

# **PUBLIC NOTICE**

US Army Corps of Engineers St. Louis District

## Special Public Notice for the Nationwide Permit Reissuance and Regional Conditions for the State of Missouri – Issuance of Regional Conditions.

NOTICE DATE: March 4, 2021

**SUMMARY:** On January 13, 2021, the U.S. Army Corps of Engineers (Corps) published a final rule in the Federal Register (86 FR 2744) announcing the reissuance of 12 existing nationwide permits (NWPs) and four new NWPs, as well as the reissuance of NWP general conditions and definitions with some modifications. These 16 NWPs will go into effect on March 15, 2021, and will expire on March 14, 2026:

- NWP 12 Oil or Natural Gas Pipeline Activities
- NWP 21 Surface Coal Mining Activities
- NWP 29 Residential Developments
- NWP 39 Commercial and Institutional Developments
- NWP 40 Agricultural Activities
- NWP 42 Recreational Facilities
- NWP 43 Stormwater Management Facilities
- NWP 44 Mining Activities
- NWP 48 Commercial Shellfish Mariculture Activities
- NWP 50 Underground Coal Mining Activities
- NWP 51 Land-Based Renewable Energy Generation Facilities
- NWP 52 Water-Based Renewable Energy Generation Pilot Projects
- NWP 55 Seaweed Mariculture Activities
- NWP 56 Finfish Mariculture Activities
- NWP 57 Electric Utility Line and Telecommunications Activities
- NWP 58 Utility Line Activities for Water and Other Substances

The 12 existing NWPs published in the January 13, 2021 final rule replace the 2017 versions of these NWPs. The 2017 versions of NWPs 12, 21, 29, 39, 40, 42, 43, 44, 48, 50, 51, and 52 expire on March 14, 2021. According to 33 CFR § 330.6(b), activities which have commenced (i.e, are under construction) or are under contract to commence in reliance upon an NWP that was verified under the 2017 NWP, will remain authorized provided the activity is completed within twelve months of the date of an NWP's expiration, modification, or revocation. If an activity that was verified under these 12 existing NWPs and has commenced or is under contract to commence, they will remain authorized until March 14, 2022.

**REGIONAL CONDITIONS:** With the publication of these NWPs in the Federal Register, the Mississippi Valley Division has finalized regional conditions for these 16 NWPs in Missouri. Regional conditions provide additional protection for the aquatic environment and help ensure that the NWPs authorize only those activities with no more than minimal adverse environmental effects. Regional conditions help ensure protection of high value waters within the St. Louis District. The Regional Conditions are listed below.

**WATER QUALITY CERTIFICATION:** The Section 401 Water Quality Certifications (WQC) have been issued for Section 404 NWP activities by the Missouri Department of Natural Resources (MDNR). The WQCs were reviewed by the Northwestern Division (NWD) Commander and WQC for NWPs 21, 44, 48, 50, 51, 52, 55, and 56 are waived. For NWPs 12, 29, 39, 40, 42, 43, 57, and 58, NWD has determined the MDNR WQC conditions listed below added as regional conditions.

**NWP 2017:** There are 40 existing NWPs that were not reissued or modified by the January 13, 2021 final rule. These 40 NWPs were published in the January 6, 2017, issue of the Federal Register (82 FR 1860) and these NWPs remain in effect until the Corps issues a final rule reissuing those NWPs or March 18, 2022, whichever comes first. The 40 2017 NWPs that remain in effect are:

- NWP 1 Aids to Navigation
- NWP 2 Structures in Artificial Canals
- NWP 3 Maintenance
- NWP 4 Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
- NWP 5 Scientific Measurement Devices
- NWP 6 Survey Activities
- NWP 7 Outfall Structures and Associated Intake Structures
- NWP 8 Oil and Gas Structures on the Outer Continental Shelf
- NWP 9 Structures in Fleeting and Anchorage Areas
- NWP 10 Mooring Buoys
- NWP 11 Temporary Recreational Structures
- NWP 13 Bank Stabilization
- NWP 14 Linear Transportation Projects
- NWP 15 U.S. Coast Guard Approved Bridges
- NWP 16 Return Water From Upland Contained Disposal Areas
- NWP 17 Hydropower Projects
- NWP 18 Minor Discharges
- NWP 19 Minor Dredging
- NWP 20 Response Operations for Oil or Hazardous Substances
- NWP 22 Removal of Vessels
- NWP 23 Approved Categorical Exclusions
- NWP 24 Indian Tribe or State Administered Section 404 Programs
- NWP 25 Structural Discharges
- NWP 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities
- NWP 28 Modifications of Existing Marinas
- NWP 30 Moist Soil Management for Wildlife
- NWP 31 Maintenance of Existing Flood Control Facilities
- NWP 32 Completed Enforcement Actions
- NWP 33 Temporary Construction, Access, and Dewatering
- NWP 34 Cranberry Production Activities
- NWP 35 Maintenance Dredging of Existing Basins
- NWP 36 Boat Ramps
- NWP 37 Emergency Watershed Protection and Rehabilitation
- NWP 38 Cleanup of Hazardous and Toxic Waste

- NWP 41 Reshaping Existing Drainage Ditches
- NWP 45 Repair of Uplands Damaged by Discrete Events
- NWP 46 Discharges in Ditches
- NWP 49 Coal Remining Activities
- NWP 53 Removal of Low-Head Dams
- NWP 54 Living Shorelines

The regional conditions and WQCs for these 40 NWPs, that were approved by division engineers in 2017, remain in effect while these 2017 NWPs remain in effect.

The January 13, 2021, Federal Register notice is available for viewing at <a href="https://www.federalregister.gov/documents/2021/01/13/2021-00102/reissuance-and-modification-of-nationwide-permits">https://www.federalregister.gov/documents/2021/01/13/2021-00102/reissuance-and-modification-of-nationwide-permits</a>.

As an alternative, interested parties can access the January 13, 2021, final rule and related documents at: <a href="https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Nationwide-Permits/">https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Nationwide-Permits/</a>.

All NWP Documents and information will be posted at: https://www.nwk.usace.army.mil/Missions/Regulatory-Branch/Nation-Wide-Permits/.

POINT OF CONTACT: If you have questions or need additional information please contact James Reenan via email at james.s.reenan@usace.army.mil or by phone at (816) 389-3832.

### **Enclosures:**

Regional Conditions Section 401 Water Quality Certifications Conditions



## STATE OF MISSOURI 2021 NATIONWIDE PERMIT REGIONAL CONDITIONS

#### For All Nationwide Permits

- **1. Stream Crossings.** In addition to requirements of General Condition 2 and General Condition 9 of the Nationwide Permits, the following guidelines for stream crossings apply for regulated activities in waters of the United States (WOTUS). The guidelines are available at: https://www.nwk.usace.army.mil/Portals/29/docs/regulatory/NWP/2021/MO/MORC1Streams.pdf
  - Corps Districts may waive RC 1 when project site geomorphology (i.e. bedrock, gradient) or existing alterations (i.e. adjacent impoundment, as part of a dry detention basin) creates conflict with the guidelines. The applicant must provide Pre-construction Notification (PCN) to the District Engineer for any waiver request.
- **2. Seasonal Restrictions for Activities Proposed in Spawning Areas.** In addition to the requirements of General Condition 3 of the Nationwide Permits, the following specific seasonal restrictions apply for regulated activities in WOTUS. Between the closed dates listed in the Missouri Combined Stream Spawning List, the permittee must not excavate from or discharge into the listed waters. The list of waters with seasonal restrictions is available on request from the Corps or at: https://www.nwk.usace.army.mil/Portals/29/docs/regulatory/NWP/2021/MO/MORC2SpawningArea.pdf
  - Corps Districts may waive RC 2 when the applicant demonstrates imminent threats to public safety and health, or to property. The Corps will consult with the U.S. Fish and Wildlife Service and Missouri Department of Conservation before granting the waiver and may add additional special conditions to protect aquatic life during the operation. The applicant must PCN to the District Engineer for any waiver request.
- **3. Suitable Material.** In addition to the specific examples in General Condition 6 of the Nationwide Permits, the following materials are not suitable for fill activities in WOTUS: garbage, tires, treated lumber products that do not comply with the Registration Documents issued by the U.S. Environmental Protection Agency (USEPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and that are not in accordance with standards issued by American Wood Protection Association of the International Code Council, liquid concrete not poured into forms, grouted riprap, bagged cement and sewage or organic waste.
  - Broken concrete used as bank stabilization must be reasonably well graded, consisting of pieces varying in size from 20 pounds up to and including at least 150-pound pieces to withstand expected high flows. Applicants must break all large slabs to conform to the well graded requirement. Generally, the maximum weight of any piece should not be more than 500 pounds. Gravel and dirt should not exceed 15% of the total fill volume when using broken concrete as fill. All protruding reinforcement rods, trash, asphalt, and other extraneous materials must be removed from the broken concrete prior to placement in WOTUS.
- **4. Priority Watersheds.** The applicant must provide PCN to the District Engineer for any regulated activity in a priority watershed. The list of priority watersheds requiring notification is available on request from the Corps or at:

 $\underline{https://www.nwk.usace.army.mil/Portals/29/docs/regulatory/NWP/2021/MO/MORC4PriorityWaters.pdf}$ 

**5. Sensitive Aquatic Species.** The applicant must provide PCN to the District Engineer for any regulated activity in waters listed at:

https://www.nwk.usace.army.mil/Portals/29/docs/regulatory/NWP/2021/MO/MORC5AquaSpecies.pdf. The submitted PCN will be coordinated in accordance with General Condition 32(d) with the U.S. Fish and Wildlife Service as determined appropriate by the Corps.

## For Specific Nationwide Permits:

**6. Lake of the Ozarks.** The applicant must provide a PCN to the District Engineer for any regulated activity associated with Nationwide Permit 12, 57, and 58 within Lake of the Ozarks. A copy of this notification must also concurrently be sent to Ameren Missouri. Nationwide Permits 29 and 44 are revoked in the Lake of the Ozarks. The Corps and Ameren Missouri, regardless of the request to use any Nationwide Permit, may verify the activity under the provisions of Regional General Permit 38M, which can be found at <a href="https://www.nwk.usace.army.mil/Missions/Regulatory-Branch/General-Permits/">https://www.nwk.usace.army.mil/Missions/Regulatory-Branch/General-Permits/</a>. Additional information on Ameren Missouri and Lake of the Ozarks permit requirements can be found at the following webpage: <a href="https://www.ameren.com/missouri/residential/lake-of-the-ozarks/permitting-process-forms">https://www.ameren.com/missouri/residential/lake-of-the-ozarks/permitting-process-forms</a>.

\_\_\_\_\_

Note: PCN to the District Engineer must be in accordance with General Condition 32 of the Nationwide Permits.



## General Guidelines for Stream Crossings Regional Condition 1

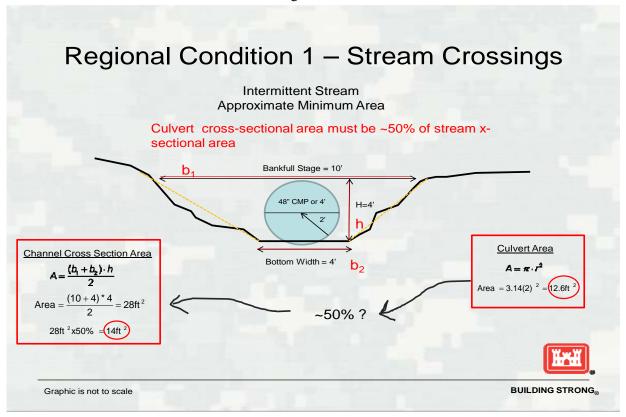
For all Nationwide Permits that involve the construction/installation of culverts and low water crossings, measures will be included in the construction, design, and installation that will allow for the passage of flows and promote the safe passage of fish and other aquatic organisms. The following General Guidelines are required to supplement General Condition (2) Aquatic Life Movements and General Condition (9) Management of Water Flows.

#### **Culverts:**

- New or replacement culverts (e.g., box or tubular, pipes, etc.) must be designed, sized, and placed correctly. Culverts perched above the grade of the stream are not allowed. This includes other instream structures placed at the inlet with the purpose to reduce sedimentation within the stream crossing. It is acceptable for a portion of the water to pass over the structure if it is designed to be overtopped. Culverts must be the shortest length necessary to meet the project purpose, and a single culvert is encouraged.
- Drop boxes or other structures placed at the inlet with the purpose to reduce sedimentation within the stream crossing are not allowed. Culvert must be the shortest length necessary to meet the project purpose.
- New or replacement culverts, in conjunction with the associated fill material, shall have an appropriately sized opening that allows water flow through and over the crossing that is relative to the bankfull area (See Image 1). For purposes of this regional condition, bankfull area is defined as the height and width of the stream channel within the project to the top of the high bank(s). In addition, if elevations differ on both sides of the stream the lowest elevation shall be used as the height. The following basic guidelines shall be used when designing new or replacement crossing projects:

| Stream Type  | % of crossing profile that shall remain open  |
|--------------|---|
| Perennial    | Designed to allow an 85% opening to include the culvert(s) and area above the crossing up to the bankfull area. |
| Intermittent | Designed to allow a 50% opening to include the culvert(s) and area above the crossing up to the bankfull area.  |
| - 1 1        | Placed at a depth below or at the natural steam bottom to provide for passage during low flow conditions.       |

Image 1



• For permanent crossings, the culvert must be embedded and backfilled below the grade of the stream on both the upstream and downstream sides ≥ 1 foot for culverts >48 inches. On culverts ≤ 48 inches the bottom of the culvert must be placed at a depth below or at the natural stream bottom to provide for aquatic organism passage during low flow conditions. Culverts in streams with non-erodible beds (i.e. bedrock or stable clay) must be constructed flush with the stream bed, but do not need to be embedded. Culverts in streams with highly erodible beds must be embedded deeper to lessen the chance of future perching due to downstream degradation and may be accompanied with other grade control measures to prevent erosion while maintaining General Condition (2) Aquatic Life Movements.

