



Collaborative Adaptive Management (CAM) Progress Report
Stakeholder Committee
January 1, 2025– December 31, 2025

Committee Members

Jodi Harper, EPA CAM Facilitator

Members

Betsy Peters
Justin Aldred
Dennis Elmore
Michael Kruse

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Representing

City of Columbia
Boone County Commission
University of Missouri
Missouri Department of Natural Resources
Chamber of Commerce
“Smart Growth” Perspective
Builder/Developer
Columbia School Board
Sierra Club
Stream Teams
Property Owner
Property Owner
Soil & Water Conservation Board
Large Scale Commercial Representative
Agricultural Community

In 2011 the U.S. Environmental Protection Agency (EPA) established the Hinkson Creek TMDL calling for a substantial reduction in peak flow for specified design storm events. An alternate plan was negotiated in 2012 among the EPA, Missouri Department of Natural Resources (MDNR), Boone County, the City of Columbia, and the University of Missouri which involved Collaborative Adaptive Management (CAM.) “Collaborative adaptive management is a science-driven, stakeholder-based process for decision-making while dealing with the scientific unknowns inherent in many physical and biological systems. It uses an iterative process to make changes and then to determine the effect of those changes.”

The EPA provides a facilitator, MDNR provided three years of testing and participates in CAM committees, and the local entities share costs and provide support for the CAM committees. The standing committees are Stakeholder Committee, Action Team, and Science Team. The stakeholders were selected to represent a broad spectrum of local interests who make recommendations to Boone County, the City of Columbia, and the University of Missouri. The Action Team provides professionals associated with Boone County, the City of Columbia, the University of Missouri, Boone County Regional Sewer District, and Missouri Department of

Transportation who provide support to the Stakeholder Committee. The Science Team members are volunteer scientists and a stormwater engineer. This team makes recommendations to the stakeholders about projects to learn more about Hinkson Creek and ways to improve its water quality. To date, Stakeholder Committee recommendations have been based on recommendations from the Science and Action Teams.

The goal of the CAM process is to improve the water quality of Hinkson Creek so it can be removed from an impaired status. Hinkson Creek will continue to be categorized as impaired until the overall percentage of MSCI scores greater than 16 meets Missouri's Listing Methodology definition of an unimpaired water. This determination incorporates all the macroinvertebrate data collected from Hinkson Creek. As more and more projects are implemented in the watershed, DNR will target periodic future data collection, then analyze the data to determine if the instream effects from these projects have reached the point where more recent data indicates attainment. As an aside, dissolving CAM would reinstate the EPA TMDL process.

The following is a summary of the CAM Stakeholder Committee activities for 2025 with appropriate online links. The CAM Stakeholder Committee met three (3) times. Minutes exist for these meetings and can be found at <http://www.helpthehinkson.org/CAMStakeholders.asp>.

- I. Presentations and Reports
 - a. Joshua Horne & Cody Luebbering, Geosyntec Consultants: Flat Branch Creek Salt Monitoring presentation. January 31, 2025.
 - b. Alba Argerich, University of Missouri: Synoptic Sampling Results presentation. March 5, 2025.
 - c. Joshua Horne, Geosyntec Consultants: Chloride Study Updates presentation. March 5, 2025.
 - d. Michele Woolbright, Boone County: Website Redesign presentation. March 5, 2025.
 - e. Michele Woolbright, Boone County: Logo Redesign presentation. March 5, 2025.
- II. Field Trips and Special Meetings
 - a. All-Team Field Trip on June 24, 2025.
- III. Riparian Sub-Committee met four (4) times in 2025. Minutes are at: <http://www.helpthehinkson.org/RiparianSub-committee.asp>
 - a. Grindstone Nature Area Riparian Corridor Restoration – City of Columbia Parks and Recreation has been working with the subcommittee to do a small riparian corridor restoration. The City is in the process of expanding the parking lot, so the anticipated restoration will take place in Spring 2026. Signage discussing the importance of riparian corridor is also planned.
- IV. Recommendations and Actions
 - a. Actions:
 - i. USGS Comprehensive Sampling – This project was approved for funding in 2021. The United States Geological Survey/Columbia Environmental

Research Center (USGS/CERC) collected water and sediment samples from Hinkson Creek and major tributaries in the spring and fall of 2022. Samples were analyzed for the presence of various chemical compounds that may be contributing to the impairment of aquatic life communities in Hinkson Creek in 2023. A final presentation is expected in 2025.

