

**OSO CREEK/OSO BAY BACTERIA  
TMDL MEETING SUMMARY  
6-21-05**

**Present at Meeting:**

Chad Ahlgren	TCEQ – Region 14
Ray Allen	Coastal Bend Bays & Estuaries Program, Inc.
David P Amori	PSI Engineering
Juan & Katy Bahamon	
Cliff Beaber	Wastewater Department
Olga Beaber	City of Corpus Christi
Jim Bowman	Coastal Bend Bays & Estuaries Program, Inc.
Jim Boyle	
Paul Carangelo	Port of Corpus Christi
David Z Conoly	Property Owner/Citizen
Johnny Cotton	Property Owner/Citizen
Foster Crowell	City of Corpus Christi - Wastewater Dept
B Delgado	City of Corpus Christi
Carl & Carol Didier	Land Owners
Gary Eddins	Barney Davis Power
Johnny French	Retired - US Fish & Wildlife
Rocky Freund	Nueces River Authority
Andy Garza	Texas State Soil and Water Conservation Board
Vickie Harraghey	Texas Excursions
Rick Hay	TAMU-CC / Center for Coastal Studies
Lois Huff	President of League of Women Voters - CC
William T Jones	CCWA
Clare Lee	US Fish and Wildlife Service
Ed Leonard	City of Corpus Christi
Lionel Lopez	South TX Colonia Initiatives
Ron Massey	City of Corpus Christi
Margaret Moorhouse (Dalthorp)	Coastal Bend Land Trust
Joanna Mott	TAMU-CC / Center for Coastal Studies
M. Brent Ocker	Landowner
Brian Petri	USGS
Leah Pummill	Audubon Outdoor Club of Corpus Christi
R. Jay Reining	City of Corpus
Chemaine Sahadi	Shiner Moseley
Leslie Smith	Center for Coastal Studies
Pat Suter	Coastal Bend Sierra Club
Mary Francis Teniente	City of Corpus Christi
Patrick Thomas	Fisherman/Property Owner Pelican Bay
Leo Trevino	Coastal Bend Bays & Estuaries Program, Inc.
Dr. John (Wes)Tunnell	Texas A&M University Corpus Christi
Kevin Wagner	TSSWCB
Michael Weeks	TX Parks & Wildlife
John Wood	Texas A&M University Corpus Christi

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## **Stakeholder Meeting Agenda**

**SPONSORED BY THE  
Texas Commission on Environmental Quality  
REGARDING  
Oso Creek/Oso Bay Bacteria  
Total Maximum Daily Load (TMDL) Project**

**June 21, 2005**

**Carlos Truan Natural Resources Center, Room 1003 on the Texas A&M  
University Corpus Christi campus located at 6300 Ocean Drive**

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The purpose of the evening's meeting includes an update on the progress of the project, the formation of the steering committee to ensure balanced representation and diversity and a presentation on the watershed model for Oso Creek and Oso Bay TMDL.

- 7:00 Welcome and Introductions - Sandra Alvarado
  - Review purpose of meeting and agenda
  
- 7:10 Formation of Watershed Advisory Group – Earlene Lambeth
  - Discussion of stakeholder committee members
  - Breakout session ensuring balanced representation (i.e. geography, ethnicity, business, etc.)
  - Stakeholder voting
  
- 7:30 Update on Bacteria Sampling - Joanna Mott
  
- 7:50 Break
  
- 8:00 Oso Creek/Oso Bay Watershed Model – Rick Hay
  
- 8:40 Open Discussion
  - Other on-going projects
  - Questions
  
- 9:00 Adjourn (EL/SA)
  - Next steps

**CALL TO ORDER/WELCOME:**

Sandra Alvarado with the Texas Commission on Environmental Quality (TCEQ) opened the second in a series of meetings to be held for an on going total maximum daily load (TMDL) bacteria project for Oso Bay and Oso Creek. A special thank you was given to the Coastal Bend Bays & Estuaries Program for providing refreshments for the attendees and to TX A&M University at Corpus Christi for the use of their facility to hold the meeting.

Sandra stated that the purpose of the evenings' meeting was to update the stakeholders on the status of work that was being performed under a TMDL project for Oso Creek and Oso Bay as required under the 1972 federal Clean Water Act. The meeting for the Oso Bay/Oso Creek bacteria project that was placed on the 305(b) and 303 (d) list provides an opportunity for the public to have input into the project.

Sandra reported that since the January 18, 2005 meeting, the Quality Assurance Performance Plan (QAPP) had been approved, sampling had begun and the model development was underway.

**Formation of Watershed Advisory Group:**

Earlene Lambeth led a discussion about the formation of the Watershed Advisory Group (WAG). She reported that originally 34 people had volunteered to serve on the committee representing diverse interests or categories from: academia, agriculture, industry/business, land owners, recreational users, state government, NGO's, and local government. In order to comply with HB 2912, that states the maximum number of representatives must be 24 or less, the number has to be reduced by 10. After working with the list, combining representatives and reducing interests in various categories, the number has now been revised to 28.