## **Low Water Crossings**:

- The applicant must notify the District Engineer when repairing, rehabilitating or replacing low water crossings when discharges of dredged or fill material would raise or lower the lowest elevation of the crossing.
- When replacing or removing low water crossings the applicant must propose and employ measures to
  mitigate for and minimize the potential of streambed headcutting where channel incision has occurred
  downstream of the structure and the structure is providing grade control that is preventing channel
  incision from migrating upstream.



## Missouri Regional Condition #2 to Nationwide Permits Seasonal Restrictions for Activities Proposed in Fish Spawning Areas March 2021

| ID | Stream Name         | Downstream Boundary (From)  | Upstream Boundary (To)   | Closure Period     | Listing<br>Criteria | Length<br>(Miles) | County                                   |
|----|---------------------|---|--|--------------------|---------------------|-------------------|--|
| 1  | Baker Branch        | the tributary (Unnamed Creek 7) confluence immediately downstream of CR-SW 1075 | the upstream MDC boundary (Taberville Prairie CA)                            | 15 May - 15 July   | 2,4,5               | 4.4               | St. Clair                                |
| 2  | Barren Fork ①       | its mouth (confluence with Tavern Creek)  | MO-17  | 15 March - 15 June | 2,4                 | 2.9               | Miller                                   |
| 3  | Barren Fork 2       | its mouth (confluence with Sinking Creek)                                       | CR-A-D   | 15 Nov 15 Feb.     | 6                   | 3.4               | Shannon                                  |
| 4  | Bass Creek          | its mouth (confluence with Turkey Creek)  | US-63  | 15 May - 15 July   | 2,5,7               | 4.4               | Boone                                    |
| 5  | Bear Creek          | RT-A  | the south section line (6, 33N, 24W)   | 15 March - 15 June | 2,4                 | 10.5              | Cedar, Polk                              |
| 6  | Beaver Creek        | Bull Shoals Lake (654' AMSL)  | MO-76  | 15 March - 31 July | 2,4                 | 24.3              | Taney                                    |
| 7  | Big Buffalo Creek   | Lake of the Ozarks (660' AMSL)  | its headwaters   | 1 April - 30 June  | 2,5                 | 10.8              | Benton, Morgan                           |
| 8  | Big Cane Creek      | the Missouri-Arkansas border  | its source (convergence of Cane Creek & Little Cane Creek)                   | 1 March - 15 June  | 2,7                 | 4.2               | Butler                                   |
| 9  | Big Creek           | its mouth (confluence with St. Francis River)                                   | MO-143   | 15 March - 15 June | 5,6                 | 12.3              | Wayne, Iron                              |
| 10 | Big Piney River     | its mouth (confluence with Gasconade River)                                     | MO-17  | 15 March - 15 June | 2,4,6,7             | 84.8              | Pulaski, Phelps, Texas                   |
| 11 | Big River           | its mouth (confluence with Meramec River)                                       | the upstream MDC boundary (Leadwood Access)                                  | 15 March - 15 June | 2,6                 | 108.4             | Jefferson, Washington,<br>St. Francois   |
| 12 | Black River ①       | the Missouri-Arkansas border  | Clearwater Dam   | 1 Feb 15 June      | 2,4,6,7             | 91.8              | Butler, Wayne                            |
| 13 | Black River ②       | Clearwater Lake (498' AMSL)   | its source (convergence of West Fork Black<br>River & East Fork Black River) | 1 April - 31 July  | 2,4                 | 27                | Reynolds                                 |
| 14 | Blue River          | the Missouri-Kansas border  | RT-W (Bannister RD)  | 1 April - 30 June  | 4,7                 | 10.8              | Jackson                                  |
| 15 | Blue Spring Branch  | its mouth (confluence with Bois Brule Creek)                                    | RT-M   | 1 Dec 31 March     | 2                   | 6.3               | Perry                                    |
| 16 | Blue Springs Branch | its mouth (confluence with Blue Springs Creek)                                  | its source (Blue Springs)  | 15 Nov 15 Feb.     | 6                   | 0.2               | Crawford                                 |
| 17 | Blue Springs Creek  | its mouth (confluence with Meramec River)                                       | the confluence of Blue Springs Branch  | 15 Nov 15 Feb.     | 5,6                 | 4.3               | Crawford                                 |
| 18 | Bonne Femme Creek   | CR-Andrew Sapp RD   | US-63  | 15 May - 15 July   | 2,5,7               | 9.8               | Boone                                    |
| 19 | Bourbeuse River     | its mouth (confluence with Meramec River)                                       | the confluence of Clear Creek  | 15 March - 15 June | 2,4                 | 139.6             | Franklin, Crawford,<br>Gasconade, Phelps |
| 20 | Brush Creek ①       | its mouth (confluence with Shoal Creek)   | its headwaters   | 15 March - 15 June | 2,4,5               | 8.4               | Caldwell                                 |
| 21 | Brush Creek 2       | its mouth (confluence with Sac River)   | the south section line (6, 35N, 24W)   | 15 March - 15 June | 1,2                 | 13.8              | St. Clair, Cedar, Polk                   |
| 22 | Brushy Fork         | its mouth (confluence with Barren Fork)   | MO-17  | 15 March - 15 June | 2,4                 | 2                 | Miller                                   |
| 23 | Cahoochie Creek     | its mouth (confluence with Thomas Creek)  | the west section line (3, 36N, 20W)  | 15 March - 15 June | 2,4                 | 2.8               | Dallas, Hickory                          |
| 24 | Cane Creek ①        | its mouth (convergence with Little Cane Creek & source of Big Cane Creek)       | the north section line (11, 22N, 5E)   | 1 Feb 15 June      | 2                   | 5.5               | Butler                                   |

| 25 | Cane Creek 2                               | MO-158  | the confluence of Tenmile Creek   | 1 Feb 15 June      | 2       | 14.2 | Butler                       |
|----|--|---|---|--------------------|---------|------|------------------------------|
| 26 | Castor River                               | its mouth (confluence with Castor River Diversion Channel)                                | CR-208  | 1 Feb 31 May       | 2,4     | 59.8 | Bollinger, Wayne, Madison    |
| 27 | Chariton River                             | US-136  | the Missouri-Iowa border  | 1 March - 30 April | 2,4,5,7 | 19   | Schuyler, Putnam             |
| 28 | Cinque Hommes Creek                        | the confluence of Bois Brule Creek  | US-61   | 1 Dec 31 March     | 2       | 11.5 | Perry                        |
| 29 | Clear Creek ①                              | its mouth (confluence with Fishing River)   | RT-W  | 1 June - 31 August | 2       | 23.2 | Clay, Clinton                |
| 30 | Clear Creek 2                              | its mouth (confluence with Lamine River)  | its headwaters  | 15 May - 15 July   | 2       | 12.7 | Cooper                       |
| 31 | Courtois Creek                             | its mouth (confluence with Huzzah Creek)  | MO-8  | 15 March - 15 June | 4,5,6   | 15.8 | Crawford                     |
| 32 | Crabapple Creek                            | its mouth (confluence with Shoal Creek)   | its headwaters  | 15 March - 15 June | 2,4,5   | 9.3  | Caldwell                     |
| 33 | Crane Creek                                | Quail Spur RD   | CR-1240   | 15 Nov 15 Feb.     | 6       | 10   | Stone, Lawrence              |
| 34 | Crooked River                              | MO-10   | its headwaters  | 15 March - 15 June | 2,4     | 65.5 | Ray, Caldwell, Clinton       |
| 35 | Culley Creek                               | its mouth (confluence with Moniteau Creek)  | the north section line (14, 46N, 17W)                                     | 15 May - 15 July   | 2       | 1.9  | Cooper                       |
| 36 | Current River                              | the Carter-Ripley county line (downstream NPS boundary (Ozark National Scenic Riverways)) | its source (convergence of Pigeon Creek & Montauk Spring Branch)          | 15 March - 15 June | 2,5,6   | 112  | Carter, Shannon, Texas, Dent |
| 37 | Des Moines River                           | its mouth (confluence with Mississippi River)   | US-27   | 1 March - 15 June  | 2       | 14.8 | Clark                        |
| 38 | Dousinbury Creek                           | its mouth (confluence with Niangua River)   | RT-JJ   | 15 March - 15 June | 2       | 0.8  | Dallas                       |
| 39 | Draffen Branch                             | its mouth (confluence with Moniteau Creek)  | CR-Harned RD  | 15 May - 15 July   | 2       | 3.3  | Cooper                       |
| 40 | Dry Fork                                   | its mouth (confluence with Meramec River)   | MO-8  | 15 Nov 15 Feb.     | 6       | 5.8  | Crawford, Phelps             |
| 41 | East Fork Big Creek                        | its mouth (convergence with West Fork Big Creek & source of Big Creek)                    | the Missouri-lowa border  | 15 March - 15 June | 2,4     | 39.5 | Harrison                     |
| 42 | East Fork Crooked River                    | its mouth (confluence with Crooked River)   | its headwaters  | 15 May - 15 July   | 2,4     | 32.2 | Ray, Caldwell                |
| 43 | East Fork Niangua River                    | its mouth (convergence with West Fork Niangua<br>River and source of Niangua River)       | the south section line (33, 32N, 18W)                                     | 15 March - 15 June | 2,4     | 0.6  | Webster                      |
| 44 | Eleven Point River                         | the Missouri-Arkansas border  | the Middle Fork Eleven Point River confluence                             | 15 March - 15 June | 5,6     | 54.4 | Oregon                       |
| 45 | Elk River                                  | the Missouri-Oklahoma border  | its source (convergence of Big Sugar Creek & Little Sugar Creek)          | 15 March - 15 June | 4,6     | 24.7 | McDonald                     |
| 46 | Fiery Fork                                 | its mouth (confluence with Little Niangua River)  | the tributary confluence immediately upstream of CR-7-17H (Fiery Fork RD) | 15 March - 15 June | 2       | 3.6  | Camden                       |
| 47 | First Nicholson Creek (East Drywood Creek) | the downstream MDNR boundary (Prairie State Park)   | the most upstream crossing of CR-West<br>Central RD                       | 15 March - 15 June | 4,5,7   | 4.1  | Barton                       |
| 48 | Flat Creek                                 | Table Rock Lake (915' AMSL)   | MO-39   | 15 March - 15 June | 2       | 16.1 | Stone, Barry                 |
| 49 | Fleck Creek                                | the downstream MDNR boundary (Prairie State Park)   | the first tributary (Unnamed Creek ®) confluence upstream                 | 15 March - 15 June | 4,7     | 1    | Barton                       |
| 50 | Fourmile Creek                             | its mouth (confluence with Niangua River)   | RT-P  | 15 March - 15 June | 2       | 0.8  | Dallas                       |

