

Meeting Summary for Copano Bay Stakeholder Facilitation

March 28, 2012

5:30 – 7:15

Attendees:

<u>Last</u>	<u>First</u>	<u>Organization</u>
Allen	Ray	Coastal Bend Bays & Estuaries Program, Inc.
Almaraz	Beth	Nueces River Authority
Barber	Mike	Papalote Ranch
Berthold	Allen	Texas AgriLife, Texas Water Resources Institute
Blackwell	Will	USDA-NRCS
Blankenship	Terry	Welder Wildlife Foundation
Brooks	Tammy	TNC
Buckert	Kai	Wexford Ranch
Carter	Clifford	GLCI-CPCI
Chaney	Jack	Aransas County
Cox	Delbert	Refugio Co. Citizen
Cravens	James "Chico"	
Dierlan	Larry	Martin O'Connor
Dodson	James	Naismith Engineering
Dohmann	Art	Goliad County Rancher
Donalson	Michael	Refugio County
Feuerbacher	Kirk	TNC
Freund	Rocky	Nueces River Authority
Huegele	Brett	McFaddin Enterprises
Keefe	Joe	
Madden	Kiersten	Mission-Aransas NERR
McGuill	J.D.	Copano Bay SWCD - # 329
Meador	Karen	TX Parks & Wildlife
Miranda	Roger	TCEQ
Mitchell	Scott	
Proctor	Bland	Braman Ranches
Pustka	Joe	
Smith	Ginger Easton	Tx. AgriLife Ext
Sugarek	Don	TX Farm Bureau
Thomas	Robert	
Tunnell	Jace	Coastal Bend Bays & Estuaries Program, Inc.
Wendt	Aaron	TSSWCB
Wolff	Leroy	USDA-NRCS
Yanta	Brian	Goliad County

Stasney	Paige	Copano Resident
Scotch	Gene	TAMUCC
Dfeil	C.E.	Landownder
Koch	Brian	TSSWCB
Gorski	Dan	Resident
Hohlt	Jason	USDA-NRCS
Noalk	Kyle	Keller & Associates
Ward	Richard	Rubbins Farms
Ladner	Keith	TCEQ Region 14
Hicks	Kristen	Mission-Aransas NERR
Taber	Wlter Jr	SACRO-Blanco Ranch
Bland	Joe	O'Connor Family
Keller	Lane	Martin O'Connor Cattle

Meeting Minutes

- Q: Question from audience
A: Answer from someone in authority
S: Statement from crowd

Presentation by Kevin Wagner regarding water quality data used for the 2010 303(d) list.

Q: I believe on these (data of bacteria in watershed at a single station) were the grab data, not the geometric mean...

A: These were geometric samples

Q: You said that they take these samples four times a year; do you take them at different times each year or at differing tides?

A: When we do monitoring we do one each quarter with no specific date set in mind; we are not trying to repeat the exact same time.

Q: Do you find when you are doing *enterococcus* that you get better readings when total dissolved solids are higher or lower? Because having read up on *enterococcus* it seems that low oxygen levels and total dissolved solids has an effect...I wonder if that is enough sample periods to get a good profile. Number two, do you need to look at drought conditions or rain conditions, is that something that needs to be built into the whole scheme of testing?

A: We have a field key that shows the stage of the river and we also include rain fall conditions and how much has fallen. We also have other parameters that we test such as turbidity and that will tell you how silty the water is...silt and bacteria go hand in hand. So there are things we can note, if there is a big high hit on bacteria, then the people that look at standards, they will know there is a correlation between the flood and high bacteria and then they will flag that data and not use it.

Q: Do y'all adjust for sediment uplift and wind in shallow water?

A: We try to find sites that are representative, but Corpus is always windy and there only a few days when it's not windy so we can't plan sampling around wind, it is just impossible.

Q: That's my point, sediment has got 10-40 times more bacteria than one foot below the surface of the water, and you have got to adjust for that because it is an issue in these shallow bays.

