

Arroyo Colorado Watershed Partnership

Agricultural Issues Workgroup

July 27, 2009

9:00am – 12:00 pm

MEETING SUMMARY

Attendees:

Venki Uddameri, TAMUK

Sreeram G Singaraju, TAMUK Student

Jaime Flores, TWRI

Andy Garza, TSSWCB

Narayanan Kannan, AgriLife Research

Roger Miranda, TCEQ

Aaron Wendt, TSSWCB

Ronnie Ramirez, TSSWCB

Lee Munz, TSSWCB

Laura De La Garza, Comite Resources

Alex Nunez, TPWD

Xavier Peries, AgriLife Research

Allen Berthold, TWRI

Richard Eyster, TDA

Cecilia Wagner, TWRI

Welcome and Introductions Andy Garza, TSSWCB

Surface Water Standard Revisions Update Richard Eyster, TDA

- Pesticide contamination currently not a problem in Texas (a few legacy pollutants exist), but overall not a problem
- Currently, TX has one standard - - full contact recreation (over 50% of waters are impaired for bacteria)
- Evaluating new standards and proposed to be the following categories
 - o Primary contact recreation 206 cfu/100 ml (used to be 126 cfu/100 ml) geometric mean
 - o Secondary contact recreation1: 630 cfu/100 ml
 - o Secondary contact recreation2: 1030 cfu/100 ml
 - o Non contact recreation 2060 cfu/100 ml
- When will these standards likely go in place?
 - o TCEQ staff planning to go to Commissioners in November with public comment period to follow. So, likely to be adopted by TCEQ in spring 2010 with EPA to approve after that. While the standards are enforceable after TCEQ adopts them, EPA has to approve them or take issue with TCEQ on the numbers
- Will we have a high flow exclusion in the new standard? Still under discussion.
- Tidal segment of Arroyo Colorado is impaired for bacteria and has a different indicator (enterococcus) (numbers above are e. coli). As far as we know, the tidal segment will stay impaired.
- Non tidal segment is impaired under the current standard; however, with new standards in place (ie. 206 cfu/100 ml), the Arroyo Colorado could go off the list
- There is a possibility that the Arroyo Colorado non tidal undergo a use attainability analysis and a change to secondary contact recreation
- **Aaron Wendt proposed that the next workgroup meeting have presentations from researchers in Oso Watershed to discuss bacteria runoff from cropland to see if any of that information is transferrable.**

U.S. Sixth Circuit Court of Appeals- Aquatic Pesticides..... Richard Eyster, TDA

- Nov 27, 2006, EPA issued that pesticides applied as part of FIFRA were ok and no permits needed
- Courts argued that this is not right
- Court says that a spray nozzle is a “Point Source” and anything that goes beyond is considered excess or waste and would need a NPDES permit

- EPA has a 2 year stay to develop a general permit (on average it takes EPA 6 months to get a general permit)
- TDA currently working with TCEQ to develop an easy electronic permitting process

Feral Hog Control Richard Eyster, TDA

- USFWS estimates that 2 to 5 million hogs in Texas; Feels this is underestimation.

Arroyo Colorado Watershed Protection Plan

Review of Components Addressing Agricultural NPS Pollution.....Aaron Wendt, TSSWCB

- Reduce suspended sediment levels, organic material and N & P material from runoff
 - o Short term goal of establishing WQMPs on 33% of ag land (100,000 ac)
 - o Long term goal of establishing WQMPs on 50% of irrigation ag land (150,000 ac)
 - o To establish goals – we used technical and financial assistance
 - o We still need approximately 33,000 acres to reach 2010 goal
 - o **Discussed next steps during latter part of meeting**

