Department of Energy
Savannah River Operations Office
P.O. Box A
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APR 14 2026

Ms. Susan B. Fulmer, P. G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Environmental Services
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund and Emergency Management Division
U. S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: 2025 Periodic Report on the Bioassessment of Savannah River Site Streams (SRNS-RP-2025-01200, Revision 1 Redline, April 2026) and Savannah River Site's Responses to the Regulatory Comments on the Revision 0 Document, SEMS Numbers: 69, 70, 71, 74, 84

In accordance with the terms of the Federal Facility Agreement (FFA), the U. S. Department of Energy (DOE) is submitting the subject information for your review. The *2025 Periodic Report on the Bioassessment of Savannah River Site Streams* (SRNS-RP-2025-01200, Revision 0, September 2026) and supporting information was submitted to the South Carolina Department of Environmental Services (SCDES) and U.S. Environmental Protection Agency (EPA) for review on September 11, 2025. The SCDES' and EPA's comments were received on January 8, 2026, and January 15, 2026, respectively. The Savannah River Site's responses to the regulatory comments are enclosed and were incorporated into the Redline Revision 1 document. Please review the enclosures and provide your response within thirty (30) days of receipt. The time and effort that the SCDES and the EPA have given on the subject report are greatly appreciated.

Questions from you or your staff may be directed to me at (803) 952-6211.

Sincerely,

MATTHEW BAKER
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Date: 2026.04.14 08:29:08 -04'00'

Matthew R. Baker
Acting FFA Remedial Project Manager
DOE-Savannah River Operations Office
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Ms. Susan Fulmer
Mr. Jon Richards 2

Enclosures:
1. 2025 Periodic Report on the Bioassessment of Savannah River Site Streams (SRNS-RP-2025-01200, Revision 1 Redline, April 2026) SEMS Numbers: 69, 70, 71, 74, 84
2. SRS Response to South Carolina Department of Environmental Services Comment on the 2025 Periodic Report on the Bioassessment of Savannah River Site Streams (SRNS-RP-2025-01200, Revision 0, September 2025) SEMS Numbers: 69, 70, 71, 74, 84
3. SRS Responses to U.S. Environmental Protection Agency's Comments on the 2025 Periodic Report on the Bioassessment of Savannah River Site Streams (SRNS-RP-2025-01200, Revision 0, September 2025) SEMS Numbers: 69, 70, 71, 74, 84

c w/o encl:
M. Reece, SCDES-Columbia
H. J. Porter, SCDES-Columbia
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M. McRae, TechLaw, Inc.

SRS Responses to U.S. Environmental Protection Agency Comments on the 2025 Periodic Report on the Bioassessment of Savannah River Site Streams SEMS Numbers: 69, 70, 71, 74, 84, SRNS-RP-2025-01200, Revision 0, September 2025

Comments Received: January 15, 2026

GENERAL COMMENTS

1. There are *several additional statistical analyses that could be performed on the data to provide further information on the ecosystem health in the Savannah River Site (SRS) streams. For example*:

    a. A regression of fish data (e.g., species richness, species composition, trophic composition, indicator species, and abundance) with stream characteristics should also be conducted similar to the analyses performed with macroinvertebrate data. Section 6.0, Data Analysis, states, "Prior to averaging the MHSP EPT [multiple habitat sampling protocol Ephemeroptera, Plecoptera, Trichoptera] score, it is adjusted for stream width. This adjustment is made because earlier studies of SRS streams (Paller et al. 2007) revealed a positive linear relationship between stream width and the MHSP EPT metric (Figure 15), thus, the EPT metric is adjusted to remove the effects of stream size;" however, this was not conducted for fish data and may also prove to have a positive correlation;

    b. Seasonality/precipitation differences from year to year may be important when analyzing the ecological community data presented in the Bioassessment Report. Given that the system is sensitive to scouring/iron flocculation, particularly in Tims Branch, it appears that there might be a correlation between the amount of rainfall in any particular year and the macroinvertebrate and fish community dynamics; and

    c. Fish length/weight is correlated with age in many species and can be an indicator of ecosystem health; however, it is unclear whether these measurements were collected.

    Please consider revising the Bioassessment Report to perform additional regressions of fish data based on stream characteristics, seasonality/precipitation, and fish length/weight measurements, if already collected, to enhance an understanding of the ecosystem dynamics in the SRS streams. If these data are not currently available, consider adding their collection to the recommended modifications to the monitoring program discussed in Section 9, Recommendations.

    Response: Clarification

    a. Fish data IBI includes stream width in the calculation. The last two sentences of the second paragraph of Section 6.0, Data Analysis, states: "Several metrics involve an equation establishing the "expected number" of fish in particular categories based on estimated width and surface area of the stream being sampled. These equations are provided in Appendix A."

    b. FY22 precipitation data is available from the closest SRS rain gauges. Data for all gauges goes back to 1984 (and for some, back to the 1960s). While the report can include this data in a regression, this possibility was examined for the macroinvertebrate calculations as it was a heavy precipitation year and

did not see a trend associated with those metrics. Further, rainstorms can be patchy especially over the summer and the spatial distribution of rain gauges on the Site would not capture impacts for each stream.

c. **Fish length and width data were not collected. Historical fish length data collected in previous studies have not provided any useful additional insight into ecosystem health and thus were not continued.**

No changes to the document are proposed.