S: A prime example of that is Port Bay...that also ties into problems that the city of Bayside is having as they are near one of the shallowest points in point bay.

Q: Why does your sampling cutoff in July 09?

A: That was the data that was used for the last water quality assessment that TCEQ published...they are right now working to develop the 2012 303(d) list. They will be updating this. We wanted to give you the data that was used on the last approved 303(d) list.

Q: So on that map, when you said all those sites were currently meeting standards...did you mean currently as in the latest data or reflective of the same cutoff.

A: Reflective of the same cutoff.

Q: So we are looking at data that is three years old?

A: Yes

Q: What is the standard for fecal coliform?

A: 14

Q: Could you point out on the map where the sampling station is on Copano bay near FM 136?

A: Here it is...

Q: That is down on the bay shore from the actual crossing of the Copano from what I see on the map.

A: We go out to the middle of the bridge and take a sample of the bay.

Q: A minute ago when you first commented on the waste water treatment plants and you said that 9 of the 11 are currently within their permit limit...but how many of those plants have bacteria monitoring requirements or bacteria effluent limits on those permits?

A: I am unsure; the data presented is the data that the Nueces River Authority collected regarding those plants.

A: Instead of checking the effluent limits, we looked if they met the bacteria standards when we took water samples at the plants.

Q: So y'all monitored for how many years?

A: It was about four years.

Q: So based on that you only saw issues with those plants.

A: I don't have all the data on me, but the basin highlights report has all the data regarding that. We will have an updated version for 2012 that has a few new data points.

Q: I keep looking at these points and dates that you say are taken quarterly. I think there were 17 points taken over 9 years...when looking at fecal coliform median of 23...is that all the samples? There are not enough samples there...

A: Those are all the samples used by TCEQ for the last 303(d) list assessment. They look at those that comply with standards as well as those that exceed.

Q: The only reason I was asking is because this gentleman sitting here said they do it quarterly, but that must not have been done.

A: The reason is that in the early 2000's they switched from fecal coliform to *enterococcus* in the bay, so we quit monitoring for fecal. But in this study for the Soil Board, we collected for all three bacteria. That is why there is a big gap in this one...

Q: When you read the results, you grouped Mission Bay, Aransas River near Port Bay and the eastern shoreline together, but there is only one site within there that requires...there's nothing in Port Bay or Mission Bay that shows up, so why...

A: That is something I'll have to direct you to TCEQ on, that is the way they report it on their 303(d) list. I just went back to their list for how I displayed each one of those sites.

A: Those were based on the department of Health analysis for the bay for oysters. And that is what the bay is impaired for, the oyster waters.

Q: So there is only one spot in there, but yet Mission Bay is listed.

A: The sites on this map are either the Nueces River Authority or the TCEQ monitors...it doesn't include where the Texas Department of Health did their assessment for the Oyster water closures or not.

(Next meeting we need to get more info on the oyster water closures from the SHS.)

A: The name is misleading on their as they define it by different segments. The different segments have different segments defined; the overall name is just what they call them.

S: I would caution you guys in dealing with the TCEQ. TCEQ hires Parks and Wildlife to run the district study on the Copano Bay watershed...and one of the points the two researchers at Parks and Wildlife came up with, amazingly, was that the city of Odem's sewage effluent flows into the Aransas River. I can tell you that the people at the city of Odem got a big laugh out of that. That is incorrect. Then the two researchers absolutely missed the aerated lagoon at Bayside; so if I was the TCEQ I'd ask for my money back. So be careful when you are utilizing that kind of information.

A: I would like to correct you on that. That was not done by Parks and Wildlife; it was done by University researchers.

S: I've got the studies with me and I'd like to show you names of researchers...

Q: Do they actually know how many people are oystering at Copano Bay, through licensing or anything like that?

A: We could check to see if there is any information.

S: Nobody can get into Mission Bay except the Coon Oysters...there ain't no way to dredge oysters in Mission Bay, well you can but you'll knock the bottom out of your boat...