| 51 | Gans Creek                     | its mouth (convergence with Clear Creek & source of Little Bonne Femme Creek) | US-63  | 15 March - 15 June | 5,7     | 5.4   | Boone  |
|----|--------------------------------|---|--|--------------------|---------|-------|--|
| 52 | Gasconade River                | its mouth (confluence with Missouri River)                                    | MO-5   | 15 March - 15 June | 2,4,6,7 | 289.9 | Gasconade, Osage, Maries,<br>Phelps, Pulaski, Laclede,<br>Wright |
| 53 | Grand River                    | its mouth (confluence with Missouri River)                                    | the Thompson River confluence  | 1 March – 15 June  | 2,4     | 61.3  | Carroll, Chariton, Livingston                                    |
| 54 | Greasy Creek                   | its mouth (confluence with Niangua River)                                     | the south section line (34, 33N, 20W)  | 15 March - 15 June | 2,4     | 14.2  | Dallas   |
| 55 | Greer Spring Branch            | its mouth (confluence with Eleven Point River)                                | its source (Greer Spring)  | 15 Nov 15 Feb.     | 4,6     | 1.4   | Oregon   |
| 56 | Grindstone Creek               | its mouth (confluence with Grand River)                                       | its headwaters   | 15 May - 15 July   | 2,4     | 42.5  | Daviess, DeKalb, Clinton   |
| 57 | Hickory Creek 1                | MO-6  | its headwaters   | 15 May - 15 July   | 2       | 8.6   | Grundy, Daviess  |
| 58 | Hickory Creek 2                | its mouth (confluence with Shoal Creek)                                       | CR-Monark DR   | 15 Feb 15 July     | 2       | 7.6   | Newton   |
| 59 | High Creek                     | the confluence of McElroy Creek   | its headwaters   | 1 June - 31 August | 2       | 10.7  | Atchison   |
| 60 | Howard Creek                   | its mouth (confluence with Smiley Creek)                                      | its headwaters   | 15 May - 15 July   | 2       | 4.1   | Cooper, Moniteau   |
| 61 | Huzzah Creek                   | its mouth (confluence with Meramec River)                                     | CR-Willhite RD   | 15 March - 15 June | 4,5,6   | 35.8  | Crawford   |
| 62 | Jack Buster Creek              | its mouth (confluence with Saline Creek)                                      | RT-MM  | 15 March - 15 June | 2       | 3.6   | Miller   |
| 63 | Jack's Fork                    | its mouth (confluence with Current River)                                     | its source (convergence of North Prong Jack's Fork & South Prong Jack's Fork)                  | 15 March - 15 June | 5,6     | 46.7  | Shannon, Texas   |
| 64 | James River                    | Table Rock Lake (915' AMSL)   | Lake Springfield Dam   | 15 March - 15 June | 2,6     | 51.1  | Stone, Christian, Greene   |
| 65 | Joachim Creek                  | RT-A  | RT-V   | 15 March - 15 June | 6       | 18.3  | Jefferson  |
| 66 | Jones Creek                    | its mouth (confluence with Niangua River)                                     | CR-Jones Creek RD  | 15 March - 15 June | 2       | 0.3   | Dallas   |
| 67 | Kelley Branch                  | its mouth (confluence with Silver Fork)                                       | RT-U   | 15 March - 15 July | 2,4,7   | 6.6   | Boone  |
| 68 | Kenser Creek                   | its mouth (confluence with Tavern Creek)                                      | MO-42  | 15 March - 15 June | 2       | 0.3   | Miller   |
| 69 | La Barque Creek                | its mouth (confluence with Meramec River)                                     | its headwaters   | 15 March - 15 June | 4,7     | 6.2   | Jefferson  |
| 70 | Lane Spring Branch             | its mouth (confluence with Little Piney Creek)                                | its source (Lane Spring)   | 15 Nov 15 Feb.     | 6       | 0.2   | Phelps   |
| 71 | Little Black River             | the east section line (25, 24N, 3E)   | its source (convergence of North Prong Little<br>Black River & South Prong Little Black River) | 15 March - 15 June | 2,4,5   | 8.6   | Ripley   |
| 72 | Little Maries Creek            | its mouth (confluence with Maries River)                                      | the south section line (33, 43N, 10W)  | 15 March - 15 June | 2       | 3.4   | Osage  |
| 73 | Little Niangua River           | Lake of the Ozarks (660' AMSL)  | the east section line (26, 36N, 19W)   | 15 March - 15 June | 1,2,4,7 | 46.8  | Camden, Hickory, Dallas  |
| 74 | Little Piney Creek             | the confluence of Beaver Creek  | the Phelps-Dent county line  | 15 Nov 15 Feb.     | 2,5,6   | 15.1  | Phelps   |
| 75 | Little Pomme de Terre<br>River | its mouth (confluence with Pomme de Terre<br>River)                           | US-65  | 15 March - 15 June | 2       | 9.5   | Polk, Greene   |
| 76 | Little Saline Creek            | its mouth (confluence with Saline Creek)                                      | its headwaters   | 15 March - 15 June | 2       | 9.8   | Miller   |
| 77 | Little Wilson Creek            | its mouth (confluence with Pomme de Terre<br>River)                           | CR-244 <sup>th</sup> ST  | 15 March - 15 June | 2       | 2.1   | Polk   |
| 78 | Locust Creek                   | MO-6  | US-136   | 1 March - 30 April | 2,4,7   | 36.5  | Sullivan, Putnam   |

| 79  | Log Creek                         | its mouth (confluence with Shoal Creek)                       | its headwaters  | 15 March - 15 June | 2,4,5   | 14.7  | Caldwell  |
|-----|-----------------------------------|---|---|--------------------|---------|-------|---|
| 80  | Lost Creek                        | the Missouri-Oklahoma border                                  | RT-CC   | 1 May - 31 July    | 2       | 7.1   | Newton  |
| 81  | Macks Creek                       | its mouth (confluence with Little Niangua River)              | Coffey Hollow RD  | 15 March - 15 June | 2       | 2.2   | Camden  |
| 82  | Maries River                      | its mouth (confluence with Osage River)                       | the south section line (26, 41N, 10W)   | 15 March - 15 June | 2       | 37.4  | Osage, Maries                                     |
| 83  | Maze Creek                        | Stockton Lake (867' AMSL)                                     | CR-231  | 15 March - 15 June | 2       | 4     | Dade  |
| 84  | McElroy Creek                     | its mouth (confluence with High Creek)                        | the Missouri-Iowa border  | 1 June - 31 August | 2       | 6.6   | Atchison  |
| 85  | Meramec River ①                   | CR-Thurman Lake RD (upstream boundary of Scott's Ford Access) | MO-8  | 15 Nov 15 Feb.     | 6       | 8.8   | Crawford, Phelps                                  |
| 86  | Meramec River ②                   | its mouth (confluence with Mississippi River)                 | MO-19   | 15 March - 15 June | 2,4,5,6 | 205.8 | St. Louis, Jefferson, Franklin,<br>Crawford, Dent |
| 87  | Meyers Branch                     | its mouth (confluence with Tavern Creek)                      | its headwaters  | 1 May - 31 July    | 2,7     | 2.5   | Callaway  |
| 88  | Mill Creek ①                      | MO-111  | its headwaters  | 15 March - 15 June | 2,4     | 9.7   | Atchison  |
| 89  | Mill Creek 2                      | its mouth (confluence with Little Piney Creek)                | the confluence of Deep Hollow Creek   | 15 Nov 15 Feb.     | 5,6     | 9.3   | Phelps  |
| 90  | Mill Creek ③                      | its mouth (confluence with Wet Glaize Creek)                  | MO-7  | 15 March - 15 June | 7       | 4.9   | Camden  |
| 91  | Mineral Fork                      | its mouth (confluence with Big River)                         | RT-F  | 15 March - 15 June | 4,6     | 14.9  | Washington  |
| 92  | Mississippi River                 | the Missouri River confluence                                 | Mel Price Lock & Dam  | 1 April - 15 June  | 2       | 5.6   | St. Charles                                       |
| 93  | Moniteau Creek                    | MO-87   | its headwaters  | 15 March - 15 July | 2       | 30.9  | Moniteau, Cooper                                  |
| 94  | Niangua River                     | Lake of the Ozarks (660' AMSL)                                | its source (convergence of East Fork Niangua River & West Fork Niangua River) | 15 March - 15 June | 1,2,7   | 109   | Camden, Dallas, Laclede,<br>Webster               |
| 95  | North Dry Sac River               | its mouth (confluence with Little Sac River)                  | the east section line (19, 31N, 21W)  | 15 March - 15 June | 2,4     | 9.2   | Polk, Greene                                      |
| 96  | North Fork River                  | Norfork Lake (554' AMSL)                                      | the Ozark-Douglas county line   | 15 Nov 15 Feb.     | 4,5,6   | 23.9  | Ozark   |
| 97  | North Little Tavern Creek         | its mouth (confluence with Tavern Creek)                      | the Miller-Maries county line   | 15 March - 15 June | 2       | 3.3   | Miller  |
| 98  | Osage Fork of the Gasconade River | its mouth (confluence with Gasconade River)                   | RT-F  | 15 March - 15 June | 2,6,7   | 68.6  | Laclede, Wright, Webster                          |
| 99  | Osage River                       | its mouth (confluence with Missouri River)                    | Bagnell Dam   | 15 March - 15 June | 2,4,7   | 85.6  | Cole, Osage, Miller                               |
| 100 | Panther Creek                     | its mouth (confluence with Brush Creek)                       | the St. Clair-Polk county line  | 15 March - 15 June | 2       | 2.5   | St. Clair   |
| 101 | Piney Spring Branch               | its mouth (confluence with Little Piney Creek)                | its source (Piney Spring)   | 15 Nov 15 Feb.     | 6       | 0.2   | Phelps  |
| 102 | Pisgah Creek                      | its mouth (confluence with Moniteau Creek)                    | RT-W  | 15 May - 15 July   | 2       | 8.1   | Cooper  |
| 103 | Pomme de Terre River ①            | Pomme de Terre Reservoir (839' AMSL)                          | RT-D  | 15 March - 15 June | 4       | 12.4  | Polk  |
| 104 | Pomme de Terre River ②            | E 475 <sup>th</sup> RD  | the first tributary confluence upstream of CR-Arrow Head RD                   | 15 March - 15 June | 1,2,4   | 31.8  | Polk, Dallas, Greene, Webster                     |
| 105 | Roubidoux Creek ①                 | the north section line (10, 34N, 12W)                         | MO-32   | 15 March - 15 June | 2       | 24.4  | Pulaski, Texas                                    |
| 106 | Roubidoux Creek ②                 | its mouth (confluence with Gasconade River)                   | the upstream MDC boundary (Roubidoux Creek CA)                                | 15 Nov 15 Feb.     | 6       | 2.2   | Pulaski   |

| 107 | Sac River ①                        | from Harry S. Truman Reservoir (706' AMSL)  | the west section line (14, 36N, 26W)   | 1 March - 1 June   | 4     | 3.2  | St. Clair                           |
|-----|------------------------------------|---|--|--------------------|-------|------|-------------------------------------|
| 108 | Sac River 2                        | Stockton Lake (867' AMSL)   | CR-34  | 15 March - 15 June | 4     | 13   | Dade, Green                         |
| 109 | Saint Francis River ①              | the Missouri-Arkansas border  | Wappapello Dam   | 1 Feb 31 June      | 2,4   | 113  | Dunklin, Butler, Stoddard,<br>Wayne |
| 110 | Saint Francis River ②              | Wappapello Lake (355' AMSL)   | MO-72  | 1 Feb 31 May       | 2,4,6 | 63.2 | Wayne, Madison                      |
| 111 | Saline Creek                       | its mouth (confluence with Osage River)   | US-54  | 15 March - 15 June | 2     | 13.1 | Miller                              |
| 112 | Salt Creek                         | its mouth (confluence with Missouri River)  | its headwaters   | 1 June - 31 August | 2,7   | 5.9  | Howard                              |
| 113 | Shoal Creek                        | RT-D  | its headwaters   | 15 May - 15 July   | 2,4,5 | 74.8 | Livingston, Caldwell, Clinton       |
| 114 | Silver Fork                        | US-63   | RT-V   | 15 March - 15 July | 2,4,7 | 9.6  | Boone                               |
| 115 | Smiley Creek                       | its mouth (confluence with Moniteau Creek)  | its headwaters   | 15 May - 15 July   | 2     | 8.2  | Cooper, Moniteau                    |
| 116 | South Fabius River                 | US-24/US-61   | the Marion-Shelby county line  | 15 March - 15 June | 4,7   | 42.1 | Marion                              |
| 117 | South Fork Pomme de<br>Terre River | its mouth (confluence with Pomme de Terre<br>River)   | CR-J RD  | 15 March - 15 June | 2     | 3.7  | Greene, Webster                     |
| 118 | South Fork Turkey Creek            | its mouth (convergence with North Fork Turkey Creek & source of Turkey Creek)                 | RT-H   | 15 March - 15 July | 2,7   | 2.7  | Boone                               |
| 119 | South Little Tavern Creek          | its mouth (confluence with Tavern Creek)  | the confluence of Atwell Creek   | 15 March - 15 June | 2,4   | 1.6  | Miller                              |
| 120 | South Prong Little Black<br>River  | its mouth (convergence with North Prong Little<br>Black River & source of Little Black River) | MO-21  | 15 March - 15 June | 2,4,5 | 5.5  | Ripley                              |
| 121 | Spring Creek                       | its mouth (confluence with Big Piney River)   | the confluence of Bradford Branch  | 15 Nov 15 Feb.     | 5,6   | 7.9  | Phelps                              |
| 122 | Spring River ①                     | RT-H  | US-60  | 15 Nov 15 Feb.     | 2,4   | 14.1 | Lawrence                            |
| 123 | Spring River 2                     | the Missouri-Kansas border  | MO-43  | 15 April - 15 July | 2,4   | 12.3 | Jasper                              |
| 124 | Starks Creek                       | its mouth (confluence with Little Niangua River)  | the north section line (22, 38N, 20W)  | 15 March - 15 June | 2     | 2.2  | Hickory                             |
| 125 | Sugar Creek ①                      | MO-146  | its headwaters   | 15 March - 15 July | 2,4   | 25.7 | Grundy, Harrison                    |
| 126 | Sugar Creek ②                      | its mouth (confluence with Cuivre River)  | RT-B   | 15 March - 15 June | 4,5,7 | 13.5 | Lincoln                             |
| 127 | Swan Creek                         | Bull Shoals Lake (654' AMSL)  | the upstream USACE boundary  | 15 March - 15 June | 2     | 4.6  | Taney                               |
| 128 | Tavern Creek ①                     | its mouth (confluence with Missouri River   | its headwaters   | 1 May - 31 July    | 2,7   | 8.4  | Callaway                            |
| 129 | Tavern Creek ②                     | its mouth (confluence with Osage River)   | Bennett RD   | 15 March - 15 June | 1,2,4 | 43.8 | Miller                              |
| 130 | Tenmile Creek                      | its mouth (confluence with Cane Creek)  | RT-B   | 15 March - 15 June | 6     | 15.4 | Butler, Carter                      |
| 131 | Thomas Creek                       | its mouth (confluence with Little Niangua River)  | CR-Howard Chapel RD  | 15 March - 15 June | 2,4   | 8.7  | Hickory, Dallas                     |
| 132 | Thompson River                     | the south section line (11, 66N, 26W)   | the Missouri-lowa border   | 15 March - 15 June | 2,4   | 6.9  | Harrison                            |
| 133 | Tombstone Creek                    | its mouth (confluence with Sugar Creek)   | its headwaters   | 15 May - 15 July   | 2,4   | 10.9 | Harrison, Daviess                   |
| 134 | Turkey Creek                       | its mouth (confluence with Boone Femme Creek)   | its source (convergence of North Fork Turkey<br>Creek & South Fork Turkey Creek) | 15 March - 15 July | 2,5,7 | 7.2  | Boone                               |
| 135 | Turnback Creek                     | Stockton Lake (867' AMSL)   | the Old Dilday Mill Dam  | 15 March - 15 June | 4     | 13.4 | Dade                                |