The WAG is set up to ensure that state government considers local perspectives in its decisions. The Oso Creek/Oso Bay project is a joint effort among the state and local stakeholders. The TCEQ is now soliciting consideration from the stakeholders to form a consensus driven, twenty-four member Oso Creek/Oso Bay Watershed Advisory Group (WAG) that will be submitted to the group for finalization at the next meeting to be held in August.

Landowners were asked to identify where they lived in the watershed to avoid duplicating representation in the watershed. Some individuals volunteered to join or serve as a proxy with other groups that had similar interests. A question was raised if there were landowners that were City employees? The answer was yes but the landowner was representing a local independent school district and not the City of Corpus Christi.

Another question raised was, "Did the City of Corpus Christi need 2 votes or positions on the WAG"? One comment was that the City of Corpus Christi was diverse enough with all the departments they represented. The City serves the community with the storm water infrastructure, major permitted facilities on the Oso, and enforcement. A City representative present at the meeting pointed out that originally the City had approximately 8 volunteers to serve on the WAG and had reduced the number to 2 and that there were about 10 employees present at the evenings' meeting. There was

discussion from the attendees on various other ways to get to the required number on the WAG.

The TCEQ will be making phone calls to individuals before the next meeting (scheduled for Tuesday, August 23) to work through further revisions to the list. Please e-mail Earlene at [elambeth@tceq.state.tx.us](mailto:elambeth@tceq.state.tx.us) if you have any other information or suggestions for the WAG. All of the public is encouraged and invited to come to the WAG meetings to have their voice heard or considered. Another alternative discussed would be to go by attendance to the Oso WAG meetings to determine who should remain on the final list of the WAG membership.

#### **Update on Bacteria Sampling:**

Dr. Joanna Mott with Texas A&M Corpus Christi, the project lead for the bacteria monitoring, gave a brief review of the sampling stations (ambient and targeted). She reported that the Quality Assurance Project Plan (QAPP) was approved at the end of May by the TCEQ and the EPA. The QAPP identifies the stations that will be monitored, frequency and parameters to be measured.

Standard TCEQ monitoring of field parameters (salinity, PH, Dissolved Oxygen, flow measurements, etc.) and *Enterococci* sampling was performed. More frequent data is being collected to see if the same pattern that was seen in the past is still true. The bacterium *Enterococci* is usually seen in intestinal tracks of animals and humans and not normally found naturally in the environment.

Some of the potential sources that have been identified are urban storm water run-off, wastewater treatment plant discharges, livestock (includes horses, pet and bird), agriculture, septic systems and colonias.

Dr. Mott reported on several new stations that include a ditch in Glen Oak (Flour Bluff), several sites testing urban runoff, agriculture and the Oso golf course. The sampling frequency was also revised to include weekly sampling and three rainfall events, one rain fall event reported on 6/1/05 plus two more. Also being noted during the sampling by the field technicians is how people are using the water (i.e. swimming, kayaking,, wade fishing) and flow measurements are also being collected downstream of the USGS gauge on Oso Creek.

An electronic copy of the sampling graphs and presentation can be seen at the following web site:

<http://www.tnrcc.state.tx.us/water/quality/tmdl/67-sampling6-21-05.pdf>

The graphs are snapshots presented by ambient and targeted sampling sites, representing weekly sampling frequency under summer conditions and most are exceeding the water quality standards.

#### **WATERSHED MODEL:**

After a brief break, Rick Hay from the Center of Water Supply Studies through TX A&M University Corpus Christi gave the next and final presentation on the Oso watershed model that he has been preparing. He explained that the reason a model is needed is to better understand the interactions between the different components in the watershed

system. Rick pointed out that the model is a mathematical representation of what is actually happening in the field (watershed), using standard laws of physics to track what is actually going on. He said that TMDL model adds the capability to track a particular water quality component as it moves through the hydrologic system.

He reported that one of the first things that had been done was to review the historical water quality measurements and grouped them in distinct time periods. Next he ran a cross correlation coefficient matrix to look at the comparisons between various parameters being measured to see how they relate to each other - and potentially use them as a proxy. A cross correlation coefficient matrix is a measure of how well one parameter relates to the other over time.

He reported that the upstream and middle tidal reaches were responding well to runoff events; *E. coli* and fecal coliform might be a good proxy for *Enterococcus* where *Enterococcus* data is missing or unavailable; and the Bay section shows a weak correlation between *Enterococcus* and other water quality parameters, that may indicate an atypical runoff response.

Graphs were used to indicate sampling results and Rick said there would be continued calibrations as sampling results were received. He reminded the group that models can always be improved and no model is perfect. Model development starts with simple old source data and then as the new data becomes available and input – you can then see if it still makes the same predictions.