Q: You mentioned earlier about Aransas Creek on the use aspect of that area there, to me I can't imagine anybody swimming in there. How would you go about changing that? Is there a way you can take the recreation part out of that or...

A: We (the NRA) will be doing a study to see who is recreating in the water when we do historical review to find out if anyone has been in the water since the late 70's. Then, if no one is recreating in the water, then the standards can be reviewed and possibly changed.

Q: You also mentioned that you can actually measure if the stream is deep enough to recreate in...

A: We will go 300 meters and take depth measurements and 100's of pictures and interview people if we see them. Also, there were a couple of different kinds of recreation we were looking for swimming, canoeing and that kind of thing and each of those has different standards. If you are swimming though, that is the strictest standard and that is what you've seen so far. All these points are for the strictest standards. Right now we are only doing that study on Aransas Creek.

Q: On that site on Aransas Creek, 12941, is there any data on that?

A: It was based one geomean sample of 390, and we didn't figure we needed a graph for just one point.

Q: When was that one point collected?

A: It was probably back in the late 90's. What happened was before the Nueces River Authority started doing its own sampling, we used to be smaller than we are now, the sampling was done for the Clean Rivers Program for us by the San Antonio River Authority. In the transition, there was a misunderstanding on where the site was and we were going out to Aransas Creek instead of Aransas River. After a couple of years we realized we were at the wrong location, this is why this creek got listed because of us sampling there when it should have been on the Aransas River. But, like Kevin said, once its on the list, you must do a lot to get it off the list and that is what we (NRA) are in the process of looking at now.

A: It (currently Aransas Creek) was named Aransas River at the time of collection as the sign was mislabeled at the creek, so that is probably part of it. Then we moved the site to the Aransas River just east of Skidmore on that county road.

S: I've got 11 years of data on Copano Bay oyster harvest opening/closures. It was closed 2/22/03 3/3/03 for high bacteria; interestingly 2/28/04-3/6/04 high bacteria; 11/1/06-12/17/06 red tide; 3/8/08-4/12/08 brown tide; 11/1/09-4/8/10 red tide; 11/1/11- 2/16/12 red tide. That is six times out of the eleven years, two of those times were due to high bacteria counts and the others due to red tide or brown tide. And that's why we had one boat out there this afternoon.

A: I'd definitely like a copy of that information...

S: Y'all should have looked at this a long time ago. What you are saying is that it's alright to eat oysters, but don't go swimming or wading around it. That's what I'm getting out of this.

A: I think the only areas impaired for recreation are the tidal segments of the rivers and Aransas Creek. The rest of the issues have to do with the oyster harvest and the reports for the department of State Health Services.

S: You might want to look at your standards.

S: This conversation and all these other conversations is exactly why we are having this meeting here, so everyone can get out their concerns. Everybody beats up the TCEQ, but they do an excellent job with the limited resources and data they have to monitor this stuff. I think in the past, for this to become meaningful we'll need more data more often...it's going to have to be a longitudinal study. I just have to say they've done a good job not just here, but in other areas of this same type. But that is what this is about, developing a plan where we can have all the data so we don't make a decision on incomplete data.

Q: Why study it anymore?

A: Why not study it anymore? You're looking out there at a large body of water that affects a lot of people around here and the condition of those bays relates not only to the financial climate of the area but also the quality of life. If there is a problem we can solve then let's solve it. Let's not try and jump out there because that is no good in the long term or short term. I don't see how anybody can argue with that.

Q: It seems like we are looking for a problem, rather than for a solution.

A: Well, I have a waste water treatment plant that is not on that list that discharges into Aransas Bay. We currently are doing land irrigation but someday we are going to be coming into that. We spent 700,000 dollars doing studies on the bays and if our input would make a difference on that. If we would have had a longitudinal study, without a gap of four or five years, it would have made that a lot easier. Whenever you are looking at septic systems and municipal discharges into a body of water that has a large effect on our area, I think it is well worth it on the time and money spent. You can study it to death, but it has not been studied to death.

