

Monitoring Workgroup
Monday, January 26, 2009
9:15 AM to 10:15 AM

Individuals Present:

Tom Ivy (Texas Stream Team); Linda Broach (TCEQ); Tony Bennett (AECOM); Steven Johnston (GBEP); Richard Chapin on phone (City of Houston)

H-GAC Staff Present:

Rachel Powers; Erin Anderson

Discussion:

E.coli as the only parameter?

- At this point changing parameters would move us backwards in the process, but new parameters could be added.
- Some advocate a monitoring toolbox over sampling only for *E.coli* and think that Enterococcus should definitely be sampled for. Having data on both *E.coli* and Enterococcus at every monitoring station would give comparable information along the whole waterway, instead of a division where upstream water is sampled for *E.coli* and downstream water is sampled for Enterococcus. The EPA workgroup is looking at possibly having multiple indicators.
- Sample for disease causing bacteria not *E.coli*
- *E.coli* is used as the indicator because it can be found in the water. Disease causing bacteria may not be detectable even when there is a risk. Brinkmeyer's study did find that disease-causing bacteria correlate well with high instances of *E.coli*. One problem with monitoring for disease causing bacteria is that there are not a limited number of types and we could never sample for enough types.
- When we have another parameter to sample for in the future we should be prepared to go with that parameter.

Possible research topic: What is the correlation between *E.coli* and pathogens?

Sampling types/sites

- Repetitive, replicate sampling is needed to determine if there is a water quality issue.
- To determine improvements in water quality we have to rely on ambient monitoring not event triggered monitoring.
- Houston is the most densely monitored watershed in the state. There will be a site that we already sample that will be representative and that will tell us if there are improvements once we start implementation activities.
- To determine improvements we will need to look at overall trends, not individual samples.

EPA workgroup

- The process of looking at the indicator began with a court action from the Beach Act and the EPA decided to carry this over to fresh water. The EPA workgroup will have recommendations by 2012.
- This workgroup needs to make sure someone from the Houston region or a similar watershed (with waterways that are slow moving and turbid) is in the EPA workgroup.
- When we switch to the new indicator there will need to be overlap so that we will be able to compare future results to historical data.

Data tracking/analyzing

- We need to design a database to track everything involved in implementation, IAs that have been installed, sampling data, and some way to tie relevant info together (ex: an IA implemented and then upstream and downstream sampling data).
- Unless someone is continuously reviewing/analyzing the data we won't know which activities to continue and which to stop. We won't know if they are having the desired effects.
- Who will keep track of this database into the future and conduct data analysis? We will need to assign this task and assign someone to be in charge. Maybe the Clean Rivers Program at H-GAC could be in charge.
- Funding will be needed. Managing the database and analyzing data will be a full time job. It won't just involve ambient monitoring, but will also include BMP effectiveness monitoring.

Is there a correlation between nutrients and E.coli?

- Where are we on nutrient standards for bayous? Far off.
- Turbidity might be slowing down nutrients somewhat
- There is not a definite link between high nutrients and high bacteria. They might just be coming from the same place, not the bacteria growing off the nutrients.
- The problem with finding a correlation is that we are looking at what is left, not at what is used. We don't have a way right now to measure what is used.
- Another thing that makes finding a correlation so difficult is that there are so many variables: velocity, shade, turbidity, pH.

Should ease of/ability to monitor possible reductions in bacteria loading determine which activities are implemented? No, there is no easy way to measure the effect some activities, such as education or a change in the construction general permit, have on bacteria loads.

Next meeting:

The next meeting will be determined later when source workgroups have decided on specific implementation activities for which monitoring will be needed. Maybe in May. (Avoid scheduling the meeting at the same time as the AWWA, TWCA or the EPA water quality seminar.)