



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. LOUIS DISTRICT
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103

CEMVS-RD

11 March 2025

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Pre-2015 Regulatory Regime Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023),¹ [MVS-2024-610](#)

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.² AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.³ For the purposes of this AJD, we have relied on section 10 of the Rivers and Harbors Act of 1899 (RHA),⁴ the Clean Water Act (CWA) implementing regulations published by the Department of the Army in 1986 and amended in 1993 (references 2.a. and 2.b. respectively), the 2008 *Rapanos-Carabell* guidance (reference 2.c.), and other applicable guidance, relevant case law and longstanding practice, (collectively the pre-2015 regulatory regime), and the *Sackett* decision (reference 2.d.) in evaluating jurisdiction.

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. The features addressed in this AJD were evaluated consistent with the definition of “waters of the United States” found in the pre-2015 regulatory regime and consistent with the Supreme Court’s decision in *Sackett*. This AJD did not rely on the 2023 “Revised Definition of ‘Waters of the United States,’” as amended on 8 September 2023 (Amended 2023 Rule) because, as of the date of this decision, the Amended 2023 Rule is not applicable [in this state, Missouri](#), due to litigation.

¹ While the Supreme Court’s decision in *Sackett* had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.

² 33 CFR 331.2.

³ Regulatory Guidance Letter 05-02.

⁴ USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

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1. SUMMARY OF CONCLUSIONS.

- a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).

- i. [Heads Creek \(stream order 4 reach\), jurisdictional, Section 404](#)

2. REFERENCES.

- a. Final Rule for Regulatory Programs of the Corps of Engineers, 51 FR 41206 (November 13, 1986).
- b. Clean Water Act Regulatory Programs, 58 FR 45008 (August 25, 1993).
- c. U.S. EPA & U.S. Army Corps of Engineers, Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States* (December 2, 2008)
- d. *Sackett v. EPA*, 598 U.S. ___, 143 S. Ct. 1322 (2023)
- e. 2008 Rapanos guidance

3. REVIEW AREA. [The review area is approximately 1.45 acre area centralized around a 250 linear foot length of Heads Creek at the Hluzek Valley Road crossing, located at approximately 38.3863588°, -90.5390309°, within Section 11, Township 42 North, Range 4 East within Jefferson County, Missouri.](#)

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4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), INTERSTATE WATER, OR THE TERRITORIAL SEAS TO WHICH THE AQUATIC RESOURCE IS CONNECTED. [Meramec River's Section 10 navigable length](#).
5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, INTERSTATE WATER, OR THE TERRITORIAL SEAS. [Heads Creek flows approximately 0.6 miles before flowing into the lower Big River, which then flows into the navigable length of the Meramec River](#).
6. SECTION 10 JURISDICTIONAL WATERS⁵: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic

⁵ 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as “navigable in law” even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.

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resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.⁶ N/A

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the pre-2015 regulatory regime and consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the pre-2015 regulatory regime. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

- a. TNWs (a)(1): N/A
- b. Interstate Waters (a)(2): N/A
- c. Other Waters (a)(3): N/A
- d. Impoundments (a)(4): N/A
- e. Tributaries (a)(5):

Heads Creek – 250 linear feet

The overall stream order length was evaluated and determined to be a 4th order stream that begins just downstream of the Ruth Lane crossing, where a third order tributary joins the third order length of Heads Creek, and the downstream length of the stream order 4 is approximately 0.25 miles downstream of the Highway 30 bridge crossing, at the confluence with Dulin Creek. The stream order 4 length is approximately 4.47 miles (or 23,586 linear feet). The conditions at the review area and the overall stream length were evaluated to determine the relative permanence of the entire reach; conditions were found to be significantly different between the downstream most extent of the stream order 4 length and that within the review area. The downstream most section has flow present year-round with the streambed

⁶ This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

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entirely inundated where the portion of Heads Creek within the review area has large gravel bars that dominate the streambed area with smaller low base flow paths.

