

**Meeting Summary**  
**Buffalo & White Oak Bayous Bacteria TMDL Stakeholder Group**

**May 18, 2004**

**STAKEHOLDERS PRESENT:** Latrice Babin; Claire Caudill; Catherine Elliott; Terry Hershey; Bob Hunt; Shane Hunt; Gwang Kyo Po; Bill Manning Sr.; Trent Martin; David Peters; Linda Shead; Mary Ellen Whitworth;

**STAKEHOLDERS ABSENT:** Neil Bishop (represented by Linda Pechacek); Delwin Cannon; Rod Hailey; Scott Jones; Helen Lane; Colleen O'Brien; Mike O'Brien; Kim Phillips; Todd Running (represented by Jean Wright); Kerry Whelan.

**SUPPORT TEAM PRESENT:** Paul Jensen; Kim Laird; Carl Masterson; Mary Jane Naquin; Tina Petersen; Hanadi Rifai; Ron Stein; Yu-Chun Su; Monica Suarez.

**OTHERS PRESENT:** Donna Phillips (TCEQ Houston); Kathy Ramsey (H-GAC); Bill Manning Jr.(Manning Engineering); Karl Brown (Corps of Engineers); Tom Ivey (Citizen); Susan Karlins (Houston); Jason Maldonado (TC&B); Roger Whitney (Houston); Alem Gebriel (TC&B); Lynne Johnson (BPA); Charley Schwartz (PBS&J).

**WELCOME & INTRODUCTIONS**

At approximately 4:10 PM Mary Jane Naquin welcomed participants and opened the meeting by requesting self-introductions of the stakeholders and others.

**REVIEW AGENDA**

Members accepted the agenda as proposed.

**ADOPTION OF JANUARY 28 MEETING SUMMARY**

There were no changes to the meeting summary and it was adopted by consensus.

**PROJECT BRIEFINGS**

**H-GAC Clean Rivers:** Jean Wright, representing Todd Running, briefed the group on the bacterial die-off study. This work is being performed by the City of Houston Health and Human Services laboratory and field office through a contract under the Clean Rivers Program. The subject organism is E. coli, which is alleged to be unable to regenerate itself outside a warm blooded animal. However, it does regenerate in Houston's bayous. This study will test this allegation. It is anticipated that the QAPP will be approved and signed by the first of June and work will commence soon thereafter. In response to a question, Ms. Wright noted that PBS&J is giving some input but the contract is with the City of Houston.

**TCEQ.** Ron Stein: Trent Martin informed the group that the bacteria source study is on hold, awaiting a contract from TCEQ.

**WITHDRAWAL AND DIVERSIONS OF BAYOU WATERS**

Ron Stein briefed the group on an issue that has implications for the Implementation Phase. With controls on groundwater withdrawals implemented through the Harris -Galveston Coastal Subsidence District (HGCSA) more future water demands will be placed on surface water, including Houston's bayous. Two applications have been submitted to TCEQ for a total of 750,000 acre feet per year of withdrawals and diversions within the bayous and tasks are being added to the current work order to add this factor to the watershed model TCEQ is using in the TMDL study of bacteria. Hopefully, this work will be finished by the end of August (end of FY 2004). One of the things TCEQ will be looking at is the loading from subwatersheds to see if loadings can be controlled at the subwatershed level rather than the entire watershed, another is the nonpoint source loading directly to the bayous – particularly those for which there are no direct controls. The gist being that a certain amount of water will have to be maintained within the

## DRAFT SUBJECT TO REVIEW AND REVISION!

bayous to provide sufficient assimilative capacity and thus the potential conflict with bayou water withdrawal and diversion. This issue is just developing and TCEQ is building it into the model, and TCEQ doesn't know where this will go, but it is something that the stakeholder group should know about now and we'll begin to see it in the technical team's reports and discuss.

In response to a question, Mr. Stein noted that the two applications he spoke of belong to the City of Houston and that one is for unappropriated water rights and one for use of future return flows from wastewater treatment plants. Linda Shead noted that this is something that was discussed at the Galveston Bay Freshwater Inflow Group and that group's consensus feeling is that it is better to have one entity that sits at the freshwater inflow table to make this application than a multitude of entities who do not sit at the table and there is no opportunity for negotiation. Catherine Elliot raised the point that diversion of water could affect Harris County Flood Control District's water quality ponds by requiring a diversion permit even though they would be capturing first flush stormwater runoff and this would place a burden on the District and anyone else wanting to construct wet ponds. Mr. Stein recognized that this issue impacts a variety of situations and wanted to be sure that the TMDL program has its opportunity to consider the impact on the project.