Watershed Protection Plan Implementation StatusJaime Flores, TWRI

- Habitat Restoration Workgroup
 - o Shrimp Farms Project – establishing wetlands / birding center/ tertiary treatment of Arroyo Colorado on 2400 acres of shrimp farm land that was recently foreclosed upon.
 - o Solar Bee Funding – Dr. Jones (TAMUK) put together a proposal to NSF to fund on unit; Roger Miranda (TCEQ) is looking at developing a pilot study for funding;
 - o Aeration structures: Need \$10K to re-run the model, still uncertain of its status
- O&E Workgroup
 - o Arroyo Colorado Grant workshop scheduled for Aug 11-12 in Pharr. Purpose is to assist local entities in accessing grant funds; Speakers will be providing information on grant programs that provide funds for goals outlined in the WPP. Stormwater task force is involved in planning so a lot of the funding opportunities for stormwater task force
- Wastewater Infrastructure
 - o Updated status of cities/counties permitting
 - o Determined some of the WWTFs are seeking permits to discharge into Big Ditch rather than Arroyo Colorado. Discussion ensued about removing pollution from one watershed to another; Arroyo WPP does not encourage this and rather encourages reuse, nutrient removal thru polishing wetlands, etc. and so we can not be faulted for a city's decision to seek a permit to discharge elsewhere; we should rather rejoice in what the cities like San Juan, San Benito and La Feria are doing.

Project Updates/Discussion:

Best Management Practice ImplementationAndy Garza, TSSWCB

- TSSWCB provided a **handout** of project summary
- 136 certified WQMPs in current 319 project (FY05 funding); Combined total of 391 WQMPs covering 37,500 acres for 319 funding (FY02 and FY05 funding). Including other programs (503, EQIP, etc.), a total of ~67,000 acres
- There is a 319 proposal at EPA to continue funding under the FY09 funding. If EPA approves it, it would go forward starting Sept 2009.
- Highlighted irrigation pipe line and land leveling as BMPs. What about nutrient management? Every WQMP requires nutrient management.
- TSSWCB updates load reductions achieved as a result of WQMPs established and BMPs installed
- Wouldn't it be great to be able to do this same estimate of load reductions for all of the programs (NRCS, SWCDs, Extension)

- Xavier Peries gave an update (presentation) on the edge-of-field monitoring program including: (1) Field overview - what BMPs are in place on the 6 sites; (2) How sampling of each site is conducted; (3) Analysis of data (flow, surface runoff, parameters measured)
 - o Depending on the site and the irrigation event, surface runoff accounted for 4.5 to 66% of the water that was applied by irrigation
 - o Nutrient levels in runoff correlated well with fertilizer application as noted in data
 - Side dressing of N shows least negative impact on NPS pollution when compared to broadcast and fertigation
 - The more runoff, the greater chance for losing N compounds through drop off structures and drain-tiled outlet due to deep percolation
 - High concentration of fertilizer compounds found in ground water should not impact watershed as drain tiled discharges do (i.e. soil acts as a natural filter)
- Venki Uddameri (student presented an overview of drainage ditch sampling including site locations, filtration techniques, flow measurements, analysis of data including parameters measured. Presentation focused on nutrients)
 - o Currents at the sites vary considerably across the cross section:
 - Flow rates relatively high at 4 mile road and Harding Ranch road sites (does that mean possible influence outside of agriculture?)
 - Flow rates are much lower at other two sites: (1) ABD road: Not able to collect in March due to construction and no flow noticed in Jan-Feb; (2) 3 mile S of Military highway site: No flow noted during Jan – June sampling period.
 - o Orthophosphate below detection for most times
 - o Nitrogen more complex than Phosphorus;
 - o Currently analyzing edge of field samples and drainage ditch samples
 - o Getting ready to employ automated samplers
 - o Current conclusion is that vegetation is removing P, but not effectively removing N. To get N attenuation, flow may need to be slowed down to make a difference
 - What are the chances of us being able to engineer the ditches so that they flow at a slower rate? They would go to a deep/shallow flow or wider to attenuate more N
- Narayanan Kannan presented information about BMP inventory maps (all BMPs are mapped into one shape file. He has all of the files on their FTP site with a read me file for anyone to use. Categories included groups of BMPs such as (irrigation BMPs, erosion control, etc.)
 - o Each BMP is included on the map and includes attribute table which tells you description of actual BMP, Total number of BMPs installed in watershed and area of acreage for that BMP
 - o Due to privacy, attribute table will be kept between TSSWCB, NRCS, SWCDs and producers.
 - o TWRI will turn in files to TSSWCB and include only jpgs in final report that is public
- Narayanan Kannan presented information and update on SWAT model
 - o Previous meeting – Kannan presented flow results and received comments from Roger Miranda and made necessary adjustments.
 - o Flow estimates: Nash and Sutcliffe Efficiency: Gage 1: 52.5% Calibration and 53.4% validation – suggests model results are acceptable. Daily timestep; Baseflow is looking good, not catching the flashings (Only really has a problem in the top 10% flow regime (peak flow)); Gage 2 60.4% calibration and 40.6% validation (again, the top 10% is having under-estimation problem)

