

# Appendix 4

## Sampling Plan Alternatives



During the third Steering Committee meeting held on March 14, 2007 three separate sampling plans were developed for review.

### **Alternative A**

- 1.) 7 sites w/ full suite of water chemistry and physical parameters:
  - pH, temperature, dissolved oxygen,
  - nitrate+nitrite, organic nitrogen (TKN), ammonia nitrogen,
  - total and dissolved phosphorus,
  - turbidity, conductivity, and discharge (flow).
  - Fecal coliform as *E. coli*
  - Stormflow and baseflow samples collected once at each site.
- 2.) 40 long-term *E. coli* samplers
  - Samplers stay in via stakes for one month
  - Media removed and rinsed
  - Sub-sample of wash water cultured on Petri dish and enumerated
- 3.) Water Quality & *E. coli* Public Workshop
  - Focus on interpretation in lay persons terms
  - Public can view samples of bugs and bacteria samples
  - Approve understanding of *E. coli* threat and its status as an indicator organism
  - NOTE: may need approval from IDEM for workshop element to be part of sampling budget

### **Alternative B**

- 1.) 7 sites w/ full suite of water chemistry and physical parameters:
  - pH, temperature, dissolved oxygen,
  - nitrate+nitrite, organic nitrogen (TKN), ammonia nitrogen,
  - total and dissolved phosphorus,
  - turbidity, conductivity, and discharge (flow).
  - Fecal coliform as *E. coli*
  - Stormflow and baseflow samples collected once at each site.
- 2.) 90 long-term *E. coli* samplers
  - Samplers stay in via stakes for one month
  - Media removed and rinsed
  - Sub-sample of wash water cultured on Petri dish and enumerated

## Alternative C

- 1.) 7 sites w/ full suite of water chemistry and physical parameters:
  - pH, temperature, dissolved oxygen,
  - nitrate+nitrite, organic nitrogen (TKN), ammonia nitrogen,
  - total and dissolved phosphorus,
  - turbidity, conductivity, and discharge (flow).
  - Fecal coliform as *E. coli*
  - Stormflow and baseflow samples collected once at each site.
- 2.) 40 long-term *E. coli* samplers
  - Samplers stay in via stakes for one month
  - Media removed and rinsed
  - Sub-sample of wash water cultured on Petri dish and enumerated
- 3.) 5 Macroinvertebrate Sites
  - Will require Hester Dendy artificial substrate samplers due to lack of riffle habitat
  - NOTE: species diversity is affected by available habitat, therefore potential knowledge gained related to insect community health (re: surrogate for long-term water quality conditions) is somewhat limited since Hester Dendy samplers are only left in place a few weeks.