### **TMDL PROJECT STATUS**

Hanadi Rifai briefed the group on upcoming activities that were brought up at the brainstorming session and/or at the request of TCEQ field personnel. The Technical Team is anticipating completion of QAPP review by the end of May as the current work order has to be completed by the end of August. The Bacteria Source Tracking Sampling Plan has been finalized and the team will be looking at the impact of biosolids management at wastewater treatment plants – this was at request of TCEQ field staff who are concerned that solids are being wasted directly to the bayou during storm events. Also on the agenda will be further evaluation of bacteria from bayou sediments and the upstream reservoirs on Buffalo Bayou, bypasses and overflows and a look at what, if any, changes occur in E. Coli levels moving downstream from wastewater discharges. Once done all of this needs to be added to the model in addition to the water quality factors already in the model. Also a database will be developed in the Bacteria Source Tracking task for Houston bayous.

Dr. Rifai also noted that the project will have to deal with the “dog park” issue that is getting more publicity as citizens with dogs want an official city dog park located on Buffalo Bayou just downstream of the Shepherd St. bridge. Copies of recent news articles were distributed to the group. Dr. Rifai provided to Ann Otto with the dog park group the data for the nearest sampling stations to the dog park area. The levels are fairly high and though UH can't comment on whether there should be a dog park or not, the point is that there is a water quality concern. There was some discussion concerning the Buffalo Bayou Partnership's plan and the requirement of dog parks to be fenced in (this area is on the banks of the bayou and wouldn't necessarily fit in with the plan), there is a wooded area that even if people cleaned up after their dogs, this area would still accumulate waste, and that there is some search for an alternate site. Ron Stein added that there is some consideration for moving a sampling station that would better reflect waste impact from the dog park area and that pet waste (in the broad sense) will be a consideration in TMDL implementation.

Dr. Rifai then refreshed the group's memory regarding an issue from the January meeting regarding an apparent shift in the low flow Coliform concentrations. There appeared to be a shift in the mean concentration values with respect to sampling stations located downstream and upstream of Memorial Park. The technical team revisited this issue because it is important to know if this situation is something that should be built into the model reflecting an actual condition or whether it was from using historical data that might not accurately reflect the current processes of the bayou and should other data be looked at to calibrate the model. The point was raised that samples for E. Coli also jumped (historical data was for Fecal Coliform converted to E. Coli equivalents), although in a different downstream location. Dr. Rifai acknowledged that this would be evaluated. Dr. Rifai then reported that a comparison of E. Coli data back to 2001 (none collected before then) and fecal Coliform historical data that has been used all along showed that not always were high E. Coli numbers when historical data showed high fecal Coliform levels at the same station and that the opposite is not true. This is a concern to the group because this means that E. Coli is the target parameter being modeled and we have three years of data we didn't have before and there will be some changes in how the model is applied. The proposal here is to abandon the fecal Coliform. coli

## DRAFT SUBJECT TO REVIEW AND REVISION!

conversion and just use the last two years of e. coli data and break it into two periods where the model is calibrated with one set of data and validated with the other.

Dr. Rifai talked about bio solids data evaluation and it appears that the amount of biosolids from wastewater treatment facilities is being under reported. The Team will go back for a closer look at biosolids management and the amounts generated. There was discussion of reporting methods and differences in what amounts are reported and what has been estimated the facilities should be generating. A stakeholder noted that a project by the Gulf Coast Waste Disposal Authority for the Galveston Bay Estuary Program evaluated smaller plants on site and offered suggestion for improving operations and that there were indications biosolids were being discharged with treated effluent.

Paul Jensen, PBS&J, presented information on overflows and bypasses. The Team went through data collected by the City of Houston from January 2000 through the end of 2003. This data reflected the times city personnel were called out to address line blockages, leaks, etc. At the time of inspection an estimate was made of the volume of sewage that flowed out There is yet no final answer on how much of the sewage reaches the bayou. There were about 4,000 overflows reported in the four years (about 3/day) for the entire city. The Team calculated that assuming all overflows reached the bayous it resulted in a 2-3% difference in ambient bacteria levels in the bayou. In reality not all does reach the bayou so it would be less than the 2-3% but it is unknown how much less. A question was raised about what happens to the bacteria that don't get to the bayou, wouldn't they get there with the next rainfall and maybe the 2-3% is not an overestimation. Another question dealt with the method of estimation of overflow getting to the bayous and that what has been presented is really an underestimation based on experience – that field personnel tend to under estimate the duration of overflow vs. how long area residents observe the overflow. Another stakeholder expressed the belief that this source of bacteria is being minimized and that 2-3% should not be ignored in implementation measures. Ron Stein affirmed that no sources would be minimized in determining what measures will be taken to improve water quality in the bayous.