Responsible Party: Maggie Dercole, (803) 952-5797, maggie.dercole@srs.gov

2. The Bioassessment Report does not discuss why the fish and macroinvertebrate habitat assessment studies were performed in different seasons. For example, Section 5.1, Fish Sampling, states that the fish sampling was performed between the end of June and beginning of September (summer), whereas Section 5.3, Habitat and Physicochemical Variables, states that macroinvertebrate sampling was conducted between October 26 and January 30 (winter). *Please revise the Bioassessment Report to discuss the differences in seasons between fish and macroinvertebrate sampling and whether this could impact the results presented in the report.*

Response: Agree

Fish habitat assessments were performed in June and macroinvertebrate sampling (and the corresponding habitat assessments) were performed in fall/winter to allow for recolonization of the sampled habitats after disturbance from fish sampling. The seasonal difference in the collection time is not expected to impact the results.

The first paragraph of Section 5.2, Macroinvertebrate Sampling, will be edited as follows:

"Samples were collected between November 02, 2022, to January 20, 2023, and were not collected in the same season as fish sampling to allow for sufficient recolonization of habitats after disturbance from fish sampling. MHSP sampling in 2022/2023 added 23 additional macroinvertebrate samples to the 91 previous MHSP samples collected from 37 SRS stream sites across 1997, 2000, 2003, 2007, and 2017 for a total of 114 samples (Table 2)."

Responsible Party: Maggie Dercole, (803) 952-5797, maggie.dercole@srs.gov

SPECIFIC COMMENTS

1. Executive Summary, Page ES-1 of ES-4: The first sentence of the second paragraph states, "The biotic integrity of many downgradient streams at the SRS indicates that they now represent levels found in streams upgradient of SRS impacts;" however, it is uncertain what is meant by "levels." *Please revise this section to explain the use of the word "levels" in this sentence.*

   Response: Agree

   The first sentence of the second paragraph of the Executive Summary will be revised as follows:

   "The biotic integrity of many downgradient streams at the SRS indicates that they now ~~represent~~host fish and macroinvertebrate communities ~~levels~~ of similar quality to those found in streams upgradient of SRS impacts."

   Responsible Party: Maggie Dercole, (803) 952-5797, maggie.dercole@srs.gov

2. Section 5.2, Macroinvertebrate Sampling, Page 13 of 88: The text in this section states that the MHSP samples were collected between November 02, 2022 and January 20, 2023, however the text in Section 5.3, Habitat and Physicochemical Variables states the MHSP sampling occurred between October 26, 2022 and January 20, 2023. *Please revise this section to reconcile this discrepancy.*

   Response: Agree

   October 26, 2022, was an error. A practice session was held that day. Habitat assessments began November 2, 2022. This has been corrected in the first sentence of Section 5.3, Habitat and Physicochemical Variables, as follows:

   "Habitat assessments were conducted in alignment with MHSP sampling and occurred between ~~October 26~~November 2, 2022, to January 20, 2023, using two methods: the USEPA method for low-gradient coastal plain ecoregion streams adopted from the USEPA *Revisions to Rapid Bioassessment Protocols for Use in Streams and Rivers* and the SC Aquatic Biology Section assessment (ABS)."

   Responsible Party: Maggie Dercole, (803) 952-5797, maggie.dercole@srs.gov

3. Section 5.3, Habitat and Physicochemical Variables, Pages 14 and 15 of 88: There are two questions regarding this section. First, it is uncertain whether macroinvertebrate data collected in 2003, 2007, and 2017 were also gathered in winter. Second, the last sentence on Page 15 states that the physicochemical parameters of water temperature, pH, dissolved oxygen, and conductivity, were recorded; however, it does not indicate whether total organic

carbon (TOC) samples were collected. *Please revise the section to clarify when the macroinvertebrate samples were collected in previous years, and note if TOC samples were collected.*

Response: Agree

Macroinvertebrate data in 2017 were collected in March, June, September, and November. For the other years, they were collected in conjunction with macroinvertebrate sampling (typically November-December). Specific sampling dates are not available for 2003 and 2007. TOC samples were not collected as part of this sampling effort.

The last sentence of the first paragraph of Section 5.3, Habitat and Physicochemical Variables, was revised as follows:

"Previous habitat assessments were conducted in 2003, 2007, and 2017 in conjunction with macroinvertebrate sampling (November to December for most sites and years)."

A sentence was added to the end of the last paragraph of Section 5.3, Habitat and Physicochemical Variables, as follows:

"Parameters included water temperature, pH, dissolved oxygen, and conductivity. Total organic carbon samples were not collected."

Responsible Party: Maggie Dercole, (803) 952-5797, maggie.dercole@srs.gov

4. Section 8, Discussion, Page 29 of 88: The use of the qualifier "bad" should be avoided when describing the presence or absence of fish species in the SRS streams. *Please revise this sentence to remove the word "bad" and replace it with a less pejorative statement.*

Response: Agree

The word "bad" has been replaced. The eighth sentence of the ninth paragraph of Section 8.0, Discussion, now reads as follows:

"For example, all sunfish species are considered the same and an increased number of species ~~is bad~~decreases the IBI metric."

Responsible Party: Maggie Dercole, (803) 952-5797, maggie.dercole@srs.gov

SRS Responses to South Carolina Department of Environmental Services Comments on the 2025 Periodic Report on the Bioassessment of Savannah River Site Streams SEMS Numbers: 69, 70, 71, 74, 84, SRNS-RP-2025-01200, Revision 0, September 2025

Comments Received: January 8, 2026

GENERAL COMMENT

1. The Department agrees with the recommendations outlined in Section 9.0 of the Periodic Report and would like to participate in a walk-down as specified in this section.

   Response: Agree

   SCDES and EPA both expressed interest in a walkdown. The project team will schedule a walkdown of Meyers Branch with SCDES and EPA as specified in Section 9.0 of the Periodic Report.

   Responsible Party: Maggie Dercole, (803) 952-5797, maggie.dercole@srs.gov