- ii. Synoptic Sampling – Sampling began in 2019. Funding was approved in 2019 to continue sampling for two (2) additional years. Five (5) events were completed in 2021. Two (2) events were completed in 2022. Dr. Argerich's PhD student is analyzing the data collected and will provide a presentation to Stakeholders once completed.
 - iii. Lincoln University Gauging Stations – Dr. Shawn Zeiger installed stage samplers at Dr. Hubbart's old gauging station sites along Hinkson Creek in 2021. In 2024, Dr. Zeiger turned these sites over to Dr. Argerich, University of Missouri. These sites have been worked into the Additional Hinkson Creek Surface Water Sampling proposal.
 - iv. Chloride Task Force - This task force was created to analyze current salt usage and application methods in the watershed; recommend practices, policies, and incentives for applying salt wisely; and explore other deicing alternatives for sodium chloride. A final report has been submitted. The Chloride Task Force met one (1) time in 2024.
 - v. Continuous Water Quality Monitoring – This project was approved for funding in 2022 to perform continuous water level, water temperature and specific conductance monitoring at six (6) sites along Hinkson Creek and its tributaries. Monitoring equipment was installed in the fall of 2023 and will continue for three (3) years.
 - vi. Additional Hinkson Creek Surface Water Sampling
 - vii. Riparian Restoration – Grindstone Nature Area (See IV.b. above)
- b. Recommendations:
- i. Stakeholder member replacement for resigned and non-active members.
 - ii. Stakeholder volunteers were requested to serve on the Riparian Subcommittee.
- c. Proposals:
- i. A motion to approve the HelptheHinkson.org website redesign was unanimously approved on March 5, 2025.
<https://helpthehinkson.boonemo.gov/>
 - ii. A motion to approve the Hinkson Creek CAM logo redesign was unanimously approved on March 5, 2025.

V. Macroinvertebrate Results

- a. Macroinvertebrate results through 2017 are presented in tabular form at: [2017 Hinkson Creek MSCI Table](#). The last nine test periods produced mixed results. The best results were in the Fall of 2014 (8 of 11 sites fully supporting) and Spring of 2016 (8 of 11 fully supporting). In the Fall of 2014 seven supporting

sites were at stations HC 4-8 while in Spring 2016 seven supporting sites were at stations HC 1-5.5. The worst results were the Spring of 2017 (3 of 11 supporting) and the Fall of 2017 (2 of 8 supporting). Every site was fully supporting at least three times (3-6) and not fully supporting at least two times (2-6). Very dry weather probably was a factor for some of the poor results.

- b. Due to the mixed results and cost of testing, the Action Team decided not to sample for the next 1-3 years until they know where to target their sampling.
- c. The Hinkson Creek Aquatic Macroinvertebrate Data Mining Project (IV.a.i. above) introduced a Request for a Statement of Qualifications (RSQ) on March 1, 2019. A Consultant was selected in July, and their findings were presented at the first Science Team meeting after the contract ended in late July 2020. Findings were presented at the All-Team Meeting on April 15, 2021. The recommendation of the study is “to preserve and improve the aquatic life in Hinson Creek (to) revolve around holistic watershed management, planning, best management practice (BMP), and monitoring tools to assess performance.” An area of focus identified in the study is to address Chlorides through implementation of non-structural BMPs. A list of recommendations specific to the results of this study can be found in Section 6 of the Aquatic Macroinvertebrate Data Mining Report. The report can be found at [Hinkson Creek Aquatic Macroinvertebrate Data Mining Report](#).
- d. The Missouri Department of Natural Resources planned to resume sampling in Fall 2025. Due to drought conditions, this was tabled and will resume in Spring 2026.

Appendix

The City of Columbia, Boone County, and the University of Missouri completed additional stormwater projects that were independent of CAM. Below are some of these projects.

City of Columbia

Stormwater and Sanitary Sewer Utility Work:

Stormwater:

- Bernadette Stormwater Improvement
- Nebraska Ave. Stormwater Improvement (ARPA)
- Alan Lane Stormwater Improvement
- Stormwater CMP Lining (ARPA)

Sanitary Sewer:

- PCCE #35 Richmond Ave.
- Annual Sanitary Sewer Rehab

University of Missouri

- A stormwater management basin at the Thompson Center for Autism. Inlets around the new building and adjacent parking lots were piped into the new basin in 2025
- Demolition of Vet Science Building, less pavement was installed in its place, and more trees were added in 2025.
- Salt shed was relocated which included an enclosure for all campus chloride storage.
- Vet Med diagnostics Building Addition included an underground detention storage and treatment west of the new building.

Boone County

- An 18-inch x 42-foot-long crossroad storm culvert was replaced at Ash Grove Ln.
- A 36-inch arch x 60-foot-long crossroad storm culvert was replaced at Sheridan Rd.
- A 24-inch by 30-foot-long crossroad storm culvert was replaced at Birch St.
- Maintenance was performed on an additional nine (9) storm culverts in the watershed.
- Nine (9) driveway culverts were replaced in the watershed.