

Collaborative Adaptive Management (CAM) Progress Report  
Stakeholder Committee  
January 1, 2019 – December 31, 2019

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<i>Committee Member</i>	<i>Representing</i>
Karl Skala	City of Columbia
Fred Parry	Boone County Commission
Todd Houts	University of Missouri
Tim Rielly	Missouri Department of Natural Resources
Tom Trabue	Chamber of Commerce
Mark Farnen	Central Missouri Development Council
Della Streaty-Wilhoit	Columbia School Board
Dee Dokken	Sierra Club
Ben Londeree	Smart Growth Coalition
Diane Oerly	Stream Teams
Jeanine Pagan	Property Owner
Paul Mehrle	Property Owner
Frank Gordon	Soil & Water Conservation Board
Nathan Odle	Large Scale Commercial Representative
Jay Turner	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.” <http://www.helpthehinkson.org/stakeholders.asp>

The EPA provides a facilitator, MDNR provided five years of invertebrate monitoring and participates in CAM committees, the local signatories to the agreement share costs and provide support for the CAM committees. The standing committees are: Stakeholder Committee, Action Team, and Science Team. In addition to the signatories, the remaining 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 members are 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 agency scientists with many donating time and an engineer from the private sector. This team makes recommendations to the Stakeholder Committee regarding projects to study and determine the cause of impairment to and improve the water quality of Hinkson Creek. To date, Stakeholder Committee recommendations have been based on recommendations from both 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. The criterion for delisting Hinkson Creek includes three consecutive tests, in which all the test sites are fully supporting (16 or better on the Macroinvertebrate Stream Condition Index [ MSCI] Scores). An alternate criterion is the percent of fully supporting sites in the reference stream in the Ozark/Moreau/Loutre Ecological Drainage Unit. For example, if 85% of the reference stream sites are fully supporting then at least 85% of the Hinkson Creek sites must also be fully supporting. As an aside, dissolving CAM would reinstate the EPA TMDL process.

The following is a summary of the CAM Stakeholder Committee activities for 2019 with appropriate online links. The CAM Stakeholder Committee was scheduled to meet five times since the last report. Minutes exist for all five meetings and can be found at <http://www.helpthehinkson.org/CAMStakeholders.asp>. Two presentations were made to the Stakeholder Committee. One special meeting was held. The Riparian Subcommittee met six times. Four projects approved by the Stakeholder Committee are at various stages. The Stakeholder Committee approved three proposals for action, and an appendix contains non-CAM projects completed by local regulated entities.

#### I. Presentations and Reports

- a. Laura Wiseman, University of Missouri: Monitoring and Evaluating a Level Spreader Stormwater Best Management Practice in a Subwatershed of Hinkson Creek presentation. December 10, 2019
- b. Laura Wiseman, University of Missouri: Stakeholder Report on Forum Nature Area Level Spreader Monitoring Project. March 7, 2019

#### II. Field Trip and Special Meetings

- a. Grindstone Trail Nature Walk, (with Audubon Society). April 3, 2019
- b. Capen Park Nature Walk (with Audubon Society). May 1, 2019
- c. CAM Stakeholder special meeting held August 7, 2019, voting to approve Dr. Della Streaty-Wilhoit as the Columbia Public Schools representative, and to consider sending a letter of support for Combined Animal Feeding Operation (CAFO) regulations to the Boone County Commission.

#### III. Riparian Sub-Committee met six times in 2019. Minutes are at:

- <http://www.helpthehinkson.org/RiparianSub-committee.asp>
- a. There was planning for a USDA Regional Conservation Partnership Program (RCPP) grant proposal for riparian cost share BMPs. Action is on hold awaiting a RFP.
  - b. Hinkson Creek Land Management Workshop was held on December 14, 2019.

#### IV. Recommendations and Actions

- a. Actions:
  - i. Sediment Mapping Project was completed in August 2018 and is in the data analysis phase.
  - ii. Flow and Sediment Study was completed February 3, 2019.