Rick's observations were that the model is calculating high concentrations of bacteria in the upper reach of the watershed and that the model is responding well to bacteria die-off rate and transports down stream.

A copy of Rick's presentation and graphs can be viewed at the following web site:  
<http://www.tnrcc.state.tx.us/water/quality/tmdl/67-sampling6-21-05.pdf>

#### **Other Projects In Oso Watershed:**

Andy Garza with the Texas State Soil and Water Conservation Board (TSSWCB) reported that the Nueces Soil and Water Conservation District has a project that began in January 2003 in the Oso watershed and will end in December 2005. The primary objective of the CWA§319Program project is to encourage farmers in the watershed to practice conservation tillage. The farmers are offered an incentive if they practice conservation tillage on their farm for two crop cycles. The farmers must maintain a 30% residue coverage on the land to qualify for the incentive payment. About 40 plans are in place that includes about 18,000 acres at this time.

Another project that should be in place by September 1, 2005 is being contracted through Dr. Bobby Edelman of the Texas Experiment Station. A subcontract will eventually be in place between the United States Geological Survey and the Texas Experiment Station that will look at water quality from agricultural run-off in the Oso watershed.

#### **QUESTIONS AND COMMENTS:**

Question: Is there a reason why Greenwood Wastewater plant is not being monitored? Not specifically – there are only a certain amount of stations that can be deployed and

monitored. The Greenwood plant is self-monitored daily and self-reporting data is given to the TCEQ. A representative of the Greenwood Wastewater plant agreed to provide copies of their self-reported data or is also available through the TCEQ. In the representatives best recollection of the plant history, the sampling count exceeded 800 only one time in past years.

Question: Flow data is being gathered from Rose Acres, but does the funeral home have a permit to discharge? Funeral homes are not permitted by TCEQ, therefore the project representatives were not aware that a funeral home existed within the watershed. Project representatives will investigate further.

Comment: Sam Kane Beef Processors, Inc., a local business, was identified as a missing representative from the meeting and a possible WAG member since they could be a possible source of bacteria loading from cattle. The TCEQ Project Manager noted that they had been invited to the meeting, but did not attend. They will continue to be invited to future meetings.

Question: Are there any other parameters that are being monitored? Yes, we are analyzing for routine field parameters such as dissolved oxygen, salinity and conductivity.

Question: What about posting signs to tell the public not to play in the ditches after rainfall? Kids are playing in that dirty water and we need to make them aware of the health risks. Obviously, after a rain it is a bad idea to play in the water. In dry weather, the (bacteria) concentrations are not as high. In Rick Hay's opinion, it is too early in the project to begin to make assumptions about where exactly the bacteria are coming from, however that public awareness would be very helpful. Another suggestion was to possibly ask the City to include an awareness letter with the water/sewer billing cycles. The City responded by saying they do include a lot of information through the storm water education program, however most of the target audience (i.e. the colonias) is not serviced by the City and therefore would not receive a monthly water/sewer bill. For people who live in the county or...in colonias...there was a lot of doubt that they were getting the message not to play in the water. Several asked the question who should post the signs? A couple of individuals responded that possibly the city/county health department or Texas Parks and Wildlife? Whose job is it? The group decided the Oso Watershed Advisory Group could address the issue through an action item in the Implementation Plan which is the next phase of the project. A City employee responded that it is just dangerous to play in the culverts even from a safety perspective – children drown ever so often during strong rain events in the storm drains. Another stakeholder asked if there was liability with this knowledge if no action was going to be taken?

Comment - Drainage master plans are very, very important. Care must be taken when sending water from one watershed to another.

Question - Is there a requirement for a “grass buffer” zone in Texas between an agriculture field and communities? There are programs that could be put in place but it is not mandated. This would prevent chemical spray residue that the farmers treat with from reaching the community where the people live. The farmers have to volunteer for this program.

Comment: Another item that was discussed was the agriculture bacteria runoff study – there is presently no bacteria studies being coordinated through TSSWCB. There is no funding mechanisms in place at this time for bacteria sampling but would like funding assistance from universities or any other sources. Brian Petri with the USGS reported that the lab is now in place at USGS and the opportunity is there and ready for analysis. [Subsequent to the meeting, negotiations among project partners took place and a task will be added to the project to include bacterial analysis.]

Comment: Several stakeholders requested a discussion on “permitting” be placed on the next agenda for the August meeting. Concern: The Oso Lake - golf course has a permit pending and would like more information on this proposal. This proposal would fill in 6.6 acres of wetlands with other impacts as well. There could be large consequences to a decision such as this.

Question: Where is the new landfill going to drain? Into Petronila Creek.

An Oso Bay – Oso Creek web site is maintained at the following web address:  
<http://www.tnrcc.state.tx.us/water/quality/tmdl/osobaybacteria.html>

Meeting was adjourned and the next meeting is tentatively scheduled for August 23, 2005. Meeting notices will be distributed two weeks prior to meeting. Thank you all for attending.