Research Workgroup
Friday, December 12, 2008
9:00 AM to 10:00 AM

Individuals Present:
Michael Bloom (PBS & J); Trent Martin (HCPID-WPG); Catherine Elliott (HCFCD); Ruben Martinez (Montgomery County Environmental); Linda Broach (TCEQ); Linda Pechacek by phone (Citizen/Civil Engineer); Allen Peach by phone (Citizen / URS); Bruce Heiberg (BPA); Richard Chapin by phone (City of Houston); Tony Bennett (AECOM); Min Xiao (AECOM)

H-GAC Staff Present:
Rachel Powers; Erin Anderson

Brainstorming Session:

Possible research topics from other groups:

- Use Attainability Analysis – These can be expensive. H-GAC did a UAA and found that it didn't produce much useful information. The study found that people are using waterways but that usage differs very little between waterways. A UAA wouldn't help the waterways to meet the standard; it would just let us know the number of people using the different waterways. The waterways still need to meet the standard. A less thorough UAA could be conducted to determine in general which waterways are used most. It could cost much less. Calling the study a UAA sets the bar really high and the cost really high, call it something else

- Dog poop test – The test would involve sampling runoff for *E.coli* from two sites, one with a dog and one without.

- Prior land use – What kind of effect does prior land use have on the quantity to bacteria in runoff from a construction site with disturbed soil? Results could be used to determine appropriate regulations for different construction sites based on prior land use. What types of controls are necessary? How many inspections are needed? How intense should the inspections be? HCFCD did some kind of study for Floodwise: runoff from construction sites vs. virgin untouched land. Information about bacteria persistence and viability over time could help with this question.

Possible research topics from this group:

- Correlate turbidity with bacteria – Studies in Texas have found no statistical relationship between bacteria and turbidity. One site in Houston consistently has some of the highest bacteria levels, but the water is very clear. There does seem to be a correlation between bacteria in the sediment and bacteria in the water.

- Study to identify the natural carrying capacity of the streams measured in cfs – Could dams be operated to more closely mimic the natural flows. Currently we have an artificially constant flow. It is completely different now than before and so we need to work with what we have.

- Is there a health issue/an elevated risk of illness from contact with water from the impaired waterways? – Out of 1000 individuals 50 people will be suffering from a gastrointestinal illness at any one time. This is the typical disease background burden. Nationally it was determined that 8 or more illnesses above the background level constitutes a problem. Do the regions impaired waterways produce this many illnesses. If they don't then there isn't a health issue. Bacteria are everywhere throughout the environment. *E.coli* in general does not cause illness. One type of *E.coli* does. A study could be conducted on those that take the samples from impaired waterways since they do come in contact with the water. They could note when they are in the water and when they get sick. There would need to be two groups for the study: those that will come in contact with the water (samplers) and those that won't (air investigators).

- What is the appropriate indicator bacteria for this region? – There is some research going on using supplemental indicators. Results they are getting for the different indicators vary greatly. Maybe we can't rely on **an** indicator; maybe we need a toolbox of indicators. EPA has a court ordered deadline of October 15, 2012, to determine which criteria standard should be in place. It will not be based on perfect science, it will be based on as good as they can get. So far, many of the studies have been conducted on water bodies with characteristics very different from ours. Studies done here need to be coordinated with studies in other locations. We won't get enough data on our own to answer our questions.

- Research to see what it would take to get the 90% reduction in bacteria levels. Could do a test in a sub-watershed to keep everything isolated. The monitoring group will be monitoring how much levels decrease because of implementation activities.

- Determine the pathogen to indicator bacteria ratio for each of the watersheds. The Watershed Outreach workgroup could then prioritize segments for implementation activities based on bacteria counts.

Other topics:

- Water Environmental Research Foundation applied for a million dollar grant to look at the water column numbers of indicators and try to connect it to risk levels.

- Lots of interest in figuring out acceptable bacteria levels for secondary contact, the factor between primary and secondary contact recreation risk.

- Is the 126 level even achievable for this area? Did the Houston area ever meet the standard? Probably not. Historical information indicates levels have never been that low.

- Are there streams that meet the standard that have been sampled? There are some in other areas such as Southeast Texas.

Next meeting:
Monday, January 26, 2009, 10:30 AM to 11:30 AM, H-GAC offices, Conference Room C