- iii. Forum Nature Area Monitoring Project was completed in November 2019 and is in the analysis and reporting phase.
- iv. Hinkson Creek Aquatic Macroinvertebrate Data Mining Project - ongoing
- b. Recommendations:
  - i. Letter of Support to Boone County Commission in favor of a health ordinance addressing CAFOs was made on June 19, 2019. This was one of two topics discussed at the special meeting held August 7, 2019. The motion to issue the letter of support was voted down. Stakeholders determined this was not within their purview.
  - ii. Letter of Support for Drs. Argerich, Aloysius, and North for future Hinkson Creek grant opportunities (MU System Grant).
  - iii. CAM website redesign.
- c. Proposals:
  - i. MU System Grant for Outdoor Classroom on Hinkson Creek. March 7, 2019 – This project was not selected for funding.
  - ii. University of Missouri Watershed Water Quality Assessment. Unanimously approved. September 24, 2019
  - iii. USGS Comprehensive Chemical Sampling. Unanimously approved. December 10, 2019

V. Macroinvertebrate Results (MSCI scores determine 303d status.)

- a. Macroinvertebrate results through 2017 are presented in tabular form at: [http://www.helpthehinkson.org/documents/2017\\_Hinkson\\_MSCI\\_Table%20\(002\).pdf](http://www.helpthehinkson.org/documents/2017_Hinkson_MSCI_Table%20(002).pdf)  
 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 was probably 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 will be presented at the first Science Team meeting after the contract ends in late July 2020. Findings will be presented to the Stakeholders at the next All Team Meeting in Fall 2020.

## ***Appendix***

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

### Boone County

The El Chaparral Street Rehabilitation Project removed the existing concrete streets in the neighborhood and replaced them with 53,000 square yards of 20% recycled asphalt pavement. The entire cost for the project was \$3,374,253.59. [https://www.showmeboone.com/resource-management/documents/annual-reports/2019\\_RB\\_Annual\\_Report.pdf](https://www.showmeboone.com/resource-management/documents/annual-reports/2019_RB_Annual_Report.pdf)

The East St. Charles Road Bridge Replacement project consisted of replacing a multi-barrel culvert structure with a 65-foot-long span bridge with a concrete deck on a steel girder. The entire cost for the project was \$339,698.45. [https://www.showmeboone.com/resource-management/documents/annual-reports/2019\\_RB\\_Annual\\_Report.pdf](https://www.showmeboone.com/resource-management/documents/annual-reports/2019_RB_Annual_Report.pdf)

### City of Columbia

Stormwater and Sanitary Sewer Utility Work

#### *Stormwater:*

Hinkson Creek Watershed, Grindstone Creek Subwatershed – Planted additional trees and removed invasive plants at the El Chaparral Riparian Restoration project site.

#### *Sanitary Sewer:*

Hinkson Creek Watershed, Hinkson Main Stem – Installed 21,318 linear feet of 36” trunk sewer along Hinkson Creek in northeast Columbia.

Hinkson Creek Watershed, Flat Branch Subwatershed – Replaced 3,733 linear feet of failing 8” sewers as part of a Private Common Collector Elimination (PCCE) project.

Hinkson Creek Watershed, County House Branch Subwatershed – Replaced 149 linear feet of failing 8” sewers as part of a PCCE project.

Hinkson Creek Watershed, Meredith Branch Subwatershed – Stabilized approximately 1,800 linear feet of Upper Meredith Branch to help protect sewers. Relocated 587 linear feet of 8” sewer to move it away from the channel.

### University of Missouri

Installation of five new silva cells (for tree growth and stormwater treatment) at the new School of Music.

10,500 square feet of impervious area removed and replaced with pervious material at the Research Park Development Building.

Approximately two acres of property occupied by the buildings and associated paved areas at University Village and University Heights was demolished and converted back to natural vegetation.