Hinkson Creek CAM Science Team
Notes of the February 11, 2013 meeting

Team Members Present: Bob Angelo, Paul Blanchard, Joe Engeln, John Holmes, Jason Hubbart, Robb Jacobson, Dave Michaelson, Dan Obrecht

The minutes from the December 2012 meeting were approved.

The Team discussed the status of the Habitat Assessment funding and set up a meeting for February 27, 2012 at 1 PM at MoRAP to discuss the GIS portion of that project. All are invited to attend, but Paul, Jason, Robb and Joe were expected as they had agreed to steer this effort. The federal budget is still uncertain and there was some fear that the $22,000 in USGS funding might not be available. The three local partners had approved enough funding for this project to support it without the grant funding. Jason has started to identify students and to design protocols and data sheets for the field component. The goal is to start the field work in late May.

Identification of science needs (these are in order of mention, not priority order):

1. Why is Hinkson Creek impaired (diagnoses of problems)?
2. How can we assess relative impacts of stressors? (BMP and Hotspot report; John's scoring scale)
3. What do we know about the fish, mussel and other communities? What do they tell us that the invertebrates cannot?
4. What historical data exist? (IBI, Species richness vs. reference streams)
5. Can we compare historical data between sites?
6. Can we look more closely at the invertebrate data to look at species based on: impacts of metals; functional feeding groups; pollutant groups?
7. Is there additional information in the Hubbart data that can be discovered?
8. Do we need increased spatial density of invertebrate data?
9. Do we need to examine the tributaries (DNR sites bracket some; Flat Branch does have an impact)
10. What additional chemical data are most desired and under what conditions should they be collected? (Conductivity, Dissolved Oxygen (DO), Turbidity, Chloride, temperature, Total soluble solids (TSS), Poly-aromatic Hydrocarbons (PAH), coarse to fine sediments and adsorbed constituents
11. How do we determine the cost-benefit ratio of additional data gathering?
12. Is the stream truly impaired? How appropriate are the criteria? (Note that the latter question may be beyond our purview.)
13. To what extent do we understand whether habitat or chemical impacts are most critical?
14. How critical are bedload and sediment flux and how do we measure these?
15. What is the influence of the tributaries and for what and when are we most concerned with their potential impacts?
16. Can mussels tell us more about metals, bed stability, siltation, and exposure pathways? (Metal concentrations likely too low; fish presence is additional factor)
17. To what extent do the spatial and temporal correlations provide clues to cause and effect?

18. Will additional information be gained by examining historical invertebrate collections at MU? (Call Charlie Rabeni.)
19. Are sediment contaminants more valuable as indicators of invertebrate stressors than water chemistry? (DNR did some microtoxicity testing during the 3-phase study in the early 2000's.)
20. What modeling is needed? Scaling – difficult and expensive? Precipitation vs. hydrology; can we use Sanborn field 5-minute data to gain insight?
21. Rainfall data vs. the design and effectiveness of BMP's?
22. Invertebrate sensitivity to environmental variables and stressors?
23. How to design sampling events in such a way as to tie them to the conditions and then to model across a range of conditions?
24. Can we obtain salt usage data and how reflective would that data be of total use?

Tom Wellman then explained that the Action Team is working to narrow down the number of projects for consideration to those most likely to go forward over the next two years. They are using land ownership, perceived bang for the buck and other criteria. The science team suggested including ability to be replicated and ability to learn something as criteria.