| 136 | Unnamed Creek ①         | its mouth (confluence with Sugar Creek)  | its headwaters                        | 15 May - 15 July   | 2       | 5    | Harrison                  |
|-----|-------------------------|--|---------------------------------------|--------------------|---------|------|---------------------------|
| 137 | Unnamed Creek 2         | its mouth (confluence with Sugar Creek)  | its headwaters                        | 15 May - 15 July   | 2       | 5.9  | Harrison                  |
| 138 | Unnamed Creek ③         | its mouth (confluence with Moniteau Creek)                                     | its headwaters                        | 15 May - 15 July   | 2       | 3.9  | Cooper                    |
| 139 | Unnamed Creek 4         | its mouth (confluence with Bass Creek)   | the south section line (33, 47N, 12W) | 15 May - 15 July   | 2       | 1.8  | Boone                     |
| 140 | Unnamed Creek (5)       | its mouth (confluence with Baker Branch)                                       | its headwaters                        | 15 May - 15 July   | 2,4     | 0.9  | St. Clair                 |
| 141 | Unnamed Creek 6         | its mouth (confluence with Baker Branch)                                       | its headwaters                        | 15 May - 15 July   | 2,4     | 3.5  | St. Clair                 |
| 142 | Unnamed Creek 7         | its mouth (confluence with Baker Branch)                                       | its headwaters                        | 15 May - 15 July   | 2,4     | 2.7  | St. Clair                 |
| 143 | Unnamed Creek ®         | its mouth (confluence with Fleck Creek)  | CR-West Central RD                    | 15 March - 15 June | 4,7     | 2.5  | Barton                    |
| 144 | Weaubleau Creek         | the downstream MDC boundary (Kings Prairie Access)                             | the St. Clair-Hickory county line     | 15 May - 15 July   | 2,4     | 14   | St. Clair                 |
| 145 | West Brush Creek        | its mouth (confluence with Moniteau Creek)                                     | RT-O                                  | 15 March - 15 July | 2       | 3.4  | Cooper, Moniteau          |
| 146 | West Fork Big Creek     | its mouth (convergence with East Fork Big Creek & source of Big Creek)         | the Missouri-Iowa border              | 15 March - 15 June | 2,4     | 38.7 | Harrison                  |
| 147 | West Fork Crooked River | its mouth (confluence with Crooked River)                                      | its headwaters                        | 15 May - 15 July   | 2,4     | 21.5 | Ray                       |
| 148 | West Fork Niangua River | its mouth (convergence with East Fork Niangua River & source of Niangua River) | the south section line (33, 32N, 18W) | 15 March - 15 June | 2       | 0.3  | Webster                   |
| 149 | West High Creek         | its mouth (confluence with High Creek)   | the Missouri-Iowa border              | 1 June - 31 August | 2       | 6.2  | Atchison                  |
| 150 | Wet Glaize Creek        | its mouth (convergence with Dry Auglaize Creek & source of Grand Glaize Creek) | the confluence of Mill Creek          | 15 March - 15 June | 7       | 6.6  | Camden                    |
| 151 | Whetstone Creek         | its mouth (confluence with Loutre River)                                       | I-70                                  | 15 March - 15 June | 2,4,5,7 | 17.7 | Montgomery, Callaway      |
| 152 | Whitewater River        | its mouth (confluence with Castor River Diversion Channel)                     | RT-K                                  | 1 Feb 31 May       | 2,7     | 40.7 | Cape Girardeau, Bollinger |
| 153 | Wilkins Spring Branch   | its mouth (confluence with Mill Creek)   | its source (Wilkins Spring)           | 15 Nov 15 Feb.     | 6       | 0.2  | Phelps                    |



## **Priority Waters**

| Stream Reach Name    | Tributary Reaches Included  | Counties  |
|----------------------|---|---|
| Belle Fountain Ditch |   | Dunklin, Pemiscot                                     |
| Big Muddy Creek      |   | Gentry  |
| Big Piney River      |   | Phelps, Pulaski, Texas                                |
| Big River            | Mineral Fork<br>Cedar Creek   | Jefferson, St. Francois,<br>Washington                |
| Black River          | Cane Creek  | Butler, Wayne   |
| Bourbeuse River      | Dry Fork  | Franklin, Gasconade, Phelps                           |
| Bryant Creek         |   | Douglas, Ozark  |
| Center Creek         |   | Jasper  |
| Courtois Creek       |   | Crawford, Washington                                  |
| Cuivre River         | Elkhorn Creek Bear Creek Camp Creek North Fork Cuivre River Indian Creek West Fork Cuivre River Sulphur Creek | Audrain, Lincoln,<br>Montgomery, Pike                 |
| Current River        | Big Creek Spring Valley Creek Sinking Creek   | Carter, Dent, Ripley, Shannon,<br>Texas               |
| Dry Fork             |   | Dent, Phelps  |
| Eleven Point River   | Frederick River Hurricane Creek Spring Creek  | Oregon  |
| Elk River            |   | McDonald  |
| Gasconade River      | Osage Fork<br>Beaver Creek  | Gasconade, Laclede, Maries,<br>Osage, Pulaski, Wright |

| Haw Creek             |                                     | Morgan, Benton                                    |
|-----------------------|-------------------------------------|---|
| Huzzah Creek          |                                     | Crawford  |
| Jacks Fork            |                                     | Shannon, Texas                                    |
| Joachim Creek         |                                     | Jefferson   |
| Little Black River    |                                     | Butler, Ripley                                    |
| Little Creek          |                                     | Harrison  |
| Little Dry Wood Creek |                                     | Vernon  |
| Little Niangua River  |                                     | Camden, Hickory                                   |
| Little Platte River   |                                     | Clinton   |
| Little River          |                                     | Dunklin   |
| Locust Creek          | West Locust Creek East Locust Creek | Chariton, Linn, Livingston,<br>Putnam, Sullivan   |
| Main Ditch            |                                     | Pemiscot  |
| Maries River          |                                     | Maries, Osage                                     |
| Marrowbone Creek      |                                     | Daviess   |
| Meramec River         |                                     | Crawford, Dent, Franklin,<br>Jefferson, St. Louis |
| Moniteau Creek        |                                     | Cooper, Moniteau                                  |
| Moreau River          |                                     | Cole, Moniteau                                    |
| Niangua River         | Greasy Creek                        | Camden, Dallas, Webster                           |
| North Fork River      | Spring Creek                        | Ozark   |
| Osage River           |                                     | Miller, Cole, Osage                               |
| Peno Creek            |                                     | Pike  |

| Pomme de Terre River        |   | Dallas, Greene, Polk        |
|-----------------------------|---|-----------------------------|
| Pomme de Terre River        |   | Benton, Hickory             |
| Sac River                   |   | Greene, Polk                |
| Sac River                   |   | Cedar, St. Clair            |
| Saint Francis River         | Mingo Ditch<br>Lick Creek                       | Butler, Dunklin, Madison,   |
| Saint Johns Diversion Ditch |   | New Madrid                  |
| Shoal Creek (NE)            |   | Putnam                      |
| Shoal Creek (SW)            |   | Newton                      |
| South Fabius River          | Little Fabius River<br>North Fork<br>South Fork | Knox, Lewis, Marion, Shelby |
| Spring Creek                |   | Adair, Sullivan             |
| Spring River                | North Fork                                      | Barton, Jasper, Lawrence    |
| Sugar Creek                 |   | Grundy, Harrison            |
| Tavern Creek                |   | Miller                      |
| Whetstone Creek             |   | Callaway, Montgomery        |
| Yellow Creek                | East Yellow Creek<br>West Yellow Creek          | Chariton, Linn, Sullivan    |



## **Sensitive Aquatic Species Waters Regional Condition 5**

Sensitive Aquatic Species: Includes all mussel and hellbender species with a Federal status, including Endangered, Threatened, Proposed Endangered (published in Federal Register).

| Curtis Pearlymussel (E) |
|-------------------------|
| Pink mucket (E)         |
| Higgins Eye (E)         |
| Scaleshell (E)          |
| Fat pocketbook (E)      |
| Winged mapleleaf (E)    |
| Spectaclecase (E)       |
| Sheepnose (E)           |
| Snuffbox (E)            |
| Neosho mucket (E)       |
| Rabbitsfoot (E)         |
| Ozark Hellbender (E)    |
|                         |

- 1. **Belle Fountain/State Line Ditch** from the Route NN Bridge on the border of Pemiscot and Dunklin Counties, to the Missouri (Dunklin County)-Arkansas (Mississippi County) border, including all portions of the waterbody that make up the border between Missouri and Arkansas.
- 2. **Big Piney River** from the confluence of Arthur Creek in Texas County to its confluence with the Gasconade River in Pulaski County.
- 3. **Big River** from confluence of Belews Creek in Jefferson County to its confluence with the Meramec River in Jefferson/St. Louis Counties.
- 4. **Black River** from the point of discharge from Clearwater Dam in Wayne County to the Missouri (Butler County)-Arkansas (Clay County) border in Butler County.
- 5. **Bourbeuse River** from the confluence of Clear Creek in Phelps County to its confluence with the Meramec River in Franklin County.
- 6. **Bryant Creek** from the confluence of Planer Branch in Douglas County to its confluence with the North Fork of the White River in Ozark County.

- 7. **Cane Creek** from the confluence of Kenner Spring Branch in Butler County to the confluence of Harviell Ditch in Butler County.
- 8. **Castor River** from the confluence of Pond Creek in Bollinger County including all unchannelized reaches to the Castor River Diversion Channel in Bollinger County.
- 9. **Center Creek** from 0.4 miles upstream of Missouri Route 71 in Jasper County to 0.35 miles upstream from confluence with Spring River in Jasper County.
- 10. **Current River** from the confluence of Pigeon Creek in Dent County to the confluence of Spring Bluff Creek in Ripley County.
- 11. **Eleven Point River** from the confluence of Greer Spring Branch in Oregon County to the Missouri (Oregon County)-Arkansas (Randolph County) border.
- 12. **Elk River** from the confluence of Indian Creek in McDonald County to 1.25 miles upstream of the Missouri (McDonald County)-Oklahoma (Delaware County) border in McDonald County.
- 13. **Gasconade River** from the confluence of Crocker Creek in Wright County to its confluence with the Missouri River in Gasconade County.
- 14. **Indian Creek** from 0.5 miles downstream of the confluence of Elkhorn Creek in McDonald County to its confluence with Elk River in McDonald County.
- 15. **Jack's Fork River** from the Missouri Route 106 Bridge in Shannon County to its confluence with the Current River in Shannon County.
- 16. **Little Black River** from the convergence of the North Prong Little Black River and the South Prong Little Black River in Ripley County to the Missouri (Ripley County) –Arkansas (Clay County) border.
- 17. **Main Ditch** from 0.5 miles upstream from the confluence of Main Ditch and Belle Fountain/State Line Ditch in Dunklin County to its confluence with Belle Fountain/State Line Ditch in Dunklin County.
- 18. **Meramec River** from the confluence of Pine Branch in Crawford County to its confluence with the Mississippi River in Jefferson/St. Louis County.
- 19. **Mississippi River** from the confluence of the Des Moines River in Clark County to the mouth of the Cuivre Slough in St. Charles County.
- 20. **North Fork of the White River** from the Missouri Route 14 Bridge in Douglas County to 0.5 miles downstream of the confluence of Bryant Creek in Ozark County.
- 21. **North Fork Spring** River from the confluence of Buck Branch in Jasper County to its confluence with Spring River in Jasper County.

- 22. **Osage Fork of the Gasconade** from the confluence of Little Cobb Creek in Laclede County to its confluence with the Gasconade River in Laclede County.
- 23. **Osage River** from the point of discharge from Bagnell Dam in Miller County to its confluence with the Missouri River in Cole/Osage County.
- 24. **Sac River** from the point of discharge from Stockton Dam in Cedar County to the confluence of Coon Creek in St. Clair County.
- 25. **Salt River** from the confluence of Spencer Creek in Ralls County to its confluence with the Mississippi River in Pike County.
- 26. **Shoal Creek** from 1.3 miles downstream of the confluence of Joyce Branch in Barry County to 0.6 miles upstream of the Missouri (Newton County)-Oklahoma (Cherokee County) border in Newton County.
- 27. **South Prong Little Black River** from the Missouri Route 21 Bridge in Ripley County to its confluence with the North Prong Little Black River in Ripley County.
- 28. **Spring River** from 0.6 miles upstream of Missouri Route 97 in Lawrence County to the Missouri (Jasper County)-Oklahoma (Cherokee County) border in Jasper County.
- 29. **St. Francis River** from the confluence of Twelvemile Creek in Madison County to the confluence of Holiday Creek in Wayne County.