A: Even if you disregard the impairment of the oyster waters, the fact of the matter is two tidal segments do exceed standards and have for some time. There is sufficient data to show that at current standards established by the state, there is an impairment that we have got to address per state a federal law. That is where we are at, now we need to decide a best way forward.

Q: Would those three recreation impaired areas meet level two, fishing or kayaking, the recreational one, as you pointed out, means you are swimming in the water where the studies are done if you had your head underwater for more than ten seconds. Not many people are going to swim in the mouth of the Aransas or Mission rivers or in the mouth of Copano Creek...so is it really an issue? I think those counts will always be high because the southeast wind blows in there and there is a lot of sediment uplift. I would not care if there was a sign up saying, 'do not swim in these bodies of water', because no one is anyways. Not to mention the alligators. Admittedly the bacteria in the sediment that creates the higher numbers are no better for you than what we're trying to reduce...if it were to go up to 600 in pulses, then we have a problem, but if they stay steady and do not go down there are only two days a year that the wind dies down and the water is clear...it's always going to be difficult to get a sample not effected by sediment. Furthermore, when the water is that

muddy, we shouldn't be swimming in it anyway. By September they had it as a category two...

A: Secondary contact one and two.

Q: So for wade fishing, in other words don't put your head underwater for more than 10 seconds. It's a non-problem to me...what we need to do is an ongoing monitoring. There is population, like Jack said, up and down; we've established their baselines, we know what they are. The EPA says once you got a baseline, you need to go after those dumping sewage or see if a treatment plant or something that causes the jump. It's really hard for me to rely solely on the data provided, what we ought to do more monitoring and wait for ideal times. The problem is that sediment *E.coli* is not good for anyone, so we shouldn't be swimming in it, but we may need secondary contact.

A: We're not just concentrating on the mouth as it is the entire tidal segment below 77 and what comes into that segment as well.

Q: But you guys need to remember that you've got salt water below fresh water in those segments so it's a very complicated situation, particularly the sediment as these are not deep rivers. You're right about Mission Bay, you can't get in there without tearing your boat up; it's really a difficult issue in terms of the way we sample and those things have to be adjusted for. The EPA says you have to adjust them...

Q: Have you ever seen somebody swimming?

S: No, not in any of those.

Q: If there are no swimmers in the two tidal segments, explain why the TCEQ or EPA are not considering that option of changing the standard or secondary contact in these tidal waterways.

A: I don't know if that option is completely out to tell you the truth. I've had a discussion with TCEQ's water quality standards folks, not an in depth discussion, there are some additional requirements that coastal waterbodies have to comply with, called the Beach Act and others designed to protect the coastal areas and beaches. Some of these tidal waterbodies are considered a gray area as to whether the Beach Act applies to them and the standards, from the person I talked to, thought we may have a difficult time convincing the EPA of a lower standard or of a different use. He didn't necessarily say that was out of the question, but he did say it would likely be very difficult the State of Texas to get a standards change approved for the tidal segments of those rivers. I won't say it's out of the question, but we are going to have to have some really good data to show the EPA that it is not in fact being used for recreation and there is little threat of any recreation happening and people getting sick. I don't know what to say beyond that, ideally these water quality standards and how they've been designated at each point in each of these streams is supposed to reflect actual uses. Part of me says we need to go in and figure out what kind of use these waterbodies have, but based on the conversation I had with TCEQ and the fight we'd be up against EPA, we may collect a whole bunch of extra data and then end up back here at the same point two or three years down the road. That is just the reality of where we are.

Q: But you don't know until you try.