Within the review area Heads Creek is mapped by USFWS National Wetland Inventory (NWI) as a riverine feature, National Hydrography Dataset (NHD) as a named perennial channel, StreamStats Application, and USGS Topographic Maps starting in 1901 map Heads Creek as a perennial stream. The MDNR's Water Quality Standards Map Viewer shows Heads Creek as a mapped reach (waterbody Identification Number 2182) and designates the stream as warm water habitat that provides the following uses: irrigation, livestock and wildlife protection, secondary contact recreation, and human health protection. The downstream most length of the 4th order length of Heads Creek has a drainage area of 25.1 square miles with 3.49% impervious surface. The channel is wide (approximately 65 feet wide) and relatively low (average would approximately be 5 feet) within the review area. The channel dimensions have been altered from the accumulate of sediment on the upstream and erosion of the banks and the downstream from a culverted "low water crossing" that essentially serves as a low head dam within the stream in the review area. The low flow statistics show the 1 Day 10 Year Low Flow at 0.156 cubic feet per second and a 50-percent AEP flood of 1450 cubic feet per second. The stream channel has an expansive floodway associated as well as Flood Zones A and AE, delineated by the FEMA Flood Hazard Layer. USDA Soil web map identifies the predominant soil type as Bloomsdale with very deep, well drained, moderately permeable soils associated with narrow floodplains. The provisional Ecological Site Description is Sandy/Gravelly Floodplain Forest is which is described as, "typically in natural levee positions directly adjacent to a perennial stream. Stream levels typically respond quickly to storm events, especially in watersheds where surface runoff is dominant. Short- to medium- duration flooding is common in many areas, particularly during spring and early summer storm events."

The project is located within a karst region with significant features such as losing and gaining stream reaches, springs, and sinkhole features. The majority of the stream reach is mapped by the MDNR as a losing stream with the downstream portion mapped as a gaining stream length. There are four MDNR mapped springs (Big Spring, House Springs, Vandercruyessen Spring, and an unnamed spring) directly along the stream order 4 length. According to the Missouri Department of Conservation's website, "where springs flow into streams and rivers, their cool, clear, well-oxygenated water creates a special habitat inhabited by a unique community of plants and animals: certain ferns, watercress, gilled aquatic snails, isopods, crayfish, salamanders, sculpins, and more."

Climatically in this region, October through May is the wet season, with a dry season between June and September. The review area, only, was observed on 11-19-2024

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and flowing water and riffle pools were present both upstream and downstream of the crossing structure within the review area. A follow up investigation of the larger length was completed with the Corps access limited to shared roadways due to the large stream length being primarily on private property (sample locations from upstream to downstream included: Ruth Drive, Rainbow Lane, Cripple Creek Road, Town and Country 1 (roadway), Town and Country 2 (bridge), Northwest Athletic Association, Hillsboro-House Springs Road, Gravois Road, Highway 30). This also did not allow for access to the channel to complete macroinvertebrate sampling. Observations on November 21, 2024, January 24, 2025, and March 7, 2025 all found similar conditions with baseflow present flow at 8 of the 9 sample locations. The one exception was that flow was not observed upstream of the Town and Country Lane 1 sample location (38.39335845°, -90.54688893°) but flow was observed at and downstream of this location. There appear to be groundwater seeps and further downstream a MDNR mapped spring, which contribute the consistent base flow downstream of the Town and Country Lane 1 sample point and further. These conditions were for a limited length, 770 linear feet or 3% of the Stream Order 4 length, as flowing water was observed downstream for the upstream sample location at Cripple Creek Road. The sampling times were chosen purposefully to not be within several days of any rainfall or snowfall/melt days to assure that precipitation overland flow was not the significant contributor to flow. These field investigations show consistent base flow is present and sustained within the vast majority of Heads Creek during the wet season spanning over a 5-month period. Supplemental site visit data was also obtained by referencing previous site visit data from different electronic project files; however, these sample timeframes were scheduled with no regard to the proximity to a rainfall event but would have avoided high flow conditions. Additional sample data in February 2021 found flow present downstream of the Cripple Creek Road area, flow in April 2018 and August 2018 at the Town and Country 2 sample location, and flow present at the end of Michelle Drive in March 2017 and June 2018. Flow was present in all of the site visit photos found in those administrative records.