**Table 1.** Approximate number of river miles affected, by stream.

| Stream                          | River Miles (Approx.) |
|---------------------------------|-----------------------|
| Belle Fountain/State Line Ditch | 9                     |
| Big Piney River                 | 64.4                  |
| Big River                       | 21                    |
| Black River                     | 85.2                  |
| <b>Bourbeuse River</b>          | 134.6                 |
| Bryant Creek                    | 40.7                  |
| Cane Creek                      | 8.6                   |
| Castor River                    | 15                    |
| Center Creek                    | 25.9                  |
| Current River                   | 127.4                 |
| Eleven Point River              | 33                    |
| Elk River                       | 15.5                  |
| Gasconade River                 | 234.1                 |
| Indian Creek                    | 20.1                  |
| Jack's Fork River               | 13.6                  |
| Little Black River              | 46.3                  |
| Main Ditch                      | 0.5                   |
| Meramec River                   | 149.6                 |
| Mississippi River               | 128                   |
| Niangua River                   | 33.5                  |
| North Fork of the White River   | 25.5                  |
| North Fork Spring River         | 10.2                  |
| Osage Fork of the Gasconade     | 25.5                  |
| Osage River                     | 80.1                  |
| Sac River                       | 44.3                  |
| Salt River                      | 29.4                  |
| Shoal Creek                     | 56.2                  |
| South Prong Little Black River  | 5.3                   |
| Spring River                    | 53.9                  |
| St. Francis River               | 40                    |
| Total                           | 1542.9                |

Table 2. UTM coordinates of the up and downstream boundaries of affected streams.

| C4                              | Upstream Boundary |         | Downstream Boundary |         |
|---------------------------------|-------------------|---------|---------------------|---------|
| Stream                          | UTM X             | UTM Y   | UTM X               | UTM Y   |
| Belle Fountain/State Line Ditch | 774043            | 3990025 | 760027              | 3987542 |
| Big Piney River                 | 593201            | 4143076 | 582326              | 4193333 |
| Big River                       | 707281            | 4245958 | 707755              | 4260876 |
| Black River                     | 697778            | 4112108 | 693911              | 4054007 |
| <b>Bourbeuse River</b>          | 621128            | 4218921 | 684299              | 4252203 |
| Bryant Creek                    | 546217            | 4083083 | 563653              | 4050270 |
| Cane Creek                      | 723077            | 4068498 | 726147              | 4061507 |
| Castor River                    | 754001            | 4117222 | 766310              | 4110702 |
| Center Creek                    | 383973            | 4107775 | 356915              | 4112945 |
| <b>Current River</b>            | 616571            | 4146679 | 693910              | 4054007 |
| Eleven Point River              | 648210            | 4073798 | 663668              | 4040697 |
| Elk River                       | 370249            | 4049463 | 357338              | 4054844 |
| Gasconade River                 | 553621            | 4135739 | 626296              | 4281813 |
| Indian Creek                    | 381177            | 4064777 | 370249              | 4049463 |
| Jack's Fork River               | 638066            | 4112527 | 652894              | 4117344 |
| Little Black River              | 701987            | 4069127 | 703629              | 4041635 |
| Main Ditch                      | 760625            | 3987762 | 760027              | 3987541 |
| Meramec River                   | 640007            | 4208265 | 732120              | 4252098 |
| Mississippi River               | 634210            | 4470987 | 705669              | 4307614 |
| North Fork of the White River   | 575418            | 4075419 | 563642              | 4049557 |
| North Fork Spring River         | 373315            | 4124811 | 363873              | 4125767 |
| Osage Fork of the Gasconade     | 547178            | 4158807 | 549159              | 4178300 |
| Osage River                     | 532836            | 4228480 | 591605              | 4272311 |
| Sac River                       | 432132            | 4172089 | 434943              | 4202936 |
| Salt River                      | 643164            | 4379439 | 667061              | 4370415 |
| Shoal Creek                     | 406567            | 4074863 | 356712              | 4100494 |
| South Prong Little Black River  | 695553            | 4068918 | 701987              | 4069127 |
| Spring River                    | 416479            | 4110808 | 356374              | 4117655 |
| St. Francis River               | 725098            | 4139242 | 726688              | 4108421 |

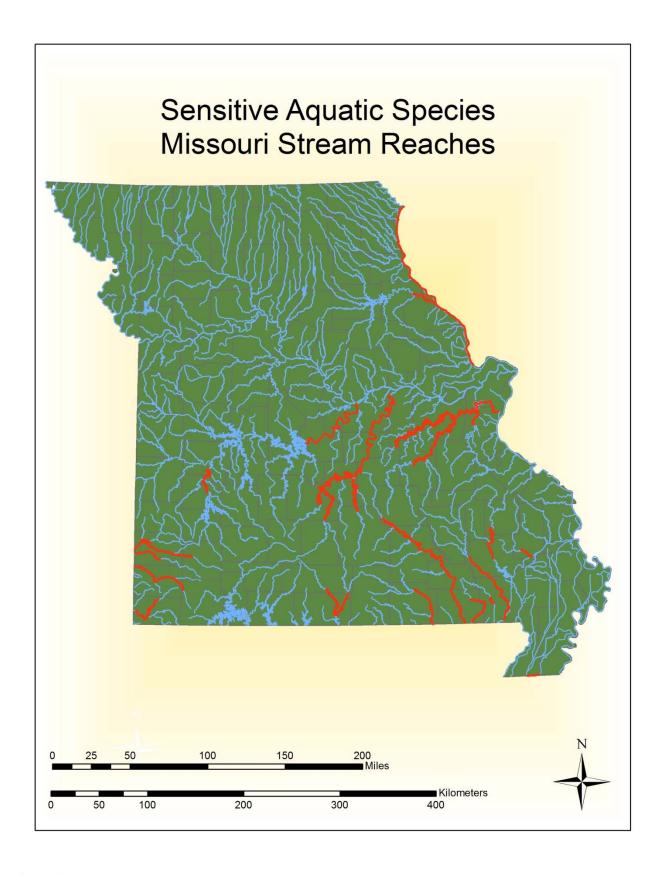


Figure 1. Location of affected streams within Missouri.

Missouri Clean Water Act Section 401 Water Quality Certification (WQC) Conditions for Nationwide Permits (NWP) published in the January 13, 2021 Federal Register.

Effective March 15, 2021

WQC is waived for NWPs 21, 44, 48, 50, 51, 52, 55, and 56.

The following WQC conditions are required for NWPs 12, 29, 39, 40, 42, 43, 57, and 58.

### **GENERAL CONDITIONS**

- 1. A stream's pattern, profile, and dimension, including but not limited to sinuosity, slope, and channel width, shall be shall not be adversely impacted during project construction. No project shall accelerate bed or bank erosion. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
- 2. Channelization of streams is not allowed under this precertification. Channelization includes but is not limited to reducing the length of the channel, widening the channel for increased water storage or flow, and/or construction of hard structures which concentrate flow. Unless necessary for a stream crossing associated with infrastructure projects and contained within an associated right-of-way, construction easement, or permanent easement, bank stabilization activities only along one bank of a stream are permitted, including but not limited to bank sloping and riprapping. The redirection of flow by excavation of the opposite bank or a streambed is considered a channel modification and is not authorized by this WQC. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
- 3. No new or expanded wet stormwater retention basins or similar impoundment structures may be constructed unless they are located off-channel. In-channel dry stormwater detention basins are allowable if the stream channel is either temporarily or not adversely affected by the basin. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
- 4. Only clean, nonpolluting fill shall be used. The following materials are not suitable where contact with water is expected and shall not be used due to their potential to cause violations of the general criteria of Missouri's Water Quality Standards [10 CSR 20-7.031(4)(A)-(H)]:
  - a. Earthen fill, gravel and broken concrete where the material does not meet the Suitable Material specifications stated in the "Missouri Nationwide Permit Regional Conditions" (<a href="https://www.nwk.usace.army.mil/Portals/29/docs/regulatory/NWP/2021/MO/MO\_RegCon.pdf">https://www.nwk.usace.army.mil/Portals/29/docs/regulatory/NWP/2021/MO/MO\_RegCon.pdf</a>) in locations where erosive flows are expected to occur on a regular basis, such as streambanks and/or lake shorelines.
  - b. Asphalt.
  - c. Concrete with exposed rebar.
  - d. Tires, vehicles or vehicle bodies, and construction or demolition debris are solid waste and are excluded from placement in the waters of the state. Properly sized, broken concrete without exposed rebar is allowed.

- e. Liquid concrete, including grouted riprap, if not placed in forms as part of an engineered structure.
- f. Any material containing chemicals that would result in violation of Missouri Water Quality Standards general criteria [10 CSR 20-7.031(4)] or specific criteria [10 CSR 20-7.031(5)].
- 5. Waste concrete or concrete rinsate shall be disposed of in a manner that does not result in discharge to any jurisdictional water ways. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from unsightly bottom deposits [10 CSR 20-7.031(4)(A)]; substances resulting in toxicity [10 CSR 20-7.031(4)(D)]; and physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
- 6. Missouri Water Quality Standards antidegradation requirements dictate all appropriate and reasonable Best Management Practices related to erosion and sediment control, project stabilization and prevention of water quality degradation are applied and maintained; for example, preserving vegetation, streambank stability and basic drainage [10 CSR 20-7.031(3)(B)]. Best Management Practices shall be properly installed prior to conducting authorized activities and maintained, repaired and/or replaced as needed during all phases of the project to limit the amount of discharge of water contaminants to waters of the state. The project shall not involve more than normal stormwater or incidental loading of sediment caused by project activities so as to comply with Missouri's general water quality criteria [10 CSR 20-7.031(4)(A)-(H)]; <a href="https://www.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf">https://www.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf</a>
- 7. Clearing of vegetation and trees shall be the minimum necessary to accomplish the activity except for the removal of invasive or noxious species and placement of ecologically beneficial practices. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20- 7.031(3)(B)].
- 8. Care shall be taken to keep machinery out of the water way as much as possible. If work in the water way is unavoidable, it shall be performed in a way that minimizes the duration and amount of any disturbance to banks, substrate and vegetation to prevent increases in turbidity. Fuel, oil and other petroleum products, equipment, construction materials and any solid waste shall not be stored below the ordinary high water mark at any time or in the adjacent flood-prone areas beyond normal working hours. All precautions shall be taken to avoid the release of wastes or fuel to streams and other adjacent waters as a result of this operation. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20- 7.031(3)(B]) and Missouri Water Quality Standards general criteria requiring waters be free from substances preventing beneficial uses [10 CSR 20- 7.031(4)(C)]; and physical, chemical or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(G)].
- 9. Petroleum products spilled into any water or on the banks where the material may enter waters of the state shall be immediately cleaned up and disposed of properly. Any such spills of petroleum shall be reported as soon as possible, but no later than 24 hours after discovery to the Department of Natural Resources' Environmental Emergency Response number at 573-634-2436 or website at <a href="http://dnr.mo.gov/env/esp/esp-eer.htm">http://dnr.mo.gov/env/esp/esp-eer.htm</a>. This will ensure compliance with Missouri Environmental Improvement Authority to provide for the conservation of state water resources by the prevention of pollution and proper methods of disposal [Chapter 260.015, RSMo] and Missouri Water Quality Standards general criteria requiring waters be free from

substances that prevent maintenance of beneficial uses; cause unsightly bottom deposits, color, turbidity or toxicity; and/or impair the natural biological community [10 CSR 20- 7.031(4)(B)-(G)].

- 10. All efforts shall be made to minimize exposure of unprotected soils. To the best of the project proponent's ability, project activity shall be conducted at times of little or no rainfall to limit the amount of overland flow and sediment disturbance caused by heavy equipment. This will ensure compliance with Missouri antidegradation requirements for Best Management Practices [10 CSR 20-7.031(3)(B)].
- 11. Programmatic WQC is denied for any NWP issued on a water that is listed for a sediment-related impairment, aquatic habitat alteration, channelization or unknown impairment as listed in the most current Water Quality Report (Section 305(b) Report) at: <a href="https://www.nwk.usace.army.mil/Portals/29/docs/regulatory/NWP/2021/MO/2020\_MDNR\_WQC\_305b\_Map.pdf">https://www.nwk.usace.army.mil/Portals/29/docs/regulatory/NWP/2021/MO/2020\_MDNR\_WQC\_305b\_Map.pdf</a>. Although intended to result in minimal impacts, NWP authorizations in these waters may contribute to impairments and result in non-compliance with Missouri water quality standards general criteria requiring waters be free from physical, chemical and hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(B)] or exceedance of Missouri Water Quality Standards specific criteria [10 CSR 20-7.031(5)]. Since WQC General or Specific Conditions cannot be established to address all concerns from the variety of impairments and activities authorized by NWPs, individual review for WQC will be required. Requirements for individual WQC will be determined on a case-by-case basis based on the specific impairments, and additional testing, design, disposal or BMP considerations may be required.

