Navasota River Watershed Meeting Discussion Overview

Date	Location	Time	Attendance
Thursday, July 14, 2016	College Station	1:30pm	16 stakeholders
Thursday, July 14, 2016	Franklin	6:30pm	6 stakeholders

Spatial *E. coli* Loading Estimates

- Presented series of maps that illustrate potential *E. coli* loadings distributed across the watershed. Maps show a worst case scenario where all *E. coli* produced by each mapped source makes it into the water. This is not the case in reality.
- Maps were created based on population estimates that were presented to and modified based on stakeholder input (see slide 4)
- Estimated loads were aggregated to the 'sub-watershed' level (see slide 5) to aid in prioritizing areas of the watershed were management for a specific source may be most needed
- Maps for individual sources presented in slides 6 through 11
- An aggregate map illustrates the cumulative potential load for each sub-watershed (slide 12)
- Slide 13 demonstrates the potential *E. coli* loading for each source relative to all other sources

Bacteria Source Tracking Results

- Bacteria source tracking (BST) used to identify source categories of fecal contributions collected at Hwy 30
- Used both library dependent and library independent BST methods
    - Library dependent BST compares DNA fingerprints of unknown source *E. coli* to those of known sources of *E. coli*
    - Library independent BST identifies genetic markers for specific species/species categories present in environmental samples; uses *bacteriodales* (fecal bacteria)
- Library dependent results categorized into 3 and 7 way splits
    - 3 way: human, livestock & pets, wildlife
    - 7 way: human, pets, cattle, wildlife avian, wildlife non-avian, other livestock avian, other livestock non-avian
    - Each split also includes section for unidentified sources
- Library independent BST looks for general, hog, ruminant (deer, cattle, etc.), human, and horse markers

BST Results are depicted on slides 24 and 26

- Library dependent results
    - 3 way split: 51% wildlife, 17% livestock and domestic animals, 4% human, 28% unidentified
    - 7 way split: 35% non-avian wildlife, 17% avian wildlife, 8% cattle, 1% pets, 2% other livestock non-avian, 5% other livestock avian, 4% human, 28% unidentified
- Library Independent results
    - 88% samples positive for general marker
    - 75% samples positive for hog markers
    - 21% samples positive for ruminant (cattle, deer, etc.) markers
    - 4% samples positive for human markers
    - 0% samples positive for horse markers

Dominant findings:

- wildlife contributions most common
- livestock and human both contribute as well
- feral hogs appear to be strong influence
- no known source sample collection likely led to high incidence of unidentified samples

<u>Needed Load Reductions and Management Recommendations</u>

- Needed *E. coli* reductions calculated based on meeting the current water quality standard
- Hwy 30 selected as the reference site to establish the needed load reduction
- Moist conditions selected for reduction goal since high flows are relatively unmanageable
- Needed reductions presented in slide 30
- Management Recommendations proposed for sources that can actually be managed
    - Feral hogs
    - Humans
        - Septic systems
        - Centralized wastewater
    - Livestock

<u>Next Steps and Next Meeting</u>

- Continue gathering stakeholder feedback through July
- Send out draft management recommendations to key groups
- Complete first draft of Navasota River WPP and send to stakeholders
    - Hopefully by early August
- Receive feedback on WPP and host meetings to review/receive comments on plan (September sometime)

Possibility of Doing a TMDL for the Watershed Also Discussed

- TCEQ suggests doing a TMDL and associated TMDL Implementation Plan along with the WPP
- Biggest benefit of a TMDL is that it is moved the 303(d) list and therefore off the EPA's mind – keeps things more localized and in the stakeholders' hands. No longer an "impaired waterbody"
- Documents are very similar and TMDL would be relatively easy to create since WPP is almost done
- TMDL simply tells you the amount of contamination that a waterbody can handle each day and still make standards
- An I-Plan is the separate document that lays out and explains how the standards will eventually be met by establishing a TMDL (shows that the state has a plan in mind already)
- Everything in an Implementation are voluntary measures that will be taken – none are regulated, enforced, or required
- WPP opens up doors to more funding than TMDL does
- Entire watershed would be accounted for in the TMDL, the "watershed approach"
- No existing permits would be changed as a result of the TMDL
- 1 year to write TMDL – Approval process ~1-2 years
- WPP opens funding for 319 funding CWA
    - TMDL funding not as clear: TCEQ provides funding to develop TMDL and its associated implantation plan. TCEQ is working to provide some funding for future implementation
- Removal off of 303(d) list occurs when TMDL is initiated
- Will implementing a TMDL cause the waterbody to be more open to impairment once it is removed off the 303(d) list if nothing is immediately done?
    - It might be off the list but that doesn't guarantee that anything will be done for the water
    - How do we ensure this doesn't happen?
        - Annual check-ups and state assessments will be performed

Stakeholder present at meetings were asked if they thought developing a TMDL in association with the WPP was a good idea and should be done.

No one objected to developing a TMDL and thought that having the waterbodies off the 303 (d) List would be a good thing.