested stakeholders on future WQS revisions. Should you have any questions or comments regarding today's action, please contact John DeLashmit, Chief, Water Quality Management Branch, at (913) 551-7821.

Sincerely,



Karen Flournoy
Director

Water, Wetlands and Pesticides Division

cc: John Madras, MDNR

Corey Buffo, EPA HQ

Enclosures

Enclosure A

Approved Revisions to Table H of Missouri Water Quality Standards

Segments designated for WBC-A

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Approval Rationale</u>
3826	Deer Creek	St. Louis ¹	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
3592	Keifer Creek	St. Louis	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
0352	Little Platte River	Clinton	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)

Segments designated for WBC-A and SCR

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Approval Rationale</u>
2049	Bourbeuse River	Phelps	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
0610	East Fork Locust Creek	Sullivan	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1008	Hinkson Creek	Boone	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1205	Little Tebo Creek	Benton	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
0704	Logan Creek	Callaway	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
3262	Middle Indian Creek	Newton	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1023	Perche Creek	Boone	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1034	Rock Creek	Cole	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1715	Rock Creek	Jefferson	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
3746	South Dry Sac River	Greene	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)

¹Listed as "St. Louis City" in Table H

1738	South Fork Ilse Du Bois Creek	Ste. Genevieve	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1850	Stater Creek	Crawford	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
2124	West Branch Mill Creek	Washington	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
2591	West Fork Spring River	Howell	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)

Segments designated for WBC-B

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Approval Rationale</u>
3627	Burkhart Branch	Texas	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1572	Burton Branch	Texas	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
0292	Clear Creek	Nodaway	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1733	Hocum Hollow	Jefferson	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
3731	Little Cedar Creek	Boone	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
3769	Muddy Creek	Linn	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
0828	Rising Creek	Cole	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
0983	Roark Branch	Cole	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
3620	Sand Hollow	Texas	Designation consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)

Segments designated for WBC-B and SCR

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Approval Rationale</u>
0187	Coon Creek	Montgomery	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
3559	Cox Branch	Phelps	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
1060	Dog Creek	Miller	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
2171	Koen Creek	St. Francois	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)

1277	Little Deer Creek	Bates	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
2405	Tributary to Rockhouse Creek	Barry	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)
0613	West Fork Locust Creek	Sullivan	Designations consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)

Segments downgraded from WBC-B to SCR

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Approval Rationale</u>
1366	Barren Creek	Polk	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2103	Bates Creek	Washington	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
0995	Brush Creek	Miller	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3500	Brushy Creek	Pettis	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
0390	Clear Creek	Clay	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2358	Davis Branch	Webster	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.

3097	Ditch #6	New Madrid	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3789	Doolittle Creek	Wright ²	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2164	Dry Creek	Washington	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3227	Elm Spring Branch	Newton	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2166	Eaton Branch	St. Francois	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3621	Emery Hollow	Texas	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2435	Emory Creek	Taney	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3427	Fassnight Creek	Greene	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.

²Listed as "Texas" in Table H

0289	Florida Creek	Nodaway	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1729	Flucom Branch	Jefferson	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1726	Haverstick Creek	Jefferson	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2182	Heads Creek	Jefferson	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3632	Huldy Hollow	Texas	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1178	Jones Creek	Dallas	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
0384	Keeney Creek	Ray	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3691	Ketchum Hollow	Barry	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.

0263	Kimsey Creek	Holt	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1131	Laurie Hollow	Camden	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
0041	Linn Creek	Clark	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3338	Little Creek	Franklin	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1120	Little Deer Creek	Benton	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3690	Little Horseshoe Creek	Jackson	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
0013	Little Noix Creek	Pike	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1201	Macks Creek	Camden	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2787	McKenzie Creek	Wayne	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received

			no public comments pointing to the historical or current use of this segment for primary contact recreation.
3443	Owl Creek	Lafayette	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1404	Pickeral Creek	Greene	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2712	Pike Creek	Carter	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2614	Piney Creek	Oregon	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1360	Polecat Creek	Cedar	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2174	Salem Creek	St. Francois	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1789	Sandy Creek	Perry	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
0172	Shady Creek	Pike	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.