To determine the location of the waters noted above, Department of Natural Resources' geospatial data is available upon request, and all published data is available on the Missouri Spatial Data Information Services website at <a href="mailto:mssouri.edu/">mssouri.edu/</a>. Additional information to identify the project location, including stream reaches with listed impairments or special water designations, may be obtained from the Department of Natural Resources' Water Protection Program at 573-522-4502.

**NOTE:** NWP activities occurring in waters identified by Condition 11 require applicants to obtain an individual WQC from the Missouri Department of Natural Resources.

12. Stream losses greater than 1/10 acre shall be mitigated at a minimum one-for-one ratio based on type and extent of impacts to ensure compliance with the Missouri Water Quality Standards antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and Missouri Clean Water Law, which provides the Department authority to adopt remedial measures to prevent, control, or abate pollution [Chapter 644.026.1(9), RSMo] and approval authority for compensatory mitigation used in connection with any WQC [Chapter 644.026.1(26), RSMo]. Mitigation for loss of aquatic resources should be in conformance with the compensatory mitigation guidance currently approved for use in Missouri, including guidance provided by the Missouri Stream Mitigation Method. Compensatory mitigation shall be within the state of Missouri. Mitigation guidance documents can be located online at: <a href="https://www.nwk.usace.army.mil/Missions/Regulatory-Branch/State-of-Missouri/">https://www.nwk.usace.army.mil/Missions/Regulatory-Branch/State-of-Missouri/</a>

## **SPECIFIC CONDITIONS**

For NWPs 12, 57 and 58:

a. For project crossings that must disturb a water body, work shall be conducted in such a manner as to seal off the work area from flow and minimize sediment transport. Material resulting from the activity shall not be sidecast into waters of the state for more than one month. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B) and general criteria requiring waters be free from substances that prevent maintenance of beneficial uses; cause unsightly color, turbidity, or toxicity; and/or impair the natural biological community [10 CSR 20-7.031(4)(B)-(G)].

b. If Horizontal Directional Drilling is used, drilling mud and/or other materials shall not be discharged into waters of the state. Best Management Practices shall be implemented to prevent possible discharges from reaching waters of the state. In the event materials are inadvertently discharged to waters of the state, notification to the Department of Natural Resources is required within 24 hours by calling 573-522-4502. This will ensure compliance with Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)] and Missouri Environmental Improvement Authority [Chapter 260.015, RSMo] to provide for the conservation of state air, land and water resources by the prevention of pollution and proper methods of disposal. c. Project crossings shall be placed as close to perpendicular as possible and shall be limited to a maximum crossing length of no more than one and one-half times the width of the stream. This will ensure compliance with the Missouri antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and Best Management Practices [10 CSR 20-7.031(3)(B)].

## **General Information:**

## **Missouri Department of Natural Resources**

Water Protection Program
Division of Environmental Quality
P.O. Box 176 Jefferson City, MO 65102-0176
wpsc401cert@dnr.mo.gov
800-361-4827 or 573-522-4502
http://www.dnr.mo.gov/env/wpp

Consistent with Section 401 of the Clean Water Act, these precertified conditions are designed to ensure activities carried out under Nationwide Permits (NWPs) authorized by the U.S. Army Corps of Engineers (USACE) will comply with Missouri water quality requirements. Where applicable, these conditions are in addition to, not a replacement for, any federal requirements or conditions.

Pursuant to Chapter 644.037, RSMo, the Department of Natural Resources shall certify without conditions NWPs as they apply to impacts on wetlands in Missouri.

Pursuant to Chapter 644.038, RSMo, the Department of Natural Resources certifies all NWPs for impacts in all waters of the state without the above-stated or any other conditions for the construction of highways and bridges approved by the Missouri Highway and Transportation Commission. The Memorandum of Understanding of 2016 and any subsequent modifications between the two agencies outline the requirements by which the Missouri Department of Transportation will design and construct projects in order to protect the water quality of waters of the state.

Unless the Department agrees to an alternative, requests for WQC should be sent electronically to <a href="wpsc401cert@dnr.mo.gov">wpsc401cert@dnr.mo.gov</a> [Section 644.026.26, RSMo and 10 CSR 20-6.060(5)]. A request for Water Quality Certification shall (1) identify the project proponent and point of contact; (2) identify the proposed project; (3) identify the applicable USACE permit; (4) identify the location of any potential discharge that may result from the project and location of receiving waters; (5) include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge; (6) include all other federal, interstate, state, or local agency authorizations required for the proposed project, including all approvals or denials already received.

Although not required to apply for WQC, the Department may request additional information prior to providing a WQC decision to ensure Missouri water quality requirements are met, such as a response to comments from the Department, other resource agencies, and/or the public; planned compensatory mitigation; and/or an analysis of practicable alternatives.

An issued WQC, whether programmatically or individually issued, becomes part of and expires with the Section 404 and/or Section 10 permit unless explicitly stated in the WQC.

Acquisition of NWPs and the attendant WQCs shall not be construed or interpreted to imply the requirements for other permits are replaced or superseded, including Clean Water Act Section 402 National Pollutant Discharge Elimination System Permits required under Missouri Clean Water Law [Chapter 644.026.1, RSMo] for land disturbance or return water from material deposition. Permits or any other requirements shall remain in effect. Project proponents with questions are encouraged to contact the Department of Natural Resources' regional office in the project area. A regional office map with contact information is located at: <a href="https://www.dnr.mo.gov/regions/">www.dnr.mo.gov/regions/</a>.

The Department of Natural Resources encourages, but does not require the permittee to consider environmentally-friendly design techniques to include stormwater management strategies that maintain or restore the original site hydrology through infiltration, evaporation, or reuse of stormwater. Designs might include using porous pavement or creating vegetated swales and/or rain gardens. More information can be found at these websites: <a href="https://www.epa.gov/nps/urban-runoff-low-impact-development">https://www.epa.gov/nps/urban-runoff-low-impact-development</a> and <a href="https://www.lid-stormwater.net/lid\_techniques.htm">https://www.lid-stormwater.net/lid\_techniques.htm</a>.

The Department of Natural Resources encourages the use of native vegetation to protect impacted areas from future water quality concerns. Native vegetation has evolved with Missouri's geology, climate and wildlife to occur within a region as a result of natural processes rather than human intervention. For areas where direct impacts to streams are to be avoided, the Department of Natural Resources recommends a minimum riparian buffer strip width of 50 feet as measured from top of bank.

The Department of Natural Resources encourages the use of Horizontal Directional Drilling for stream and wetland crossings when practicable. If properly utilized, Horizontal Directional Drilling is an alternative to more traditional, open-trench methods and can result in significant minimization and/or complete avoidance of aquatic resource impacts. The following publication provides guidance on how to protect water quality through Best Management Practices on project sites. For more information, please read: "Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas" dated January 2011 and located online at <a href="http://dnr.mo.gov/env/wpp/wpcp-guide.htm">http://dnr.mo.gov/env/wpp/wpcp-guide.htm</a>.

#### 2020 MISSOURI 305(b) WATERS REQUIRING INDIVIDUAL 401 WQC Worth Schuyler Atchison Mercer Clark Nodaway Harrison Gentry **MISSOURI** Sullivan Adair Knox Holt Grundy **DEPARTMENT OF** Andrew Daviess Dekalb Linn NATURAL RESOURCES Macon Marion Shelby Livingston Buchanan Caldwell Clinton Ralls Author: Michael D. Irwin Chariton Monroe Randolph Carroll Platte Operating Permits Section Pike Ray Clay Water Protection Program Audrain Division of Environmental Quality Saline Howard Lincoln Lafayette Jackson Boone Montgomery Callaway Cooper St Charles Warren Johnson Pettis St LouisSt/Louis 2018 305(b) requiring indiviudal 401 Cass Moniteau County Boundary Cole Osage Gasconade Morgan Franklin Henry Benton Rates Miller Maries St Clair Camden Crawford Washington • Hickory Ste Genevieve Phelps Vernon Pulaski St Francois Although the data in this Cedar Dallas Laclede data set have been Dent compiled by the Missouri Barton Madison Department of Natural Dade Cape Girardeau Resources, no warranty, Reynolds Bollinger Texas expressed or implied, is Webster Wright Greene made by the Department Shannon Wayne Lawrence Scott as to the accuracy of the data and related Christian Carter Douglas Stoddard Newton Mississippi materials. The act of distribution shall not Howell Stone Butler Barry constitute such Oregon any Ripley Taney Ozark McDonald New Madrid and warranty. no responsibility is assumed by the Department in the 100 150 200 0 25 50 use of these data or Miles Pemiscot related materials." Dunklin