Q: Kevin, I don't think it makes a lot of sense to try and restrict any recreational use where you can have recreational use. Aransas Creek, I'm not sure it's wide enough or deep enough for recreational use of swimming or fishing, but if you've got an area where you can swim and it's on your land and you want to jump in there and fight the alligators, you ought to have that right. I can't imagine anyone here wants to have that right lost. We want to keep that in the standards...if common sense says that's not something you can do, if the area is not deep enough to swim or if your just lolly gaging in the mud, maybe you ought to change the standard there....I can't imagine you'd want to change that standard downstream. Years ago there were people that water skied on both those rivers and plenty of fishing. I wouldn't want to go swimming in there right now, but I sure want to have that right.

A: When I was a kid I swam in a lot of stuff I wouldn't now, so...

[Presentation of the two plans: Total Maximum Daily Load and Watershed Protection Plan.]

Q: Do any of these plans after five or ten years ever go away?

A: That's a question I've asked some of the agencies, and they'll continue until the water quality is restored. You'll go through the implementation phase. If it hasn't met water quality standards, then you'd revise the plan for different management practices and continue to implement.

A: Implementation of and restoration of water quality takes a long time...a guy I've talked to at TCEQ said implementation is forever...there are a few instances where water quality has been restored, but it's not overnight. This is going to take some time no matter which route we go. Five years or ten years, we really don't know how long it's going to take.

S: And you still don't know if there is anything wrong with it! You don't have the data to make these sweeping decisions!

S: I'm kind of looking at this with a common sense approach. There are two locations, Bayside and Sinton that are not complying with TCEQ. I wonder if TCEQ gets those sites completely cleaned up, then continue monitoring Mission and Aransas tidal and determine if it's been cleaned up and that's the all of it. We really don't know until we get those sites cleaned up if we've got a problem.

Q: Whenever you talk about Bayside and Sinton are you talking about them being out of compliance at a specific time or all the time, because that makes a lot of difference...one time vs. every month.

A: Some of the data looked at was the geometric mean so over a period of time.

A: To be clear, this data was not used for compliance and reporting. It was used to characterize what is or is not happening at the waste water plants and the question I asked earlier of Kevin, to say they're in compliance doesn't match what our data says because they might not have a bacteria limit in their permit.

A: The TMDL would set that limit.

S: I'm uncomfortable when you say a particular waste water treatment plant is out of compliance...I don't know if the terminology actually fits what they have.

A: TCEQ is there working with them now so there is some impairment.

S: Considering what I've seen with the TCEQ data, I'll be making a personal visit to Bayside to talk with them to see if they've been out of compliance and their data... there is a lot of misinformation floating around. They could have an upset...

Q: Are they aerobic plants?

A: Bayside is an aerated lagoon...

A: And aerated lagoons, that process is a wonderful thing.

S: I'm really surprised that they are telling you Bayside has a problem, very surprised. I'm curious to see what I'll find out.

Q: As a part of this TMDL, let's say we choose it, I think I can pretty much speak for people in the room; I don't think anybody wants dirty water, but I believe there are a lot of people I can assure you don't think we have dirty water...does the TMDL allow for some kind of accelerated monitoring? Third party monitoring?

A: If we get into the TMDL and the implementation plan, and it is requested that we do additional monitoring to assess if there is an impairment or not...then that's something we would go through. That would be a legitimate part of that plan, once we set the TMDL.

Q: The gist of what I am hearing is that, if we were to get the groups together which plan would allow for better treatment of point sources?

A: It could go into both. In the TMDL it sets limits on bacteria levels coming out of the waste water treatment plants where as the Watershed Protection Plan would not.

Q: You're saying the TMDL approach would work better on that?

A: Probably.

A: What I've gathered from everybody is that we need to address some of the waste water plants, increase monitoring...a lot of people have mentioned the Total Maximum Daily Load, is that overall a general consensus of what we want to do?

S: I think the Watershed Protection Plan offers more flexibility for the stakeholders to have different options. When you get into the TMDL, you are limited to particular pollutants where in the Watershed Protection Plan you have more options, it could be a combination plan.

A: In either case, once we get into implementing best management practices can actually target nutrients and bacteria.

