Minutes of Meeting
North Bosque River TMDL Refinement Project Advisory Group
July 31, 2006
1:30 pm -3:45 pm
Tarleton State University
College of Business Administration

Stakeholders Present: John Cowan (Texas Association of Dairymen and Dairy Farmers of America); Richard Eyster (Texas Department of Agriculture); Aaron Wendt (Texas State Soil & Water Conservation Board, substituting for John Foster);

Stakeholders Absent: Norman Bade (Natural Resources Conservation Service); Shawneille Cambell (U.S. Environmental Protection Agency); John Ellis (Brazos River Authority); Ricky Garrett (City of Waco); Jerry Golden (City of Clifton); Norman Johns (National Wildlife Federation); Allan Jones (Texas A&M University System); Mark Kaiser (City of Stephenville); Richard Kiesling (U.S. Geological Survey); Ned Meister (Texas Farm Bureau); Anjna O'Connor (U.S. Army Corp of Engineers); Tony Provin (Texas Cooperative Extension); Pat Radloff (Texas Parks and Wildlife Department); Justin Taylor (Sierra Club); Joseph White (Baylor University).

Support Team Present: Larry Hauck (TIAER); James Houser (TIAER); Anne McFarland (TIAER); Ali Saleh (TIAER)

Others Present: Larry Koenig (TCEQ); Lial Tischler (Tischler & Kocurek); Bruce Wiland (Wiland Consulting); David DeJong (Texas Association of Dairymen); Deb Oldengarm (Texas Association of Dairymen); Tamilee Nennich (Texas Cooperative Extension); Rick Webb (Enviro-Ag); Joe MacMahon (Enviro-ag); Pete Schouten (Texas Association of Dairymen).

Materials Distributed:
The following was provided at the meeting: Meeting agenda; handouts on the presentation.

Welcome & Introduction

A meeting of the North Bosque River TMDL Model Refinement Project Advisory Group was held on Monday, July 31, 2006 from 1:30 PM until 3:45 PM in the Conference Room of the College of Business Administration Building, Tarleton State University in Stephenville, TX. Larry Hauck (TIAER) introduced the meeting by stating that the meeting's purpose was to seek input from dairy interests and others in attendance regarding model input information and assumptions specific to dairy operations. Next self-introductions were made.

Old Business

Since this was a narrowly focussed advisory group meeting, no old business was conducted.

Meeting Overview

Dr. Hauck presented a short explanation of the SWAT model, improvements and refinements in the modeling process made since the last TMDL, and how it would be applied in the North Bosque River Watershed (NBRW). It was emphasized that the focus of the current meeting was on assumptions for the calibration/verification period (1993-2000) that pertained particularly to dairy management and operations, in addition some assumptions associated with dairy operations pertinent to the modeling of TMDL allocation scenarios would be discussed.

The meeting focused on three categories of assumptions pertinent to dairy operation. The assumption categories dealt with the following:

1. Management and land use
2. Modeling lagoon discharges
3. Build-up of soil test phosphorus (P) on waste application fields (WAFs)

<u>1. Management and Land Use Assumptions</u>

Dr. James Houser presented the first section on management and land use assumptions. The first items discussed pertained to dairy cow and other livestock quantities in the watershed. The assumptions concerning dairy cow numbers (which drive the manure quantities and characteristics for the model) focused on quantifying collectable manure from the confinement area for land application. Feedback was elicited to clarify the interpretation of the TCEQ "inspected" cow numbers and the assumptions concerning the types of dairy cows included in an "inspected" cow count. Consensus was reached on the types of cows (i.e., lactating, dry, calf, and heifer) and their relative proportions as included in the "inspected" cow number.

Next Dr. Houser presented the assumed dietary characteristics of dairy cows, which are necessary for the calculation of manure nutrient content. Those assumptions were accepted as accurate with minor modifications by the meeting attendees.

Questions about the contribution of waste feed and bedding to the nutrient content of collected manure were raised. The group decided that these contributions would be so minimal as could be ignored.

Dr. Houser next presented assumptions on crop agronomic rates and the amount of manure required to meet each crop's nitrogen (N) requirements based on anticipated manure N availability and N losses upon application. General consensus was reached that the data presented adequately represented the recommendations farmers received during the 1990s.

Agreements were also reached on the amount of grazing that occurs in the NBRW.

2. Modeling Lagoon Discharges

Dr. Anne McFarland presented the next section on modeling lagoon discharges. She explained how the present lagoon discharge model performs a water balance for the lagoon system of each dairy, assigns one of three different lagoon management strategies to each dairy, and predicts the size and number of lagoon discharges based on rainfall data. She elicited feedback on what proportion of dairy operators used each lagoon management strategy. A consensus was reached on how to best represent lagoon management based on the three strategies and small, medium, and large dairy size categories.

Feedback was also requested and received on how solids accumulation in lagoons is managed. Consensus was that all solids make their way to WAFs, typically via use of agitation and pumping during lagoon dewatering.

3. Soil Test Phosphorus

Dr. Houser briefly explained how a TCEQ data set of soil test P from WAFs collected in 2001 would be used to determining a proper starting date for the SWAT calibration simulation. The model would be set-up so that simulated soil test P concentrations on WAFs would have the same average concentration as the TCEQ measured data. Producers accepted the TCEQ data set as valid, especially since its average soil test P concentration was very similar to the average soil test P of the self-reported data to TCEQ for the same year.

Dr. Houser concluded the feedback portion of the meeting by asking some questions pertaining to scenarios for the TMDL allocation process that might be run after the calibration is completed. Most of the questions pertained to how land use would change as fields are converted to or from WAFs.

Dr. Hauck thanked the participants for their input to the process and concluded that the calibration process could now go forward.

The meeting adjourned at 3:45 PM.