- Suspended sediment estimates: Gage 1 – mean load at 88.4 tons/d predicted and 68.7 tons/d observed versus the total load (tons at 4,238 predicted and 3,299 observed); Gage 2 – mean load at 173 tons/d predicted and 185. 2 tons/d observed versus 11071 tons predicted and 11,855 tons observed
- Ammonium N load: Gage 1 – mean load 153 kg/day predicted and 152 kg/day observed versus 7.21 tons predicted and 7.13 tons observed (this is just at the point of calibration and is an in-stream measurement); Gage 2 – 63 kg/day predicted and 158 kg/day observed versus 1.3 tons predicted and 3.3 tons observed.
- Dissolved Oxygen: Gage 2 – mean concentration 7.5 mg/L predicted and 7.6 mg/L observed; Port of Harlingen (Gage 1) – mean concentration 7.2 mg/L predicted and 6.0 mf/L observed
 - An issue was brought up about the dissolved oxygen modeling. Due to time constraint – Kannan went with a different method.
- Model is now ready for scenario trials

Integrated Farm Management Education Program..... Cecilia Wagner, TWRI

- Purpose was to continue education program previously funded by TSSWCB, but to focus on integrated pest management such as reduced pesticide application.
 - Previous 2 quarters saw 160 total producers attending Pesticide applicator training courses or continuing education courses and 270 attending other education programs such as BMP implementation and cost-share information

Pesticide Education in the Coastal Zone of the Arroyo Colorado Watershed.....Cecilia Wagner, TWRI

- Name does not reflect purpose of proposal
- Support education program discussed above
- Providing additional funds for soil sampling and will be up against a time line
- Turf producer and manager education program (actual program to be held next year)
- **Can we target agriculture BMPs to producers that farm within the levees? For the extra money that we will have in this program from the soil testing campaign**

Discuss/Prioritize Current/Future Funding Needs and SourcesJaime Flores, TWRI

- A monitoring proposal was submitted to TSSWCB by Dr. Hernandez or Fernandez (?) a few years ago to monitor Big Ditch. It was rejected, but with more letters of support, it could get funded possibly if this group feels its necessary. Are we able to go outside of the AC or do we have enough to handle here in our own area?
- Additional funding for education and outreach for ag producers? Current projects are slated to end March thru August 2010 – do we need more? Or what about targeting producers based on SWAT model and BMP maps? Or followup assistance for TSSWCB?
 - Use TSSWCB #05-10 final report to justify additional assistance is needed or if different assistance is needed.
 - Still see that there is a consensus that producers don't know about the FSA, NRCS, TSSWCB programs that exist to assist producers. So maybe an education program that focuses strictly on that.
- What about a drainage ditch study – engineering the drainage ditch for better attenuation. This would be good to address after the TAMUK drainage ditch study is completed.

Other Business.....Andy Garza, TSSWCB

Nominee for the Arroyo Colorado Executive Committee Cecilia Wagner, TWRI

- Better to have a producer that can speak for more than just themselves as a producer (names mentioned although not confirmed include Steve Bearden, JoJo White, Sam Simmons, Wayne Halbert; Ray Prewitt, Sam Ruiz, Ed Alstroske)

Next Meeting Date TBD

- Mondays do not seem to be a good day. Perhaps, we can schedule it for the Tuesday (Jan 26, 2010) after the Monday meeting or move the SC back to a Thursday, which means the Ag meeting would be on a Thursday (Jan 21, 2010). We'll discuss this at the SC meeting following this meeting and let the group know.

Adjourn