S: One of the issues we had discussed earlier is your data and not having current data, it seems if you do the Watershed Protection Plan then you can start aggressively attacking those issues...then you can start identifying where the pollutants are actually coming from instead of having to designate what it is under you TMDL.

A: The TMDL just identifies the quantity of bacteria, and in an implementation plan that would be one of the monitoring type studies...just to be clear.

S: But we haven't determined what it is.

A: Correct.

S: If you set your standard but don't exactly know where your pollutant is coming from; you'll want a plan that will let you do that study first, then you can use that additional data.

A: You can do that in the TMDL if that's what the stakeholder groups want and they can convince the EPA/TCEQ.

Q: Which plan will address the waste water treatment plant issues the quickest?

A: TMDL

Q: TMDL is the one that puts the caps on waste water treatment plants?

A: Yes

S: We can do a TMDL plan now and then a Watershed Protection Plan later correct. If you really want to get into that, I personally wouldn't...

A: Other states have done that, it is not unheard of.

S: I can only speak for myself and other areas I have an influence over, but I think, unfortunately, politics enters into our process here as it does with everything...with the TMDL plan it seems like we will be more under our state's offices we'll be better off since we won't have to deal with the national administration. It's also a shorter time period, not to say the politics in Texas won't change drastically, I don't think they are anytime real soon. We'd be better off with the shorter time period, tell me if I'm wrong...under the TMDL we'd be under the state offices much more so than the national?

A: Yes sir.

S: We have a very responsible board of commissioners on the TCEQ right now...they are well qualified. Once you get into the national scene, I don't know if you can say that. I think with the state we will have a much better relation with the state in terms of us private land owners.

S: The points that we have made, that we don't have good sampling in some areas and good sampling in others... If we implement the TMDL, we need to do a good one. Most people are not opposed to monitoring and we need to establish baselines and it seems we can do that better in the TMDL; as the stakeholders we are responsible for making this a good plan. It's not going to go away. We are in a growing area that has potential to have spills or events that do become unhealthy. But if nothing else, we are going to get a good baseline from other areas, if we can explain it or not...we can later look at them and see if there is a problem later in the system. We need ongoing monitoring and it needs to be good, high quality sampling that meets the EPA standards that they have put forth and it doesn't seem that that ever happens as we are constantly under adverse conditions. If we are doing that locally, or have the opportunity to do it locally, we're going to get much better data than we've seen. I don't think we know exactly where we are, but this plan would let us know where we are and from there we can implement things that will improve.

A: That is exactly right.

Q: Just because we write increased monitoring in the plan that doesn't mean it comes with funding necessarily.

A: It definitely prioritizes some money for funding that otherwise wouldn't be prioritized so...

S: And a Watershed Protection Plan is it not the same case?

A: It is.

S: One of the things about the TMDL is that it takes us off the list automatically; it takes us from dealing with the feds to dealing with state, EPA to TCEQ.

Q: Can you explain the funding situation right now if we chose one plan over the other?

A: Funding for the TMDL would come from the state, TCEQ. Funding for the Watershed Protection Plan is not limited to the EPA, but would likely come from the EPA through one of the state agencies to develop that plan.

Q: So the TCEQ is not going to fund any of the Watershed Protection Plan?

A: I'm going to leave it up to the TCEQ and the State Soil and Water Conservation Board on which would fund it, but it would have to come from one of the agencies, but from a federal source.

A: You asked specifically about the process. If we went the Watershed Protection Plan route we would have to submit a grant proposal to either or both the TCEQ and/or the Soil and Water Conservation Board...those are the two state agencies that have funding for developing Watershed Protection Plans. They would evaluate that proposal along with the EPA with 20 to 30 other proposals and if it ranks out with all the other proposals, it would then be submitted to the EPA then the EPA would have the ultimate say whether or not the proposal would or would not be funded. Typically what would happen in the summer or early fall, they would send out a Request for Proposals. The evaluation process would take us into January or February of next year and we would probably know sometime next spring if we were to get funded. If it got funded, it'd be next September roughly when the funding would become available to start work on a Watershed Protection Plan. Now the TMDL, TCEQ and the Soil and Water Conservation Board both get a little bit of funds from the state legislature specifically for developing TMDLs. They've got funding budgeted right now that could start funding September one to begin work on a TMDL. Right now Copano Bay is a high priority for the state to address. So the Watershed Protection Plan could possibly start the beginning of September next year, which is not a guarantee, or the TMDL could start September this year with greater than 90 percent assuredness.