Returning to a discussion of the model, Dr. Rifai told the group that the areas above the reservoirs would be added to the model and looking again at treatment plant flows and their impact during low flows in the bayous. She asked the group to observe the variations in flows over a two day period. It was quite a bit and will have an effect on the model. In response to a question about the age of data being used, the Team is modifying the model to incorporate more recent data to get the best results possible.

Just before a break, the point was raised that this group should be looking at BMPs now even without knowing exactly what animal is the source, where exactly a leak might be. The group could look at what is being done elsewhere and how it might be similar or different to our problem. We should give ourselves a head start looking at possible solutions. We know that sediment is a problem, so why don't we look at what we could start doing now. The argument was made that anything that could be done to improve the quality of storm water would be beneficial. To the question that there must be other bacteria TMDL studies, Ron Stein noted that of 600 TMDLs across the country, only one other bacteria TMDL is underway, and it is in San Francisco Bay. Regarding implementation, what California is doing is modifying regulations for Municipal Separate Storm Sewer Systems. There was agreement among the stakeholders that we should begin to look at solutions and a group was formed to begin looking at end game strategies. Members of this group include Linda Shead, Mary Ellen Whitworth, Terry Hershey, Tom Ivy, Trent Martin and Carl Masterson.

### **RESERVOIR OPERATIONS**

Karl Brown with the Corps of Engineers gave a presentation on how the Corps operates Addicks and Barker Reservoirs in upper Buffalo Bayou. He gave a history of the dams and their sole purpose of flood management. Improvements have been made to the dams over the years to help retain flood waters and provide measured releases. Releases are regulated from the Galveston office but there are personnel at the dams to operate the gates. The flow is limited to 2,000 cubic feet per second. One problem that will eventually have to be dealt with is the amount of development behind the Addicks dam in West Harris County that has encroached upon the boundary of the Corps land. In 2003 the reservoirs prevented \$385,000,000 in damages. Every year the Corps spends \$2,000,000 in dam operations. There followed

## DRAFT SUBJECT TO REVIEW AND REVISION!

discussion of how long water would be held in the reservoirs and operations do not try to imitate nature but do help.

### **BIO-SOLIDS HANDLING**

Bill Manning Sr. representing the Texas Water Utilities Association, brought information to the group on how bio-solids are handled by wastewater utilities. He was assisted by Bill Manning Jr. Mr. Manning has been in the Houston area since 1972 and has experience as a regulator and has operated, designed and constructed wastewater treatment facilities. He addressed changes in design that have improved the quality of treated wastewater discharged to Houston's bayous – in the early days, overflows were designed but were eliminated over time. He noted a critical part of wastewater management is the collection system and it must be monitored and maintained to prevent leaks and overflows. He addressed wet weather overflows and how collection system surcharges are not reported and get to the bayous but this can be minimized or possibly eliminated. Mr. Manning pointed out that poor sludge management is the only way to get sludge to the bayous, that it would take special equipment to allow direct discharge of sludge. He did note that more training is needed to improve sludge management at facilities. He noted, with certainty, that about 1,000,000 gallons of flow will generate about 1,200 pounds of excess solids and that includes rainfall and inflow – an average number verified at facilities that Mr. Manning operates or evaluates for people. He said that flow data is available and is willing to help the Technical Team get that data. As the newest stakeholder, Mr. Manning voiced his appreciation for the group's work that it is important and that things can be done to reduce the amount of bad bacteria in the bayous. Mr. Manning Jr. remarked that operators typically want to do the right thing and that he would be available to help get data.

### **STORM WATER OUTFALL SCREENING**

Linda Pechacek brought the group up to date on changes proposed by the City of Houston for selecting storm water outfalls for screening. The City proposes to evaluate data from other sources developed outside; of the MS4 permit program along with data developed during the first permit term to choose screening sites. She distributed a short paper that is attached to this summary.

### **MEMBERSHIP ISSUES**

Carl Masterson presented the names for consideration of the group as new members. According to the ground rules, new members must be accepted by consensus of the stakeholder group. Names presented to the group were Bill Manning Sr. representing the Texas Water Utilities Association, Shane Hunt representing the Corps of Engineers, Bob Hunt representing local government wastewater operators; and David Peters representing local government storm water operations. Both Bob and David are with the City of Houston.

Basic changes have been proposed for the ground rules that reflect changes in the Outreach Team participation and some clarification. These changes were brought to the group for consensus and were adopted. A copy of the revised ground rules are attached to this summary.

### **NEXT MEETING**

No specific date was set, but possibly in September. Ron Stein will talk to TCEQ staff of other divisions that would likely affect or be affected by TMDL implementation and have them come to make presentations and respond to questions.

### **ADJOURN**

The meeting was adjourned at approximately 7:00 PM.