2170	Shaw Branch	St. Francois	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1133	Spencer Creek	Camden	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2402	Sugarcamp Hollow	Barry	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
0585	Tombstone Creek	Harrison	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2116	Tributary to Big River	Washington	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3432	Tributary to Clear Fork	Johnson	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
0254	Tributary to Davis Creek	Holt	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3663	Tributary to Indian Creek	Washington	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1695	Tributary to Labadie Creek	Franklin	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received

			no public comments pointing to the historical or current use of this segment for primary contact recreation.
3499	Tributary to Muddy Creek	Pettis	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3300	Tributary to South Flat Creek	Benton	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3319	Trib. to South Fork Weaubleau Creek	Hickory	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1784	Trib. to Tributary to Bois Brule Ditch	Perry	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2443	Turkey Creek	Taney	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1788	Tyler Branch	Perry	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3284	Vance Branch	Benton	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2785	Williams Creek	Wayne	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.

3077	Wolf Creek	Stoddard	Submitted UAA deemed technically and scientifically defensible; removal of WBC-B based primarily on finding of insufficient stream depth (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
------	------------	----------	--

Segments previously lacking a recreational use but now designated for SCR

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Approval Rationale</u>
3614	Camp Branch	Texas	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2816	Craven Ditch	Butler	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3213	Dry Valley Branch	Newton	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1590	Johnson Branch	Texas	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1437	Lindley Creek	Dallas	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3611	Mayhan Branch	Texas	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1600	Mooney Branch	Pulaski	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.

2415	Natural Bridge Hollow	Barry	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
2817	Pike Slough	Butler	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
3361	Tributary to Red Oak Creek	Gasconade	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.
1001	Tributary to Moreau River	Cole	Submitted UAA deemed technically and scientifically defensible; assignment of SCR as highest attainable use based primarily on finding of insufficient stream depth for WBC (40 CFR § 131.10(g)(2)); MDNR received no public comments pointing to the historical or current use of this segment for primary contact recreation.

Segments newly designated for SCR but retaining the WBC-B use

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Approval Rationale</u>
U3596-01	Mattese Creek	St. Louis	Retention of WBC-B and assignment of SCR consistent with CWA Sections 101(a)(2) and 303(c)(2)(A)

Enclosure B

Disapproved Revisions to Table H of Missouri Water Quality Standards

Segments downgraded from WBC-B to SCR

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Disapproval Rationale</u>
2436	Bee Creek	Taney	UAA report incorrectly characterized the maximum depth of this segment as less than 1.0 m. Data Sheet C indicated that depth exceeded 1.0 m along the stream's left bank at site 3 (transect 11). Report noted that the segment is impounded where it flows through a golf course, creating two "large ponds." The MDNR's UAA review committee reasoned that, because these ponds are man-made and on private property, "they would not give WBCR use." However, these ponds appear to be waters of the U.S. and are subject, therefore, to the rebuttable presumption of fishable/swimmable use. In populated settings, the Protocol (page 15) stresses the need for an expanded survey effort and the importance of conducting interviews with local residents. However, no expanded survey and no interviews with local residents were conducted during or after the UAA, despite the large number of homes directly abutting Bee Creek. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
0220	Belleau Creek	St. Charles	UAA report overlooked at least three large pools, located between sites 1 and 2 and downstream of site 3. A house abutted one of these pools, indicating a heightened potential for WBC. The Protocol (page 13) requires that, during the pre-assessment phase of a UAA, "sites that are possible or likely locations for recreational uses must...be identified" and "shall also be included in the survey if possible." The UAA for Belleau Creek did not meet these expectations. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
1762	Bloom Creek	Ste. Genevieve	A 2008 UAA documented a maximum water depth of 0.75 m (2.4 ft). However, a 2005 UAA performed under normal to abnormally dry weather conditions noted depths of "> 3 ft" at two survey locations, corresponding to points just upstream of 2008 site 1 and just downstream of 2008 site 3. These findings imply that pools deeper than 1.0 m do occur in the segment under normal base flow conditions. Survey sites in 2008 were confined to the segment's lower half. No explanation was provided for the irregular placement of survey sites, contrary to the requirements of the Protocol (page 13). Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate

scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

0033	Brushy Fork	Lincoln	Drought conditions and improperly positioned field sites during the UAA precluded a meaningful assessment of WBC attainability. Universal Transverse Mercator (easting and northing) site coordinates presented on Data Sheet B are erroneous (seemingly reversed). The township given in Data Sheet A is incorrect: it should be T49N rather than T40N. Quality assurance in this UAA appears to be lacking. The Missouri Department of Conservation reported that children use this segment for “wading, splashing around, sitting in waist deep water, etc.” Accordingly, there appears to be a clear potential for total bodily immersion. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
3449	Cedar Creek	Maries	Drought conditions during the UAA precluded a meaningful assessment of WBC attainability. Water as deep as 0.85 m was encountered during the UAA, suggesting that pools deeper than 1.0 m may occur in this segment under normal base flow conditions. UTM (easting and northing) site coordinates given in the UAA report are reversed. The report also contains signature errors (wrong or missing signatures) and does not identify the segment’s hydrologic unit code. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
0940	Dry Creek	Saline	UAA survey sites were confined to the upper half of this segment, precluding a meaningful assessment of WBC attainability. No explanation was provided for the irregular positioning of survey sites, contrary to the requirements of the Protocol (page 13). Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
0953	Dry Fork	Moniteau	UAA survey sites were confined to the lower half of this segment, precluding a meaningful assessment of WBC attainability. No explanation was provided for the irregular positioning of survey sites, contrary to the requirements of the Protocol (page 13). Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
1717	Glaize Creek	Jefferson	No interviews were conducted during the UAA, even though numerous homes abut or closely approach this segment. The Protocol stresses the need for an expanded survey effort in urban settings such as this, but the UAA did not meet this expectation. Children potentially recreate in this segment on a frequent basis, and the segment’s comparatively deep pools (> 0.8 m) may accommodate total bodily immersion. Overall, the submitted UAA

and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

2153	Goose Creek	Washington	Use designation changes recommended by the Committee were applied to the wrong segment (WBID 2010, located in Washington County near Northcut). With respect to WBID 2153, the UAA report documented nearby rural residential housing but overlooked (1) an urban area in the upper portion of this segment (i.e., the City of Caledonia), (2) several bridges and nearby roads and (3) an eight-acre pond near the middle of the segment, replete with multiple boat, fishing and/or swimming docks. Survey sites were not equally spaced within the segment. No explanation for the irregular spacing of sites was given in the UAA report, contrary to the requirements of the Protocol (page 13). Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
2212	Horrel Creek	Cape Girardeau	UAA did not acknowledge the presence of roads and rural residential housing near this segment. Drought conditions and poorly positioned survey sites (all confined to the middle portion of the segment) precluded a meaningful assessment of WBC attainability. UAA report indicates that sites were located where permission was obtained to access the segment. The report does not clarify whether permission to access the upstream reach was denied, only that this reach was not located near any road crossing, making stream access "difficult." The quality of a UAA should not be determined solely by the presence or absence of convenient bridge crossings. Moreover, the Protocol states that "Any survey gaps within a stream segment should be filled in with interviews, by gaining access through owner permission, and/or through some other method of assessing the stream (e.g., topographic maps, aerial photos)" (page 13). These factors were not considered during the UAA. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
1855	Lick Creek	Crawford	UAA for this segment was conducted in August 2008 and repeated in December 2008. The segment was completely dry in December but did contain water in August, including a large (19 X 6 m) pool feature with a stated maximum depth of 0.80 m and a stated median depth of 0.51 m. The downstream site in the August UAA also contained a plunge pool deeper than 1.0 m, but because this site was inadvertently positioned just outside the targeted segment, the committee did not consider the plunge pool data, and the UAA as a whole seemingly was disqualified because it did not incorporate the required minimum number of sites. The December UAA was conducted outside the identified recreational season. The Protocol requires surveys to be performed during the recreational season, unless "sufficient evidence exists to confidently determine an existing and/or attainable recreational use" (page 12). No such evidence was submitted to the EPA in association with the December UAA. Overall, the submitted UAA and accompanying informational materials for this

segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

1057	Little Bear Creek	Miller	Segment presented in WQS (1.2 mi) does not match the 1.9-mile UAA segment. If the segment length given in the WQS is correct (and the shapefile from the MO WBID database indicates this is indeed the case), then only survey site 3 (and just a portion of this site) lies within the correct segment. The spatial representativeness of this UAA is uncertain, precluding a confident assessment of WBC attainability. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
2063	Little Bourbeuse River	Crawford	A UAA conducted in 2005 documented two pools in this segment with maximum depths equaling or exceeding 1.0 m, despite prevailing drought conditions. The segment was predominately dry during another UAA, performed in 2007 under drought conditions. All three sites in the 2007 UAA were confined to the middle portion of the segment. Drought conditions and improperly positioned field sites during the 2007 UAA precluded a meaningful assessment of WBC attainability, whereas the 2005 UAA indicated that the segment meets the state's 1.0-m maximum depth threshold for WBC. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
1721	Little Creek	Jefferson	Houses lie within 50 m (and backyards within 15 m) of this stream segment, implying that it may be used recreationally by children. The Protocol states that "the search for evidence on existing and/or attainable recreational uses in populated areas must be thorough and may need to involve an expanded effort, including, but not limited to, multiple field surveys, several interviews with area residents, and an extensive collection of water quality data" (page 15). The UAA for Little Creek did not meet this expectation. Additionally, the lower third of WBID 1721 was not included in the UAA. No explanation was provided for the irregular positioning of survey sites, contrary to requirements of the Protocol (page 13). UTM (easting and northing) coordinates given in the UAA report are incorrect (seemingly reversed), and the report provides no estimate of antecedent rainfall (rainfall occurring 0-10 days prior to the UAA). Moreover, the UAA was conducted during a period of abnormally dry/moderate drought conditions. Collectively, dry weather conditions, poorly positioned survey sites and a limited survey precluded a meaningful assessment of the segment's recreational potential. The submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
3115	Main Ditch	Dunklin	No UAA for this segment was submitted to the EPA.

0742	Manacle Creek	Callaway	This segment flows through a former coal mining area that has undergone some degree of reclamation. The UAA overlooked a very large and prominent pool (possible strip pit) between sites 1 and 2. This pool, and nearby roads and rural residences, indicate some potential for WBC. Survey sites were not evenly spaced within the segment and seemingly were selected based on ease of access (availability of county road bridges). UAA report provided no explanation for the irregular positioning of survey sites, contrary to requirements of the Protocol (page 13). Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
1725	McMullen Branch	Jefferson	This segment is paralleled for much of its length by Mt. Olive Road. An unimproved road also crosses the stream at site 1. Rural residential housing closely approaches the stream at site 2, and, as noted in the committee report, some backyards have "clear access to [this] stream" (a photograph taken at site 2 shows a resident sitting on his porch, but this individual was not interviewed by the survey team). A concrete structure, resembling a low-water crossing with culvert, was photographed at site 2. Aerial images reveal a small housing development (15-16 houses) about 200 m southeast of site 1. Given that rural residences closely approach the creek, and that a small housing development is located only 200 m away, some attempt should have been made to interview local residents. Easting and northing site coordinates given in the report are incorrect (seemingly reversed). Site 3 was truncated at transect 8, where the next downstream segment was encountered (the survey team apparently miscalculated the proximity of the confluence and chose not to compensate for this error by adding three transects to the upstream end of the site). The site measured approximately 118 m in length, which did not meet the Protocol's minimum length requirement (150 m; see page 14). Prevailing drought conditions during the UAA likewise precluded a meaningful assessment of the stream's recreational potential. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
1735	Muddy Creek	Jefferson	Topographic maps indicate this segment may correspond to Saline Creek rather than Muddy Creek. In any event, site 1 is located outside the targeted segment, leaving only two sites for assessment purposes. This number of sites does not comply with the minimum requirements of the Protocol (page 13). Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
2873	Musco Creek	Madison	A 2005 UAA involved only one survey site, which later was determined to lie upstream of the targeted segment. Another UAA was initiated in September 2008 but was not completed, seemingly because deep water prevented the measurement of stream width/depth at site 3 (the lower portion of which overlapped the next downstream classified

segment). Another UAA was performed in December 2008. However, the Protocol requires all field survey work to be performed during the recreational season, unless "sufficient evidence exists to confidently determine an existing and/or attainable recreational use" (page 12). No such evidence was presented as part of the UAA. Also, all sites in the December UAA were located in the upper half of the targeted segment (i.e., well upstream of the deep water discovered in September) with no accompanying explanation. This is contrary to the requirements of the Protocol (page 13). WBID 2873 flows through a Boy Scout campground, signaling the need for caution in the identification of the segment's highest attainable recreational use. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