Q: What happens if our grant is not approved for the WPP.

A: We could resubmit or we could come back here and say this whole thing again, what do we want to do? If that lingers long enough, we may be left with no choices here at the local level.

Q: It sounded like you said the money from the TCEQ was limited. If we went the TMDL route, would there be enough funding to do the analysis that everybody is saying we need?

S: Money is limited regardless of source.

Q: How much does a TMDL cost?

A: 50,000 to 100,000 dollars on average.

Q: How many bodies of water are on the Texas 303(d) list

A: 438

S: So, you'd be competing with 437 other water bodies.

Q: With the TMDL, are all forms of bacteria in a single group?

A: Yes, in this case we are not discriminating against specific sources.

Q: So someone's animal would be under the single pollutant category of the TMDL?

A: Yes, and also under the WPP because in either case they are focusing on the geometric mean. It's the total amount, not from just one source. Now the bacteria source tracking that was mentioned earlier, that helps us discriminate against the different sources. That could come in the form of a monitoring type project in either plan.

Q: That sum of 150,000 dollars, what does that provide in the TMDL?

A: First, it was 50,000-100,000 dollars. It depends on the impairment. It depends on the type of problem you are trying to address.

Q: Well, we don't know if there is a problem...can we determine that first?

A: The question is, 'what goes into a TMDL', and I'm just telling you that the range of cost depends on what you are trying to address. I don't want to get away from the problem...if we were going into a TMDL we'd go into things like monitoring, modeling, stakeholder involvement cost; those are the kind of things that go into a TMDL. Depending on what you as the stakeholders decide to do will determine the cost.

Q: Would it be possible for us to see samples of WPPs and TMDLs of what other people put together so we have a better idea of what is to be done, how much money...

A: I think Allen has some in his bag.

A: This is an example of a Watershed Protection Plan of the Arroyo Colorado, it's the only one I brought, it's a pretty lengthy document that gets into some specifics about what reductions need to be met. This is the Total Maximum Daily Load for Gilliland Creek; ultimately what it shows is that TMDL equation here in the back. If a TMDL or WPP was done in this watershed the goals would ultimately be the same. This is the implementation plan for that Total Maximum Daily Load which is the approach on how the stakeholders decided to approach the limit.

Q: Those two documents make up the implementation plan?

A: Yes, they are linked together. The real difference is that TMDL is the only thing the EPA see's; they do not see or approve the implementation plan and all the things that y'all discuss on what needs to be done.

Q: Do they see the implementation plan or not?

A: EPA does not see the implementation plan. Let's talk costs, in general a Watershed Protection Plan has a great amount of more detail and specifics in it than TMDLs and implementation plans that I've seen. As a result, in general, a Watershed Protection Plan cost more to do because it could take more data, more analysis and time to do all that. Ultimately, we do want to go out there and make a difference though...you can have the best plan written and cost you a million dollars and you can have a plan that gives great guidelines on what to

do that will cost less. In the end, it's up to you; these have been my observations. How much EPA see's and how much they have approval over the WPP, they see and have to approve what is committed in that Watershed Protection Plan. If you say we are going to implement so many Best Management Practices on your ranches or waste water plants...they see that, they have approval over that. In a TMDL and implementation plan they never see or have approval what you commit here to at the local level. The success of any of this is going to come down to y'all and your level of commitment on what needs to be done here.

Q: What does one water sample cost?

A: Bacteria is about 20 dollars per parameter. So in a study like this it would be three parameters; *Enterococcus*, Fecal, *E. coli*; the impairment we were talking about for oysters was fecal at the time.