A review of aerial imagery sources to assess flow resulted in a focus on the evaluation of the wet season (during leaf off) to be able to clearly view the stream channel through the reach. Imagery during fringe wet season and most of dry season, when the deciduous forested riparian along the channel is in full density obscured the stream channel and an evaluation of the flow characteristics was not possible. In a review of the entire stream order 4 length of Heads Creek the conditions could be generally characterized as heavy gravel bedload that dominates the channel visually, but, in most areas where the full channel was visible, a low flow area, meandering within the larger stream channel area, was present across seasons. Within the last 10 years, 3 aeriels provided aeriels with appropriate clarity, resolution and visibility to assess flow throughout the entire reach. The May 2023

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capture shows flow in 55.3% of the reach, the February 2018 capture shows flow in 100% of the reach, and the April 2016 aerial shows flow in 100% of the reach. Aerial imagery available on the Jefferson County Missouri Property Viewer (which sources high resolution captures during leaf off in February and March) website was also used to assess flow in the stream order 4 reach. The February 2024 capture showed low in 38.1% of the stream reach, March 2022 capture showed flow in 100% of the stream reach, March 2020 showed flow in 100% of the stream reach, and February 2018 showed flow in 90.8% of the stream reach. The aerial review speaks to the variability of flow within the stream depending on rainfall contributions while also showing that having flowing present, is the predominant condition within the majority of the stream length, likely supported by seasonal groundwater influence to discrete seeps as well as increased discharge from defined springs along Heads Creek.

A robust desktop record exists of Heads Creek as a tributary within the lower Big River catchment and a secondary tributary to the navigable length of the Meramec River. While portions of the stream reach are mapped as losing stream there are also numerous mapped springs as well as discrete groundwater seeps along the length. The USACE completed site observations spanning November 2024- March 2025 and found the presence of flow consistently across a 5 month period in the wet season. USACE site visit across time at various locations along Heads Creek also documented flow extending into the dry season. The site observations were bolstered by the review of 8 aerial imagery captures which in 7 of those samples showed over 50% of the stream length supporting active flow and riffle pools. The Corps has determined that Heads Creek is a tributary that supports relatively permanent flow and is a jurisdictional waters of the U.S.

f. The territorial seas (a)(6): N/A

g. Adjacent wetlands (a)(7): N/A

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

a. Describe aquatic resources and other features within the review area identified as “generally non-jurisdictional” in the preamble to the 1986 regulations (referred to as “preamble waters”).⁷ Include size of the aquatic resource or feature within the review area and describe how it was determined to be non-jurisdictional under the CWA as a preamble water. N/A

b. Describe aquatic resources and features within the review area identified as “generally not jurisdictional” in the *Rapanos* guidance. Include size of the aquatic

⁷ 51 FR 41217, November 13, 1986.

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resource or feature within the review area and describe how it was determined to be non-jurisdictional under the CWA based on the criteria listed in the guidance.

N/A

- c. Describe aquatic resources and features identified within the review area as waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA. Include the size of the waste treatment system within the review area and describe how it was determined to be a waste treatment system. N/A
 - d. Describe aquatic resources and features within the review area determined to be prior converted cropland in accordance with the 1993 regulations (reference 2.b.). Include the size of the aquatic resource or feature within the review area and describe how it was determined to be prior converted cropland. N/A
 - e. Describe aquatic resources (i.e. lakes and ponds) within the review area, which do not have a nexus to interstate or foreign commerce, and prior to the January 2001 Supreme Court decision in “SWANCC,” would have been jurisdictional based solely on the “Migratory Bird Rule.” Include the size of the aquatic resource or feature, and how it was determined to be an “isolated water” in accordance with SWANCC. N/A
 - f. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the pre-2015 regulatory regime consistent with the Supreme Court’s decision in *Sackett* (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).
N/A
9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.
- a. USACE Site Visits – MVS-2024-610, conducted: 11/19/2024, 11/21/2024, 1/24/2025, 3/7/2025
 - b. USACE Regulatory Viewer, accessed 3/10/2025
 - c. USGS StreamStats application, accessed 3/5/2025

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- d. [ORM Projects with previous site visits: MVS-2016-618, MVS-2016-615, MVS-2018-200, MVS-2018-509, MVS-2021-128](#)
- e. [Jefferson County Missouri Property Viewer, accessed 3/10/2025](#)
- f. [Missouri Department of Natural Resources GeoSTRAT web map, accessed 2/7/2025](#)
- g. [Antecedent Precipitation Tool, accessed 1/23/2025](#)
- h. [USGS Topographic maps, accessed 1/3/2025](#)
- i. [Google Earth Pro, accessed 3/10/2025](#)

10. OTHER SUPPORTING INFORMATION. [N/A](#)

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.