1780	Nations Creek	Perry	Drought conditions and improperly positioned field sites during the 2007 UAA precluded a meaningful assessment of WBC attainability. An earlier (2005) UAA documented a water depth of 95 cm in one pool, despite prevailing drought conditions. A letter sent to the MDNR by a former area resident indicated that this stream is used for "wading, fishing, and swimming." Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
0887	Otter Creek	Cooper	UAA report for this segment failed to address a large (approximately 0.25-acre) pool located between sites 2 and 3. This pool may have been formed by the small (1.0-m high) dam mentioned in the report. The pool's depth and recreational potential need to be investigated before a change in recreational use can be approved by the EPA.
0741	Owl Creek	Callaway	Drought conditions during a 2007 UAA precluded a meaningful assessment of the WBC use. During an earlier (2005) UAA, one of the survey sites exhibited a maximum depth of 3.3 ft (1.0 m), implying that pools of this depth do occur in the segment under normal base flow conditions. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
1127	Rainy Creek	Camden	A 2005 UAA documented nearby roads, small farms and ranches, and water depths of "3 ft" at sites 2 and 3, despite normal to abnormally dry weather conditions. According to the UAA report, sites 2 and 3 were "easily accessible" even though the surrounding property bore "no trespass" signs. In a 2007 UAA, all survey sites were confined to the downstream half of the segment. According to the UAA report, the survey team "assumed sites further upstream were not accessible" owing to "numerous no trespassing signs." Evidently, no attempt was made to secure the landowner's permission to access these sites, and no interviews were conducted with local residents during or following the UAA. The Protocol (page 13) directs that "Any survey gaps within a stream segment should be filled in with interviews, by gaining access through owner permission, and/or through some other

method of assessing the stream (e.g., topographic maps, aerial photos).” The 2007 UAA did not meet this expectation. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

3623	Rocky Branch	Texas	UAA survey sites were numbered incorrectly (in reverse order; i.e., from downstream to upstream) and confined to the lower third of the stream segment. UAA report commented that "stream access [is] limited due to only one crossing." However, the length of this segment is only 1.6 mi, and its upstream terminus can be accessed by walking/wading the stream channel, which winds through public property. The attainability of WBC cannot be rebutted on the basis of the submitted UAA and supplemental information.
1146	Sellers Hollow	Camden	UAA survey sites were confined to the central portion of this segment, precluding a meaningful assessment of WBC attainability. Despite comments in the UAA report to the contrary, the upper and lower reaches of this 5.3 mi segment are reasonably accessible: the lower terminus of the segment is within 0.35 mi of a public road and about 0.75 mi upstream of a golf course; the upper terminus is within 0.1 mile of a public road. The quality of a UAA should not be determined primarily by the presence or absence of convenient bridge crossings. The easting coordinate provided in the UAA report for site 1 (downstream terminus) is seemingly in error. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
0087	Sharpsburg Branch	Marion	Survey sites were confined to the upper half of this stream segment. The Protocol (page 13) states that “Any survey gaps within a stream segment should be filled in with interviews, by gaining access through owner permission, and/or through some other method of assessing the stream (e.g., topographic maps, aerial photos).” The UAA for Sharpsburg Branch failed to meet this expectation. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
0098	South Spencer Creek	Ralls	Drought conditions and improperly positioned survey sites precluded a meaningful assessment of WBC attainability. Maximum water depths at four of the five sites exceeded 0.75 m, suggesting that pools deeper than 1.0 m may occur in the segment under non-drought conditions. UAA did not evaluate the upper two-thirds of the segment, and no explanation was given for this omission, contrary to the requirements of the Protocol (page 13). The Protocol also states that “Any survey gaps within a stream segment should be filled in with interviews, by gaining access through owner permission, and/or through some other method of assessing the stream (e.g., topographic maps, aerial photos)” (page 13). The UAA for South Spencer Creek failed to meet this expectation. Overall, the submitted

UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

0224	Spencer Creek	St. Charles	Drought conditions and improperly positioned survey sites precluded a meaningful assessment of WBC attainability. Site 3 extended above and below a "large beaver dam" and should have been relocated to a more representative location pursuant to the Protocol, which reads, in part, "Sites near temporary anomalies, like root wads and beaver or debris dams, must be avoided" (page 13). All survey sites were confined to the upper half of this segment. In a May 22, 2008, letter to Michael Kruse (MDNR), Renee Martin (AE Solutions) reported "In regards to Spencer Creek assessment in the lower half of the creek, the reason [for not assessing] is that there was limited access to the creek. The creek was limited [<i>sic</i>] due to creek entry and landowner issues." However, the Protocol (page 13) states that "Any survey gaps within a stream segment should be filled in with interviews, by gaining access through owner permission, <u>and/or</u> through some other method of assessing the stream (e.g., topographic maps, aerial photos)" [emphasis added]. No such effort was reflected in the UAA report and accompanying materials. Comments provided by members of the general public indicate that this segment is used recreationally by children, underscoring the need for caution in this instance. UTM (easting and northing) coordinates in the UAA report are seemingly reversed. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
1531	Tick Creek	Phelps	Improperly positioned survey sites precluded a meaningful assessment of WBC attainability. No survey sites were located in the lower 1.8 mi portion of the 4.4 mi segment. The UAA report gave no explanation for the irregular positioning of survey sites, contrary to the requirements of the Protocol (page 13). Easting and northing site coordinates given in the report are seemingly reversed, and the report failed to provide an estimate of antecedent rainfall. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).
3497	Tributary to Coon Creek	Pettis	This segment flows through a residential subdivision and may be used recreationally by children and others given its proximity to many homes and its comparatively deep water (maximum recorded pool depth = 0.85 m). The Protocol (page 15) states that "the search for evidence on existing and/or attainable recreational uses in populated areas must be thorough and may need to involve an expanded effort including, but not limited to, multiple field surveys, several interviews with area residents, and an extensive collection of water quality data." The segment's UAA did not meet this expectation. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

3498	Tributary to Coon Creek	Pettis	<p>A 2005 UAA documented bridge crossings, nearby roads, nearby rural residences with yards abutting the stream, an adjacent country club and golf course, footpaths leading to the stream, and footprints and discarded fishing paraphernalia in the stream channel. The UAA also documented water depths of 3 ft at two of four survey sites, despite abnormally dry conditions. This suggests that pools equaling or exceeding a depth of 1.0 m are likely to occur in the segment during periods of normal weather. A 2008 UAA noted that this segment is accessible from nearby roads (Main Street; Mo Hwy Y) and flows past a residential subdivision. The Protocol (page 15) states that "the search for evidence on existing and/or attainable recreational uses in populated areas must be thorough and may need to involve an expanded effort including, but not limited to, multiple field surveys, several interviews with area residents, and an extensive collection of water quality data." The 2008 UAA did not meet this expectation. Children and others may recreate in this segment on a frequent basis, signaling the need for caution when identifying the highest attainable recreational use. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).</p>
2065	Tributary to Little Bourbeuse River	Crawford	<p>Improperly positioned survey sites precluded a meaningful assessment of WBC attainability. All three sites were confined to a 0.5-mi portion of the 2.0-mi stream segment. None were located in the upper half or downstream quarter of the segment. The UAA report provided no explanation for the irregular positioning of sites, contrary to the requirements of the Protocol (page 13). The Protocol states that "Any survey gaps within a stream segment should be filled in with interviews, by gaining access through owner permission, and/or through some other method of assessing the stream (e.g., topographic maps, aerial photos)" (page 13). No such effort was reflected in the UAA report and accompanying informational materials. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).</p>
2439	West Fork Roark Creek	Taney	<p>UAA report documented multiple bridges crossing the segment and ATV tracks and human footprints in the stream channel. Aerial images confirm that the segment lies within 100 m of many private residences. Tourist attractions (e.g., a golf course with at least one pedestrian bridge; Marvel Cave) are located adjacent to the stream. For much of its length, the segment is paralleled closely by roads, a railroad track, pedestrian pathways, and a power line clearing, providing ready access. A low-water dam creates a small pool or pond just upstream of the county line, but this feature was not evaluated with respect to depth and recreational potential. No interviews were conducted with local residents, despite the large number of homes and recreational attractions near the stream. In populated settings, the Protocol (page 15) emphasizes the need for an expanded survey, including, but not limited to, "several interviews with area residents." In this instance, the lack of an expanded</p>

survey precluded a confident assessment of WBC attainability. Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