Published December 10, 2020

| Beef Br.         2.5 Mi.         Cad mium in sediment         Mill Tailings         Newton           Beef Br.         2.5 Mi.         Cad mium in sediment         Mill Tailings         Newton           Bens Branch         5.8 Mi.         Clad mium in sediment         Oronogo/Duenweg Mining Belt         Jasper           Big Cr.         1.8 Mi.         Cadmium in sediment         Oronogo/Duenweg Mining Belt         Jasper           Big Cr.         1.8 Mi.         Cadmium in sediment         Old Lead Belt tailings         Jefferson           Big R.         5.5 6 Mi.         Lead in sediment         Old Lead Belt tailings         St. Francois/Jefferson           Big R.         5.2 8 Mi.         Cadmium in sediment         Old Lead Belt tailings         St. Francois/Jefferson           Big R.         5.2 8 Mi.         Cadmium in sediment         Mill Tailings         St. Francois/Jefferson           Brush Creek         5.4 Mi.         Polycyclic Aromatic Hydrocarbons-PAHs in sediment         Nonpoint Source         Jackson           Center Cr.         1.9 Mi.         Lead in sediment         Tri-State Mining District         Jasper           Courtois Cr.         1.9 Mi.         Lead in sediment         Tri-State Mining District         Jasper           Douger Br.         2.5 Mi.         Lead in sediment <th>Waterbody</th> <th>Impact Size Units</th> <th>Pollutant</th> <th>Source Description</th> <th>County(ies)</th>  | Waterbody        | Impact Size Units | Pollutant   | Source Description                  | County(ies)            |
|--|------------------|-------------------|---|-------------------------------------|------------------------|
| Part      |                  | 2.5 Mi.           | Cadmium in sediment                               | Mill Tailings                       | Newton                 |
| Bens Branch         5.8 Mi.<br>2.8 Mi.         Cadmium in sediment         Oronogo/Duenweg Mining Belt<br>Oronogo/Duenweg Mining Belt<br>Oronogo/Duenweg Mining Belt<br>Jasper         Jasper           Big Cr.         1.8 Mi.         Zinc in sediment         Oronogo/Duenweg Mining Belt         Jasper           Big R.         5.5 Mi.         Lead in sediment         Old Lead Belt tailings         St. Francois/Jefferson           Big R.         5.2 Mi.         Sedimentation/Siltation         Old Lead Belt tailings         St. Francois/Jefferson           Big R.         5.2.3 Mi.         Lead in sediment         Old Lead Belt tailings         St. Francois/Jefferson           Brush Creek         5.4 Mi.         Polycyclic Aromatic Hydrocarbons-PAHs in sediment         Mill Tailings         St. Francois/Jefferson           Brush Creek         5.4 Mi.         Polycyclic Aromatic Hydrocarbons-PAHs in sediment         Monpoint Source         Jasper           Center Cr.         19 Mi.         Cadmium in sediment         Tri-State Mining District         Jasper           Courtois Cr.         2.6 Mi.         Lead in sediment         Tri-State Mining District         Jasper           Courtois Cr.         2.6 Mi.         Lead in sediment         Auror Lead Mining District         Jasper           Douger Br.         2.8 Mi.         Lead in sediment         Auror Lea   | Beef Br.         | 2.5 Mi.           | Lead in sediment                                  | Mill Tailings                       | Newton                 |
| Bens Branch  |                  | 2.5 Mi.           | Zinc in sediment                                  | Mill Tailings                       | Newton                 |
| Big Cr. 1.8 Mi. Cadmium in sediment Glover smelter Iron Big R. 55.6 Mi. Lead in sediment Glover smelter Iron Big R. 55.6 Mi. Lead in sediment Glover smelter Iron Big R. 55.6 Mi. Lead in sediment Glover smelter Iron Big R. 55.6 Mi. Sedimentation/Siltation Gld Lead Belt tailings Gr. Francois/Jefferson St. 8 Mi. Cadmium in sediment Gld Lead Belt tailings St. Francois/Jefferson St. 8 Mi. Cadmium in sediment Gld Lead Belt tailings St. Francois/Jefferson Mill Tailings Mill Tailings St. Francois/Jefferson Mill Tailings St. Francois/Jefferson Mill Tailings St. Francois/Jefferson Mill Tailings Gr. 2 Mill Tailings Gr. 4 Mi |                  | 5.8 Mi.           | Cadmium in sediment                               | Oronogo/Duenweg Mining Belt         | Jasper                 |
| Big Cr.         1.8 Mi.         Cadmium in sediment         Glover smelter         Iron           Big R.         55.6 Mi.         Lead in sediment         Old Lead Belt taillings         Jefferson           Big R.         52.7 Mi.         Sedimentation/Siltation         Old Lead Belt taillings         St. Francois/Jefferson           Big R.         52.8 Mi.         Cadmium in sediment         Old Lead Belt taillings         St. Francois/Jefferson           Brush Creek         5.4 Mi.         Polycyclic Aromatic Hydrocarbons-PAHs in sediment         Nonpoint Source         Jackson           Brush Creek         5.4 Mi.         Polycyclic Aromatic Hydrocarbons-PAHs in sediment         Nonpoint Source         Jackson           Center Cr.         19 Mi.         Cadmium in sediment         Tri-State Mining District         Jasper           Courtois Cr.         19 Mi.         Lead in sediment         Tri-State Mining District         Jasper           Courtois Cr.         2.6 Mi.         Lead in sediment         Doe Run Viburnum Division Lead mine         Washington           Crooked Cr.         3.5 Mi.         Lead in sediment         Buick Lead Smelter         Crawford           Douger Br.         2.8 Mi.         Jic no sediment         Aurora Lead Mining District         Lawrence           Dry Auglaize Cr.         3   | Bens Branch      | 5.8 Mi.           | Lead in sediment                                  | Oronogo/Duenweg Mining Belt         | Jasper                 |
| Big R.   55.6 Mi.   Lead in sediment   Old Lead Belt tailings   St. Francois/Jefferson   52.7 Mi.   Sedimentation/Siltation   Old Lead Belt tailings   St. Francois/Jefferson   Old Lead Belt tailings   St. Francois/Jefferson   St. St. Mi.   Cadmium in sediment   Mill Tailings   St. Francois/Jefferson   St. St. Mi.   Zinc in sediment   Mill Tailings   St. Francois/Jefferson   St. St. Mill   Zinc in sediment   Mill Tailings   St. Francois/Jefferson   St. St. Mill   Zinc in sediment   Mill Tailings   St. Francois/Jefferson   St. St. Mill   Zinc in sediment   Monpoint Source   Jackson   Jacks   |                  | 5.8 Mi.           | Zinc in sediment                                  | Oronogo/Duenweg Mining Belt         | Jasper                 |
| S2.7 Mi.   Sedimentation/Siltation   Old Lead Belt tailings   St. Francois/Jefferson   S2.8 Mi.   Cadmium in sediment   Old Lead Belt tailings   St. Francois/Jefferson   S2.8 Mi.   Zadmium in sediment   Mill Tailings   St. Francois/Jefferson   R1.3 Mi.   Zinc in sediment   Old Lead Belt tailings   St. Francois/Jefferson   R1.3 Mi.   Zinc in sediment   Old Lead Belt tailings   St. Francois/Jefferson   S1.4 Mi.   Polycyclic Aromatic Hydrocarbons-PAHs in sediment   Tri-State Mining District   Jasper   Jackson      | Big Cr.          | 1.8 Mi.           | Cadmium in sediment                               | Glover smelter                      | Iron                   |
| Page      | Big R.           | 55.6 Mi.          | Lead in sediment                                  | Old Lead Belt tailings              | Jefferson              |
| S2.3 Mi.   Lead in sediment   Mill Taillings   St. Francois/Jefferson   R1.3 Mi.   Zinc in sediment   Old Lead Belt taillings   St. Francois/Jefferson   Old Lead Belt taillings   St. Francois   Old Lead Insediment   Tri-State Mining District   Jasper   Old Lead Insediment   Old Lead Belt taillings   Old Lead Smelter   Orawford   Old Lead Smelter   Orawford   Old Lead Smelter   Orawford   Old Lead Smelter   Orawford   Old Lead Smelter   Old Le   |                  | 52.7 Mi.          | Sedimentation/Siltation                           | Old Lead Belt tailings              | St. Francois/Jefferson |
| S2.3 Mi.   Lead in sediment   Mill Tailings   St. Francois/Jefferson   | Rig R            | 52.8 Mi.          | Cadmium in sediment                               | Old Lead Belt tailings              | St. Francois/Jefferson |
| Brush Creek5.4 Mi.<br>19 Mi.<  | Dig IV.          | 52.3 Mi.          | Lead in sediment                                  | Mill Tailings                       | St. Francois/Jefferson |
| Tri-State Mining District Jasper Center Cr. 19 Mi. Lead in sediment Tri-State Mining District Jasper Courtois Cr. 19 Mi. Zinc in sediment Tri-State Mining District Jasper Courtois Cr. 2.6 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington Crooked Cr. 3.5 Mi. Cadmium in sediment Buick Lead Smelter Crawford 3.5 Mi. Lead in sediment Buick Lead Smelter Crawford Crawford Crawford Douger Br. 2.8 Mi. Lead in sediment Aurora Lead Mining District Lawrence 2.8 Mi. Zinc in sediment Aurora Lead Mining District Lawrence Dry Auglaize Cr. 3 Mi. Cause Unknown Source Unknown Laclede 1.2 Mi. Cadmium in sediment Leadwood tailings pond St. Francois Eaton Br. 1.2 Mi. Lead in sediment Leadwood tailings pond St. Francois Flat River Cr. 4.7 Mi. Sediment Leadwood tailings pond St. Francois Grand R. 8 Mi. Fishes Bioassessments Channelization Grand R. 8 Mi. Fishes Bioassessments Channelization Hinkson Cr. 7.6 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hinkson Cr. 1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington Indian Cr. 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington Mashington Doe Run Viburnum Division Lead mine Washington Mashington Mashington Mashington Mashington Mashington   |                  | 81.3 Mi.          | Zinc in sediment                                  | Old Lead Belt tailings              | St. Francois/Jefferson |
| Center Cr.19 Mi.Lead in sedimentTri-State Mining DistrictJasperCourtois Cr.2.6 Mi.Lead in sedimentDoe Run Viburnum Division Lead mineWashingtonCrooked Cr.3.5 Mi.Cadmium in sedimentBuick Lead SmelterCrawfordDouger Br.2.8 Mi.Lead in sedimentAurora Lead Mining DistrictLawrenceDry Auglaize Cr.3 Mi.Cause UnknownSource UnknownLacledeEaton Br.1.2 Mi.Cadmium in sedimentLeadwood tailings pondSt. FrancoisEaton Br.1.2 Mi.Lead in sedimentLeadwood tailings pondSt. FrancoisFlat River Cr.4.7 Mi.Lead in sedimentLeadwood tailings pondSt. FrancoisFlat River Cr.4.7 Mi.Lead in sedimentOld Lead Belt tailingsSt. FrancoisGrand R.8 Mi.Lead in sedimentOld Lead Belt tailingsSt. FrancoisGrand R.8 Mi.Fishes BioassessmentsChannelizationGentryHinkson Cr.7.6 Mi.Cause UnknownUrban Runoff/Storm SewersBooneHinkson Cr.6.8 Mi.Cause UnknownUrban Runoff/Storm SewersBooneIndian Cr.1.9 Mi.Lead in sedimentDoe Run Viburnum Division Lead mineWashingtonUrban Runoff/Storm SewersBoone1.0 Mi.Zinc in sedimentDoe Run Viburnum Division Lead mineWashington  | Brush Creek      | 5.4 Mi.           | Polycyclic Aromatic Hydrocarbons-PAHs in sediment | Nonpoint Source                     | Jackson                |
| Courtois Cr. 2.6 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington Crooked Cr. 3.5 Mi. Lead in sediment Buick Lead Smelter Crawford 3.5 Mi. Lead in sediment Buick Lead Smelter Crawford Crooked Cr. 3.5 Mi. Lead in sediment Buick Lead Smelter Crawford Crooked Cr. 3.8 Mi. Lead in sediment Aurora Lead Mining District Lawrence Crooked Cr. 2.8 Mi. Zinc in sediment Aurora Lead Mining District Lawrence Crooked Cr. 3 Mi. Cause Unknown Source Unknown Laclede Crooked Cr. 3 Mi. Cadmium in sediment Leadwood tailings pond St. Francois Crooked Cr. 3 Mi. Cadmium in sediment Leadwood tailings pond St. Francois Crooked Cr. 3 Mi. Cadmium in sediment Leadwood tailings pond St. Francois Crooked Cr. 3 Mi. Sedimentation/Siltation Old Lead Belt tailings St. Francois Crooked Cr. 4.7 Mi. Lead in sediment Old Lead Belt tailings Crand R. 8 Mi. Fishes Bioassessments Channelization Gentry Crand R. 11.5 Mi. Fishes Bioassessments Channelization Livingston/Chariton Cr. 7.6 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Cr. 1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington Cr. 1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington Cr. 1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington Cr. 1.9 Mi. Cadmium in sediment Doe Run Viburnum Division Lead mine Washington Cr. 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington Cr. 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington Cr. 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington  |                  | 19 Mi.            | Cadmium in sediment                               | Tri-State Mining District           | Jasper                 |
| Courtois Cr.2.6 Mi.Lead in sedimentDoe Run Viburnum Division Lead mineWashingtonCrooked Cr.3.5 Mi.Cadmium in sedimentBuick Lead SmelterCrawfordDouger Br.2.8 Mi.Lead in sedimentAurora Lead Mining DistrictLawrenceDry Auglaize Cr.3 Mi.Cause UnknownSource UnknownLacledeEaton Br.1.2 Mi.Cadmium in sedimentLeadwood tailings pondSt. FrancoisEaton Br.1.2 Mi.Lead in sedimentLeadwood tailings pondSt. FrancoisFlat River Cr.4.7 Mi.Sedimentation/SiltationOld Lead Belt tailingsSt. FrancoisGrand R.8 Mi.Fishes BioassessmentsChannelizationGentryGrand R.11.5 Mi.Fishes BioassessmentsChannelizationLivingston/CharitonHinkson Cr.7.6 Mi.Cause UnknownUrban Runoff/Storm SewersBooneHinkson Cr.1.9 Mi.Lead in sedimentDoe Run Viburnum Division Lead mineWashingtonIndian Cr.1.9 Mi.Lizin in sedimentDoe Run Viburnum Division Lead mineWashington   | Center Cr.       | 19 Mi.            | Lead in sediment                                  | Tri-State Mining District           | Jasper                 |
| Crooked Cr.3.5 Mi.Cadmium in sedimentBuick Lead SmelterCrawfordDouger Br.2.8 Mi.Lead in sedimentAurora Lead Mining DistrictLawrenceDry Auglaize Cr.3 Mi.Cause UnknownSource UnknownLacledeEaton Br.1.2 Mi.Cadmium in sedimentLeadwood tailings pondSt. FrancoisEaton Br.1.2 Mi.Lead in sedimentLeadwood tailings pondSt. FrancoisFlat River Cr.4.7 Mi.Sedimentation/SiltationOld Lead Belt tailingsSt. FrancoisGrand R.8 Mi.Fishes BioassessmentsChannelizationGentryGrand R.11.5 Mi.Fishes BioassessmentsChannelizationLivingston/CharitonHinkson Cr.7.6 Mi.Cause UnknownUrban Runoff/Storm SewersBooneHinkson Cr.6.8 Mi.Cause UnknownUrban Runoff/Storm SewersBooneIndian Cr.1.9 Mi.Lead in sedimentDoe Run Viburnum Division Lead mineWashington1.9 Mi.Zinc in sedimentDoe Run Viburnum Division Lead mineWashington  |                  | 19 Mi.            | Zinc in sediment                                  | Tri-State Mining District           | Jasper                 |
| Crooked Cr.  3.5 Mi. Lead in sediment  Buick Lead Smelter  Crawford  Aurora Lead Mining District  Lawrence  Lawrence  Lawrence  Dry Auglaize Cr.  3 Mi. Cause Unknown  Cadmium in sediment  Leadwood tailings pond  St. Francois  St. Francois  Old Lead Belt tailings  St. Francois  Grand R.  Grand R.  Grand R.  Fishes Bioassessments  Channelization  Gentry  Hinkson Cr.  1.5 Mi. Fishes Bioassessments  Channelization  Livingston/Chariton  Hinkson Cr.  1.6 Mi. Cause Unknown  Urban Runoff/Storm Sewers  Boone  Hinkson Cr.  1.9 Mi. Lead in sediment  Doe Run Viburnum Division Lead mine  Washington  Newton   | Courtois Cr.     | 2.6 Mi.           | Lead in sediment                                  | Doe Run Viburnum Division Lead mine | Washington             |
| Douger Br. 2.8 Mi. Lead in sediment Aurora Lead Mining District Lawrence  2.8 Mi. Zinc in sediment Aurora Lead Mining District Lawrence  Dry Auglaize Cr. 3 Mi. Cause Unknown Source Unknown Laclede  1.2 Mi. Cadmium in sediment Leadwood tailings pond St. Francois  Eaton Br. 1.2 Mi. Lead in sediment Leadwood tailings pond St. Francois  1.2 Mi. Zinc in sediment Leadwood tailings pond St. Francois  1.2 Mi. Zinc in sediment Leadwood tailings pond St. Francois  Flat River Cr. 4.7 Mi. Sedimentation/Siltation Old Lead Belt tailings St. Francois  Grand R. 4.7 Mi. Lead in sediment Old Lead Belt tailings St. Francois  Grand R. 8 Mi. Fishes Bioassessments Channelization Gentry  Grand R. 11.5 Mi. Fishes Bioassessments Channelization Livingston/Chariton  Hinkson Cr. 6.8 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone  Hinkson Cr. 6.8 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone  Indian Cr. 1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington  Newton   | Crooked Cr       | 3.5 Mi.           | Cadmium in sediment                               | Buick Lead Smelter                  | Crawford               |
| Douger Br.  2.8 Mi. Zinc in sediment  Aurora Lead Mining District  Lawrence  Dry Auglaize Cr.  3 Mi. Cause Unknown  5 Source Unknown  Laclede  1.2 Mi. Cadmium in sediment  Leadwood tailings pond  5t. Francois  Channelization  Grand R.  4.7 Mi. Lead in sediment  Channelization  Grand R.  8 Mi. Fishes Bioassessments  Channelization  Grand R.  Hinkson Cr.  Hinkson Cr.  7.6 Mi. Cause Unknown  Urban Runoff/Storm Sewers  Boone  Hinkson Cr.  Hinkson Cr.  1.9 Mi. Lead in sediment  Doe Run Viburnum Division Lead mine  Washington  Mashington  Newton  | CIOORCA CI.      |                   | Lead in sediment                                  | Buick Lead Smelter                  | Crawford               |
| Dry Auglaize Cr.  3 Mi. Cause Unknown Source Unknown Laclede  1.2 Mi. Cadmium in sediment Leadwood tailings pond St. Francois  Eaton Br.  1.2 Mi. Lead in sediment Leadwood tailings pond St. Francois  1.2 Mi. Zinc in sediment Leadwood tailings pond St. Francois  1.2 Mi. Zinc in sediment Leadwood tailings pond St. Francois  Flat River Cr.  4.7 Mi. Sedimentation/Siltation Old Lead Belt tailings St. Francois  4.7 Mi. Lead in sediment Old Lead Belt tailings St. Francois  Grand R.  6.7 Mi. Fishes Bioassessments Channelization Gentry  Grand R.  Hinkson Cr.  Hinkson Cr.  Hinkson Cr.  1.9 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone  Hindian Cr.  1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington  Mashington  Newton   | Douger Br        |                   |   | <del>-</del>                        | Lawrence               |
| Eaton Br.  1.2 Mi. Lead in sediment Leadwood tailings pond St. Francois Cond R.  Grand R.  Grand R.  B Mi. Fishes Bioassessments Channelization Gentry Grand R.  Hinkson Cr. Hinkson Cr. Hinkson Cr.  Gens Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hinkson Cr. Hinkson Cr. Hinkson Cr.  Gens Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hinkson Cr. Hinkson Cr. Hinkson Cr. Gens Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hinkson Cr. Hinkson Cr. Gens Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hinkson Cr. Hinkson Cr. Gentry Doe Run Viburnum Division Lead mine Washington Washington Tri-State Mining District Newton   | Douger Dr.       | 2.8 Mi.           | Zinc in sediment                                  | Aurora Lead Mining District         | Lawrence               |
| Eaton Br.  1.2 Mi. Lead in sediment Leadwood tailings pond St. Francois Leadwood tailings pond St. Francois Leadwood tailings pond St. Francois Old Lead Belt tailings St. Francois Channelization Gentry Grand R. St. Francois Channelization Gentry Grand R. I1.5 Mi. Fishes Bioassessments Channelization Livingston/Chariton Hinkson Cr. Hinkson Cr. Gentry Channelization Urban Runoff/Storm Sewers Boone Hinkson Cr. Indian Cr. Indian Cr. Indian Cr. Indian Cr. Indian Cr. Indian Cadmium in sediment Tri-State Mining District Newton   | Dry Auglaize Cr. |                   |   |                                     |                        |
| 1.2 Mi. Zinc in sediment  Eleadwood tailings pond  St. Francois  Old Lead Belt tailings  St. Francois  St. Francois  Old Lead Belt tailings  Old Lead Belt tai |                  |                   |   | <b>.</b>                            |                        |
| Flat River Cr. 4.7 Mi. Lead in sediment Old Lead Belt tailings St. Francois Old Lead Belt tailings St. Francois St. Francois Old Lead Belt tailings Old Lead Be | Eaton Br.        |                   | Lead in sediment                                  | - ,                                 | St. Francois           |
| Flat River Cr.  4.7 Mi. Lead in sediment Old Lead Belt tailings St. Francois Grand R.  6 Mi. Fishes Bioassessments Channelization Channelization Livingston/Chariton Hinkson Cr. Hinkson Cr. Hinkson Cr.  6.8 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hone Hinkson Cr. Hone Hinkson Cr. Hinkson Cr. Hinkson Cr. Hinkson Cr. Hinkson Cr.  6.8 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hone Hone Hone Hone Hone Hone Hone  |                  |                   |   | <b>.</b>                            | St. Francois           |
| 4.7 Mi. Lead in sediment Old Lead Belt tailings St. Francois Grand R. 8 Mi. Fishes Bioassessments Channelization Gentry Grand R. 11.5 Mi. Fishes Bioassessments Channelization Livingston/Chariton Hinkson Cr. 7.6 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hinkson Cr. 6.8 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Indian Cr. 1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington Tri-State Mining District Newton   | Flat River Cr.   |                   | Sedimentation/Siltation                           | <u> </u>                            |                        |
| Grand R. 11.5 Mi. Fishes Bioassessments Channelization Livingston/Chariton Hinkson Cr. 7.6 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hinkson Cr. 6.8 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Indian Cr. 1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington Tri-State Mining District Newton   |                  |                   | Lead in sediment                                  | <u> </u>                            | St. Francois           |
| Hinkson Cr. 7.6 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Hinkson Cr. 6.8 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone Indian Cr. 1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington 1.6 Mi. Cadmium in sediment Tri-State Mining District Newton  |                  |                   |   | Channelization                      | •                      |
| Hinkson Cr. 6.8 Mi. Cause Unknown Urban Runoff/Storm Sewers Boone  1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington  1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington  1.6 Mi. Cadmium in sediment Tri-State Mining District Newton  | Grand R.         |                   | Fishes Bioassessments                             |                                     | Livingston/Chariton    |
| Indian Cr.  1.9 Mi. Lead in sediment Doe Run Viburnum Division Lead mine Washington 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington 1.6 Mi. Cadmium in sediment Tri-State Mining District Newton   | Hinkson Cr.      |                   |   | •                                   | Boone                  |
| Indian Cr.  1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington  1.6 Mi. Cadmium in sediment Tri-State Mining District Newton  | Hinkson Cr.      |                   |   | •                                   | Boone                  |
| 1.9 Mi. Zinc in sediment Doe Run Viburnum Division Lead mine Washington  1.6 Mi. Cadmium in sediment Tri-State Mining District Newton  | Indian Cr.       |                   |   |                                     |                        |
|  |                  |                   |   |                                     |                        |
| Jacobs Br. 1.6 Mi. Lead in sediment Tri-State Mining District Newton   |                  |                   |   |                                     | Newton                 |
|  | Jacobs Br.       | 1.6 Mi.           | Lead in sediment                                  | Tri-State Mining District           | Newton                 |