Q: So 20 dollars to get you to drive out, take a sample and...

A: That is just the analysis. The money is used for salaries and...

Q: What is the total cost then.

A: If it takes me 8 hours to get it, it's going to cost 100s of dollars.

Q: How many samples would you have to pull?

S: The trick is when are you going to find the day when the southeast winds isn't blowing 25-40mph? To really do it right, you would have to sample the tidal areas with slack tide, with no wind for a couple of days to really see what the contamination is and you'd have to do it in stratification because there is salt water underneath and you've got freshwater on top...you'd also have to look at your flow; that's why I say it's a complicated issue there is not a single answer. You can put criteria in your plan. I think you would need to do that to get some good baseline data. We are talking about several hundred samples. If you pick your conditions just right, a couple of times a year you may sample a site monthly, but you've got several sites up and down...so several hundred a month.

S: you've got many sites with many different conditions. The flow rates of the Aransas and Mission are very close; you're going to have to sample when they are at low flow then high flow.

S: This was not from a TMDL, but just as a creek in Rockport they had data that went from 20 *E. coli* up to 20,000 and it was always done on Tuesday morning before 2 because that's when you had to take the sample, but we had good flow data because the flow in that little creek segment is released from the sewer treatment plant and we knew there outflows...so when the creek was really flowing the counts were really low because the plant met criteria. When the water was stagnate and they just dipped some out of the hot edge of a pond the counts would be really high. In the same spot and always on Tuesday before 2; and that's the problem with sampling, there is different conditions where biologically really active areas. We have good nutrients in our soils and warmth so bacteria grow; the dissolution of flowing water makes a big difference. Those are all factors and they are in the EPA document about what you ought to be considering to get good sampling, but we don't use them here because

it is difficult and we can't even meet some of the criteria. But we can do our best and I do think we can get a good study but it's not going to be cheap.

S: One of the things you have to keep in mind when sampling is that you have to be consistent in the time you sample over long periods, but you also have to be aware that things do change. If you take one sample once a month over five years you might get an idea of what's going on on that one day, but you also have 29 other days in the month. To take good samples you have to be consistent but also erratic. If you look at the weather and we are in the summer doldrums that may be a good time to do it; I see it taking 5-10 times a month and surely...

A: Roger reminded me of a few things. First of all the TCEQ & Soil and Water board are not the only sources of funding to help support funding a Watershed Protection Plan, there are others but they are grant programs. The General Land Office has a grant program and some private industries in the Houston area have funded some Watershed Protections Plans...so there are funding sources; they are not limited to those two agencies, but again there is no guarantee of funding and ultimately they would have to go to EPA for review on those. Another thing is that although right now bacteria limits aren't set for every waste water plant, I think it is in the works to get that rectified statewide. Ultimately there would be permit limits for every waste water plant statewide, but that won't happen immediately; but it is in the works. Finally this discussion on the monitoring, I don't disagree with any of it a bit. My philosophy is to be a scientist at A&M and to look at these water quality issues and I'd agree whole heartedly...I think that is something that certainly needs to be taken up on the statewide basis, not only in this watershed. Quarterly sampling is the norm for many sites around the state and I think that is something that needs to be discussed with TCEQ and be made known around the state. The fact of the matter is that there are these bodies that have been on the 303(d) list for years now and I don't think anything is going to change with anything that has been discussed tonight except with development of the TMDL. That will get it off the 303(d) list. The development of the Watershed Protection Plan will potentially get it off the list, but that is kind of a new process that only one waterbody has been though so far within the state.

S: To add to that, it seems monitoring is the number one thing we are going to have to deal with and those dollars are hard to get. Getting us off the list is a top priority and given that we are at the end of a virtual 13 year plan, we need to do something quickly...and that seems like the TMDL plan with all those criteria we need to address.

[Took a vote (raised hands) and decided on the TMDL]

A: The next meeting will form the work groups...does a Wednesday in May work...