3136	Wolf Hole Lateral	Mississippi	No UAA for this segment was submitted to the EPA.
0718	Youngs Creek	Callaway	Drought conditions during the UAA precluded a meaningful assessment of WBC attainability. UAA report indicated “no drought” even though the region was experiencing a drought at the time of the survey. The report provided no estimate of antecedent rainfall. Recorded easting and northing site coordinates were inaccurate (seemingly reversed). Survey sites were numbered in a downstream to upstream direction, contrary to the requirements of the Protocol (page 13). Overall, the submitted UAA and accompanying informational materials for this segment failed to provide an appropriate scientific and technical analysis (40 CFR § 131.5(a)(4)) supporting the removal of the WBC-B use as required by 40 CFR § 131.10(g).

Segments previously lacking a recreational use but now designated for SCR

<u>WBID</u>	<u>Segment Name</u>	<u>County</u>	<u>Disapproval Rationale</u>
3163	Dry Hollow	Lawrence	No UAA for this segment was submitted to the EPA.
3335	Fenton Creek	Franklin	UAA documented a surrounding urban area, city roads/bridges, an unimproved access road, a foot path leading to the segment, a child’s fort in a tree overhanging the stream, and an adjacent public park. Aerial images confirm that homes lie within 15 m of this segment. In urban settings such as this, the Protocol (page 15) stresses the need for an expanded survey effort and the importance of conducting interviews with local residents; however, no expanded survey and no interviews were conducted as part of the UAA. Caution is warranted in this instance, as children likely access the stream for recreational purposes. Overall, the submitted UAA and accompanying informational materials failed to demonstrate that WBC is not an attainable use.
3610	Flinger Branch	Texas	Upper and middle reaches of this segment were not evaluated as part of the UAA, thereby precluding a meaningful assessment of WBC attainability. UAA report provided no explanation for the irregular positioning of survey sites, contrary to the requirements of the Protocol (page 13). No interviews were conducted with local residents or other persons potentially familiar with the features and uses of this segment. Overall, the submitted UAA and accompanying informational materials failed to demonstrate that WBC is not an attainable use.

1571	Stream Mill Hollow	Texas	Improperly positioned survey sites precluded a meaningful assessment of WBC attainability. All three sites were confined to a 0.4 mi reach, located near the center of the 2.0-mi segment. The UAA report attributed this arrangement to a lack of direct access to other portions of the segment. However, a public road passes within 0.3 mi of the segment's lower terminus, and the intervening property is publicly owned (national forest). Overall, the submitted UAA and accompanying informational materials failed to demonstrate that WBC is not an attainable use.
1686	Tributary to Busch Creek	Franklin	A 2005 UAA documented nearby city roads, mobile homes, apartment buildings, other residences, a shopping mall, other businesses, a church, a public park, a playground, and footpaths leading to the stream. A 2007 UAA noted graffiti under a bridge and human footprints in the stream channel. The latter UAA did not assess the upper reaches of the segment, and the resulting report gave no explanation for the irregular positioning of survey sites. Moreover, the report indicated "no drought" at the time of the UAA but failed to provide an estimate of antecedent rainfall (in actuality, the region was experiencing a drought at the time of the UAA). In urban settings such as this, the Protocol stresses the need for an expanded survey effort and the importance of conducting interviews with local residents (page 15). The 2007 UAA did not meet this expectation. One of the survey sites in 2007 contained a pool measuring 94 cm in maximum depth. The presence of such a pool, during a drought, implies that pools deeper than 1.0 m probably occur in the segment under normal weather conditions. Children and others may recreate in this segment on a frequent basis, signaling the need for caution when identifying the highest attainable recreational use. Overall, the submitted UAA and accompanying informational materials failed to demonstrate that WBC is not an attainable use.
0992	Tributary to South Moreau Creek	Miller	No UAA for this segment was submitted to the EPA.