

Meeting Summary
Peach Creek TMDL Stakeholder Group

October 06, 2005

STAKEHOLDERS PRESENT: John Carey, Wain Fairchild, Harold Grauke, James Grimm, M.G. Hodges III, Rick Holmes, Abelardo Ibarra, Shari Johnson, Debbie Magin, Reg Othold, Jack Pavlas, Joe Rincon, John Foster, Mark Walker, Robert Wood and Aaron Wendt.

STAKEHOLDERS ABSENT: Dan Cozier, John Fritz, Rick Holmes, Barry Miller, Glen Satchteben, Shane Sklar, Ed Small, Calvin Spacek, Gary Sutton, and Roy Tovar.

SUPPORT TEAM PRESENT: Kerry Niemann (TCEQ), James Miertschin (James Miertschin & Associates), Steve Hicks (Hicks & Company).

OTHERS PRESENT: Brian Koch (TSSWCB), Steve Winton (consultant), Richard Eyster (TDA), B.J. Carpenter(Tyson), Sonny Vela (USDA-NRCS), Kendria Ray (TSSWCB) and Wendy Janca (SWCD).

WELCOME AND INTRODUCTIONS:

Kerry Niemann opened the meeting at approximately 10:10 A.M.and introduced himself, James Miertschin, and Steve Hicks. Kerry informed stakeholders that James Miertschin would give a presentation on the TMDL modeling results and that would be followed by a presentation by Aaron Wendt.

PRESENTATION SUMMARY:

Dr. Miertschin provided an introduction into the modeling phase of the TMDL study for the Peach Creek segment.

His overview included descriptions of the following:

- Based on historical E.coli concentrations
- Development of the HSPF model
- TMDL allocation- identification of a quantifiable water quality target for each constituent
- TMDL Implementation Plan
- Draft TMDL Report
- TCEQ review / Public comment
- TCEQ approval / EPA approval

The data used was limited from 1996 to 2001 with E.coli data limited in 121 of 126 samples.

Point source discharges identified include Flatonia and Waelder.

Completed baseflow surveys with high means and high values.

Area of impairment identified below I-10 to CR 353.

The Hydrologic Simulation Program Fortran (HSPF) watershed modeling system simulates hydrology, point source and non-point source loadings and simulates receiving water.

Total precipitation amounts were used for model input from one station. Hourly rainfall amounts were used from San Marcos and Victoria NOAA weather stations.

Rainfall data was used as flow input into the model to calibrate simulated streamflows with observed streamflows for model calibration. The model corresponds well with observed flow conditions with a percentage difference of 0.2%.

Parameter input for bacterial model simulation was entered for direct sources, rangeland, forestland, waste application fields, cropland and Urban sources.

The model takes into account fecal coliform accumulation rates for both direct and indirect sources.

The baseflow target for fecal coliform at baseflow conditions was identified at about 170 with a 95% confidence interval of about 120-220. Target concentrations for runoff conditions targeted at about 1800 with a 95% confidence interval of 900-3500.

The model was calibrated by making assumptions and adjustments and simulated values corresponded well with observed data with median values of 154 at baseflow and 949 at runoff.

Loading rates were based on BST data and adjusted during input by making assumptions. The largest output from the model was from rangeland at 2514 followed by forest at 893 colonies $\times 10^{12}$.

The TMDL Target was established with a geometric mean of 200 org/100ml with a 5% margin of safety therefore making the real target at 190 org/100ml.

TMDL Load reductions for non-point sources were recommended at 70% for forest, rangeland, and cropland. Also WAF-1 and WAF-2 at 90%. Direct sources was also reported at 90%

The BST results indicated that Cattle, domestic sewage and Chicken were the most frequently occurring bacterial source types in both ERIC-PCR and ribotyping. Ribotyping also indicated dog as a high value.

Dr. Miertschin then requested input from the stakeholders to address conflicts in what the BST data indicated. If 15-16% of the BST is from chickens and not during stormwater events then the model does not accurately reflect the stream at baseflow. If 15-20% of

the BST is human sewage then the model does not reflect model inputs. This may indicate a septic system problem.

Dr. Miertschin then concluded his presentation and asked for questions and comments, as follows.

Q: I don't understand the chicken part of it. We already apply BMP's so how is that number in the data so high? We are regulated to do soil testing and maintain buffers.

A: It was originally assumed that waste application fields were lower due to BMPs, however the BST data showed a higher percentage of waste loading for chickens. The categories WAF#1 represent Litter Field and WAF#2 represents Irrigation. The BMPs have not been tested for bacterial removal efficiencies. The calibration method was used to determine the values.

Q: So then WAF#1 is dry and WAF#2 is wet?

A: Yes

Q: How many times were the bacteria characterized for chickens?

A: A number of samples were taken from chicken manure. The number of samples taken for the BST (n=73) so it is a good statistical basis. The e.coli was extracted and compared to known samples.

Q: There are ducks here. Aren't wild birds similar to chickens?

A: No – Ribotyping should indicate that a chicken is a chicken. The lab analysis is almost complete with QA/QC remaining.

Q: What is the level of contamination in other streams under TMDL studies?

A: The study in the Upper San Antonio River indicates higher levels and it indicates the San Antonio Zoo is the source. At Salado Creek we are still seeking sources but suspect leaking sewer lines. Sources are unknown at the Leon River segment. Wildlife values are higher.

Q: How does the model account for the unidentified samples in the ribotyping?

A: The unidentified ribotyping percentage is not reflected in the modeling with the assumption that the known sample library will be limited. The results of the model are still valid as it incorporates the percentage of identified samples.

Q: Does modeling incorporate the contributions for chicken litter? There are records for waste management plans.?