|                          | 1.6 Mi.  | Zinc in sediment                                  | Tri-State Mining District               | Newton          |
|--------------------------|----------|---|---|-----------------|
| Jordan Cr.               | 3.8 Mi.  | Polycyclic Aromatic Hydrocarbons-PAHs in sediment | Urban NPS                               | Greene          |
| Koen Cr.                 | 1 Mi.    | Lead in sediment                                  | Mine Tailings                           | St. Francois    |
| L. Beaver Cr.            | 3.5 Mi.  | Sedimentation/Siltation                           | Smith Sand and Gravel                   | Phelps          |
| L. St. Francis R.        | 24.2 Mi. | Lead in sediment                                  | Catherine Lead Mine, pos. Mine La Motte | Madison         |
| Lateral #2 Main Ditch    | 11.5 Mi. | Sedimentation/Siltation                           | Nonpoint Source                         | Stoddard        |
| Locust Cr.               | 19.4 Mi. | Fishes Bioassessments                             | Channelization                          | Putnam/Sullivan |
| Logan Cr.                | 6.1 Mi.  | Lead in sediment                                  | Sweetwater Lead Mine/Mill               | Reynolds        |
| Long Br.                 | 6 Mi.    | Cause Unknown                                     | Source Unknown                          | Johnson/Pettis  |
| Meramec R.               | 22.8 Mi. | Lead in sediment                                  | Old Lead belt tailings                  | St. Louis       |
| Mississippi P            | 0.2 Mi.  | Lead in sediment                                  | Herculaneum smelter                     | Jefferson       |
| Mississippi R.           | 0.2 Mi.  | Zinc in sediment                                  | Herculaneum smelter                     | Jefferson       |
| N. Fabius R.             | 92 Mi.   | Habitat Assessment, Streams                       | Channelization                          | Schuyler/Marion |
| North Branch Wilsons Cr. | 3.8 Mi.  | Zinc in sediment                                  | Urban NPS                               | Greene          |
| Peruque Cr.              | 0.3 Mi.  | Cause Unknown                                     | Lake St. Louis Dam                      | St. Charles     |
| Pond Cr.                 | 1 Mi.    | Sedimentation/Siltation                           | Barite tailings pond                    | Washington      |
| Folia Cr.                | 1 Mi.    | Zinc in sediment                                  | Mill Tailings                           | Washington      |
| S. Fabius R.             | 4.2 Mi.  | Fishes Bioassessments                             | Channelization                          | Shelby/Marion   |
| Salt Pine Cr.            | 1.2 Mi.  | Lead in sediment                                  | Barite tailings pond                    | Washington      |
|                          | 1.2 Mi.  | Zinc in sediment                                  | Barite tailings pond                    | Washington      |
| Shaw Br.                 | 1.2 Mi.  | Lead in sediment                                  | Federal tailings pond                   | St. Francois    |
| Shibboleth Br.           | 1 Mi.    | Lead in sediment                                  | Mill Tailings                           | Washington      |
|                          | 1 Mi.    | Zinc in sediment                                  | Mill Tailings                           | Washington      |
| Shibboleth Br.           | 3 Mi.    | Lead in sediment                                  | Barite tailings ponds                   | Washington      |
| SHIDDOICHI DI.           | 3 Mi.    | Zinc in sediment                                  | Mill Tailings                           | Washington      |
| Shoal Cr                 | 3.8 Mi.  | Zinc in sediment                                  | Mill Tailings                           | Newton          |
| Silver Cr.               | 1.9 Mi.  | Zinc in sediment                                  | Mill Tailings                           | Newton          |
| Town Br.                 | 2.5 Mi.  | Cause Unknown                                     | Source Unknown                          | Polk            |
|                          | 1.5 Mi.  | Sedimentation/Siltation                           | Barite tailings pond                    | Washington      |
| Trib. Old Mines Cr.      | 1.5 Mi.  | Lead in sediment                                  | Barite tailings pond                    | Washington      |
|                          | 1.5 Mi.  | Zinc in sediment                                  | Barite tailings pond                    | Washington      |
|                          | 2.9 Mi.  | Cadmium in sediment                               | Abandoned Smelter Site                  | Jasper          |
| Trib. to Turkey Cr.      | 2.9 Mi.  | Lead in sediment                                  | Abandoned Smelter Site                  | Jasper          |
|                          | 2.9 Mi.  | Zinc in sediment                                  | Abandoned Smelter Site                  | Jasper          |
| Troublesome Cr.          | 41.3 Mi. | Sedimentation/Siltation                           | Habitat Mod other than Hydromod.        | Knox/Marion     |
|                          | 7.7 Mi.  | Cadmium in sediment                               | Tri-State Mining District               | Jasper          |

| Turkey Cr.      | 7.7 Mi. | Lead in sediment                                  | Tri-State Mining District   | Jasper       |
|-----------------|---------|---|-----------------------------|--------------|
|                 | 7.7 Mi. | Zinc in sediment                                  | Tri-State Mining District   | Jasper       |
|                 | 6.1 Mi. | Cadmium in sediment                               | Tri-State Mining District   | Jasper       |
| Turkey Cr.      | 6.1 Mi. | Lead in sediment                                  | Tri-State Mining District   | Jasper       |
|                 | 6.1 Mi. | Zinc in sediment                                  | Tri-State Mining District   | Jasper       |
|                 | 2.4 Mi. | Cadmium in sediment                               | Bonne Terre chat pile       | St. Francois |
|                 | 2.4 Mi. | Copper in sediment                                | Bonne Terre chat pile       | St. Francois |
| Turkey Cr.      | 2.4 Mi. | Lead in sediment                                  | Bonne Terre chat pile       | St. Francois |
|                 | 2.4 Mi. | Nickel in sediment                                | Bonne Terre chat pile       | St. Francois |
|                 | 2.4 Mi. | Zinc in sediment                                  | Bonne Terre chat pile       | St. Francois |
| Village Cr.     | 1.9 Mi. | Sedimentation/Siltation                           | Mine La Motte tailings area | Madison      |
| W. Fk. Black R. | 2.1 Mi. | Lead in sediment                                  | West Fork Lead Mine/Mill    | Reynolds     |
|                 | 2.1 Mi. | Nickel in sediment                                | West Fork Lead Mine/Mill    | Reynolds     |
| Willow Br.      | 2.2 Mi. | Cadmium in sediment                               | Mill Tailings               | Newton       |
|                 | 2.2 Mi. | Zinc in sediment                                  | Mill Tailings               | Newton       |
| Wilsons Cr.     | 3.9 Mi. | Polycyclic Aromatic Hydrocarbons-PAHs in sediment | Nonpoint Source             | Greene       |
|                 |         |   |                             |              |