Hinkson Science Team Meeting Minutes

A meeting of the Hinkson Creek Science Team was held at the Allstate Consultants' Conference Room (3312 Lemone Industrial Blvd, Columbia, MO 65201) on September 3, 2019, from 3PM to 5:15PM.

Science Team Members

Name	Organization	Present/Absent for Meeting
Catherine Wooster-Brown	U.S. Environmental Protection Agency	Present (phone)
Paul Blanchard	Missouri Department of Conservation	Present
Robert Voss	Missouri Department of Natural Resources	Absent
John Holmes	Allstate Consultants	Present
Robb Jacobson	U.S. Geological Survey	Present
Dave Michaelson	Missouri Department of Natural Resources	Present
Dan Obrecht	University of Missouri	Present
Enos Inniss	University of Missouri	Absent
Barry Poulton	U.S. Geological Survey	Present

Other People in Attendance: Joe Engeln, Lynne Hooper, Nicki Fuemmeler, Michelle Woolbright, Tom Wellman, Dave Alvarez, Alba Argerich.

Minutes

The minutes from the August 6, 2019, meeting were approved.

No votes were held.

Discussion Items

1. Alba Argerich (University of Missouri) presented "Preliminary Results of Hinkson Creek Synoptic Samplings."
    - Sampling was designed to assess spatial and temporal variability of water quality in Hinkson Creek and its major tributaries.
    - Seven teams sampled 29-34 Hinkson Creek sites and 7-11 tributary sites on five separate occasions between June 2018 and June 2019. Samples were collected within a span of 2 hours, between 10:00 a.m. to 12:00 noon.
    - Hinkson Creek sample sites began in the highest part of the watershed and extended downstream to the Perche Creek confluence.

- Higher concentrations of total nitrogen and total phosphorus were observed among stations upstream of Stephens Lake, and chloride concentrations tended to be higher among downstream urban sites.
- The next step in the study will be to analyze the tributary data. They currently have enough funding to conduct one more round of sampling.
- For $15,000, Dr. Argerich's team can continue this study for another year.

2. Dave Alvarez (USGS-CERC) presented "Contaminants Associated with Urban Environments – Considerations for Hinkson Creek."
    - Typical urban contaminants in streams include petroleum fractions (e.g. fuels, PAHs), legacy pesticides (e.g. DDT, chlordane), current use pesticides, PCBs, fire retardants (PBDEs), industrial materials, salts, metals, and compounds commonly known collectively as "emerging contaminants" that include personal care products, pharmaceuticals, and illicit drugs.
    - Many of these compounds occur sporadically and in non-lethal concentrations.
    - Detecting these contaminants is best done via passive samplers that can be deployed over a period of hours to months.
    - Semi-permeable membrane devices (SPMDs) and polar organic chemical integrative samplers (POCIS) mimic aquatic organisms' exposure to organic contaminants.
    - Dr. Alvarez and Lynne Hooper (Boone County) provided a cost estimate for the analysis of water and sediment samples collected from Hinkson Creek.
    - Sampling would include passive samplers for organics, grab samples for inorganics, and sediment samples.
    - Two sampling events (spring and fall) at five sites would cost $77,042.50 for the analyses listed above.

3. Other Topics and Next Steps
    - Lynne Hooper requested assistance from the Science Team for study design and to refine the chemical analysis list in Dr. Alvarez's proposal.
    - Lynne will be leading a CSI Stream Team study on Hinkson Creek and two tributaries. They will collect surface water grab samples monthly from November to March and following winter storm events. MDNR's Chemical Analysis Section will analyze samples for chloride.
    - Questions for next time:
        i. There are several streams on the 303(d) list for chloride. What data were used to make the listing?
        ii. How much would it cost for MDNR to collect macroinvertebrate samples (spring and fall) at five Hinkson Creek stations to complement Dr. Alvarez's proposed study?

4. Next Meeting

    The next meeting for the Science Team is currently scheduled from 3 pm to 5pm on October 1, 2019. At previous Science Team meetings, however, a joint meeting in October with the Action Team was discussed. A meeting place has yet to be decided.