A: The data was used and acreage in the watershed determined. We could use that data to compare result of the model.

Q: At this point are there any restrictions on procedures?

A: We have not drawn that conclusion.

Q: What would a BMP be for chicken litter?

A: That is unknown. That is what this meeting and stakeholder input is for. More data is needed prior to implementation.

Q: What is the life cycle of e.coli?

A: The decay rate is about 1/10 per day. It is usually gone in 90 days. It varies with the environment it is in.

Q: Where is the domestic sewage percentage coming from? Any input from rural systems?

A: Most counties including Caldwell and Gonzales permit OSSFs, but lots of septic systems are grandfathered in. We can't be sure that domestic sewage is coming from OSSFs due to BST results.

A: In some other areas (colonias) there are often no septic systems at all and you have sewer discharge to the ground surface. Other instances it may be overloading a system by having too many users. Again this is where we need input from the stakeholders since the BST data shows a higher number than expected.

Comment: We will develop the TMDL Report and Implementation Plan. We will look at controls and may find that we need more data to develop the implementation but that doesn't mean that WAF loading needs to be reduced.

Q: Did you inquire about permitted systems?

A: OSSFs have to be rather close to the receiving water to impact it.

Comment:

We are pleased with the level of stakeholder involvement and the implementation plan will be more effective and realistic if everyone has input.

Q: Is there any other marker for domestic sewage?

A: There have been a few studies looking for caffeine, ibuprofen etc. Not as reliable due to varied source identification.

Q: Did you evaluate residential areas to data on the stream ?

A: We evaluated residential areas enough to use for input into the model but did not locate each residence on the watershed. We can do additional things during the implementation phase. We may need to take widespread sampling.

Q: Would the cause be a septic system on a creek?

A: The septic should be close enough to the creek to impact it either by overflowing, surfacing or groundwater intraflow.

Q: What temperature kills the bacteria?

A: About 212°F, or that of boiling water.

Q: So in the stackshed they should die?

A: It should limit their reproduction due to elevated temperatures.

Q: Are we trying to fix the unfixable?

A: Maybe but there are things that we can do. Data is similar in other watersheds.

Q: How does it compare to the San Antonio River ?

A: Highest concentrations were observed downtown especially at the zoo. BMPs should resolve the problem here and we are looking at runoff plans for the area.

Q: What number or percentage of the streams in Texas are impaired?

A: There are about 50-200 .

Q: Do we have a bad criteria for contact recreation?

A: The criteria is not set by the state, it is set by the EPA.

Q: What does it take to change the criteria?

A: I have been asked that question in a similar situation and it would require, at a minimum, a Use Attainability Analysis (UAA), and perhaps an epidemiological study. It would have to be changed from contact recreation to non-contact recreation. There would be public meetings. It would need approval from the TCEQ commission and approval by the EPA.

Q: Why don't we use the data and go to take it off the recreational contact designation?

A: That would need a UAA that is subject to TCEQ and EPA approval. This has never been successfully completed before.

Q: How many times has it been tried?

A: None that we know of. A letter could be written to the TCEQ, but would more than likely get the same UAA request letter back that the Houston TMDL did.

Q: I don't think that we can make it any better for we are doing everything regulated?

A: Maybe the chicken industry is limited but things can be done in other areas. We have not done everything we can to address this impairment, our BST results would not indicate what they do if we had.

Q: This is never going to go away is it?

A: Never is a long time. We are required by federal and state law to do our best to protect human health and the environment.

Q: The criteria is for swimmable and fishable water?

A: It is for contact-recreation (cut off and not allowed to answer).

Comment: The stream is not even flowing?

Q: Could this impact the source locations?

A: If you are saying that bacterial concentrations become elevated in pooled water areas and then flushed downstream during storm events then yes it could. A comprehensive stream survey can be completed.

Comment: A BMP is a tool that we use. It is not necessarily the good guys that are a problem. It may be smaller unregulated operators.

Comment: Poultry operations are required to have a Water Quality Management Plan in place. The NRCS inspects about 70% of the facilities every year. The point is that we already have a check and balance system in place for the poultry industry. Lets look at the problem.

Q: Who regulates human sources for sanitation at local creeks?

A: The counties have developed a program to inform new homeowners with septic tanks but we need more information on failing septic systems..

A: It would do a lot within that area of concern because it is not within a treatment plant.

A: There are RCD Grants available for failing septic systems in rural development.

Q: How would people know if they had a problem?

A: The TCEQ or Authorized Agent usually receives a complaint and then it investigates the complaint and begins the regulatory process.

Comment: There are multiple sources for funding, in east Texas local banks have offered low interest loans to help with the expense of OSSF installations.

Aaron Wendt gave a presentation on EQUIP and Section 319 funding.

Mr. Wendt provided TSSWCB background and agency programs.

The agency is proactively implementing a TMDL strategy.

He explained the Peach Creek Project within the CWA 319(h) grant funding.

Funding includes Soil conservation technician for 3 years and development of 30 WQMP for cattle operations. Cost share assistance of \$578,375 at 50% to aid in implementation and provides educational events and publications.

The EQUIP funding is for watersheds on a state level.

TSSWQB will work with the Texas Cooperative Extension and Gonzales County Soil and Water Conservation District.

WQMPs will be developed for Cattle BMPS and Poultry BMPs.

Comment: From here we will evaluate further the application of litter in the watershed, finalize the QA/QC on the BST library and draft the TMDL Report. This should be completed by December 2005 and the TMDL Final Report should be completed by February 2006 after TCEQ review. Please send comments, suggestions on the data and/or assumptions that we used in the model.

The meeting adjourned at approximately 12:30 PM. The next meeting may be scheduled in February 2006.