

Meeting Summary
North Bosque River TMDL Model Refinement Project Advisory Group
March 31, 2003

Stakeholders Present: Tim Buscha (NRCS), John Cowan (DFA), Ricky Garrett (City of Waco), Joan Glass for Pat Radloff (TPWD), Jerry Golden (City of Clifton), Kyle Headley (BRA), Richard Kiesling (USGS), Donna Long (TSSWCB), Ned Meister (TFB), John Moser (City of Stephenville), Tony Provin (TAMUS), Bo Spoons (TDA), Justin Taylor (Sierra Club), Jeff Tripe (USACE-Ft. Worth)

Stakeholders Absent: Norman Johns (NWF), Allan Jones (TAMUS), Joseph White (Baylor Univ.), Shawneille Campbell (USEPA)

Support Team Present: Larry Hauck (TIAER), Heather Jones (TIAER), Anne McFarland (TIAER), Ali Saleh (TIAER), George Ward (CRWR)

Others Present: Tom Conry (City of Waco), David DeJong (dairy producer), Larry Koenig (TCEQ), James Miertschin (James Miertschin & Assoc.), Pete Schouten (dairy producer), Bruce Wiland (Wiland Consulting)

Materials Distributed:

Report entitled *Initial Recommendations for Refinements to North Bosque River TMDL Modeling System*. This report was also made available prior to the meeting to the advisory group and other interested individuals via pdf version posted on TIAER's web site and/or hard copy via postal service mailing.

Welcome & Introductions

The first meeting of the North Bosque River TMDL Model Refinement Project Advisory Group was held on Monday, March 31, 2003 from 10:00 AM until 12:00 PM in Room 1.130 of the Commons Center, J.J. Pickle Research Center, The University of Texas at Austin. Larry Koenig, TCEQ Project Manager, provided opening remarks. Larry Hauck of TIAER welcomed participants, and self-introductions were made.

Project Overview & Meeting Purpose

Larry Koenig and Larry Hauck provided an overview of the three- to four-year project being conducted by the Texas Institute for Applied Environmental Research and the Center for Research in Water Resources. The project purpose was stated as refinement, calibration, verification, and application of a modeling system for a mid-course evaluation of the present North Bosque River phosphorus TMDLs and associated implementation plan. The purpose of the meeting was more narrowly focused and was stated as being twofold: 1) primarily to receive comments from the advisory group and any other individuals present on the strategic level refinements to the modeling system found in the initial recommendations report to TCEQ, and 2) secondarily to provide further information and clarification to the advisory group on the recommended refinements.

Meeting Overview

Dr. Hauck conducted the meeting by providing brief explanations and soliciting attendees' comments and recommendations regarding each proposed model refinement activity under one of four major headings: 1) watershed and landscape loading, 2) representation of point sources, 3) improved characterization of dairies, and 4) instream fate and transport. Brief explanations of each activity were provided and comments were solicited from meeting attendees. As necessary, support team members provided additional information on each activity.

The first activity presented was improvement of the spatial resolution of the Soil & Water Assessment Tool (SWAT) used in development of the TMDL. A preliminary, refined resolution was shown to attendees. Comments were received from Ricky Garrett and John Cowan regarding number of subbasins to be represented, inclusion of PL-566 reservoirs, and level of refinement proposed.

The second activity presented was updating land use and land cover representation of the watershed. A 1996 land use and land cover with more recent dairy waste application field (WAF) delineation was shown. Comments were received from Mr. Cowan, Mr. Garrett, Joan Glass, Richard Kiesling, James Miertschin, Tony Provin, and Bruce Wiland. Comments were provided regarding need to distinguish active and inactive WAFs, requested clarification of date of present land use, how small dairies not required to have TPDES permits would be represented, need for proper representation of phosphorus soil levels for various land uses, need to consider all land uses, representation of individual dairy operations in the model, and type and resolution of satellite imagery to be used in developing the new land use and land cover.

The next activity presented was the inclusion of PL-566 reservoirs in the SWAT model. Two photographs were shown of general characteristics of these reservoirs. Tom Conry, Mr. Garrett, Dr. Provin, and Mr. Wiland provided various comments on how to represent these reservoirs, their potential impacts on water quality, and water quality routing.

Improvement of landscape phosphorus processes in SWAT was the next activity presented. Mr. Conry, Dr. Provin, and Mr. Wiland provided comments on the need to properly characterize phosphorus in soils and concerns with spatial resolution and accuracy of various soil types in existing GIS layers.

The next proposed activity presented was verification and improvement of nutrient contribution characterization from various land uses and land covers. Mr. Conry and Dr. Provin provided comments on the needs to account for abandoned WAFs and properly characterize soil phosphorus.

The manner of representing point sources in the modeling was the next activity presented. No comments were received on this activity.

The next proposed activity presented was the inclusion of authorized and unauthorized dairy lagoon releases in the model system. A variety of comments were received on this activity from Tim Buscha, Ms. Glass, Dr. Kiesling, Dr. Miertschin, Dr. Provin, Pete Schouten, and Mr. Wiland. Comments included clarification that lagoons and waste storage ponds both occur on watershed dairies, concerns on how to characterize water quality characteristics of lagoons, statements on relative importance of lagoon releases to overall nutrient loadings, need to sample water quality of lagoons under various conditions, how application of lagoon waters to saturated grounds would be modeled, and need to also include unauthorized municipal wastewater treatment plant discharges.

Improved representation of initial nutrient concentrations of WAF soils and manure and lagoon nutrient concentrations was presented as the next proposed activity. Comments were provided by Mr. Conry, Mr. Garrett, Dr. Provin, and Mr. Wiland regarding accessibility of relevant data at TCEQ and TSSWCB, requested clarification on how SWAT simulated WAFs, and concerns on aggregation of individual WAFs, which could result in improper simulation.

The next activity presented was improvement of SWAT's capabilities to simulate dairy waste application practices. Comments were provided by Mr. Conry, David DeJong, Ms. Glass, and Mr. Garrett on the need to verify management practices on active and inactive WAFs, need for modeling to include latest regulations, concerns that model calibration and verification would be compromised without specific knowledge of agricultural management practices, and asking how offsite disposal would be simulated in the model.

The final activity presented was instream fate and transport refinements to the modeling system. It was stated that this activity includes monitoring in the watershed and model development. Mr. Buscha, Mr. Conry, Mr. Cowan, Dr. Kiesling, Dr. Miertschin, and Dr. Provin provided a variety of comments on this topic. Comments included restricting the focus of the modeling effort to just the North Bosque River watershed to conserve limited project resources, the need to fix the modeling system so it is generally applicable in other watersheds, question on how long it takes a field high in soil phosphorus to be lowered in soil phosphorus, need to model proactive activities under consideration in the watershed (e.g., wet ponds, wetlands, alum stormwater treatment), quantifying nutrient uptake lengths and budgets, considering water quality implications of PL-566 reservoirs, and need to consider organic and inorganic nutrient forms.

Prior to adjournment of the meeting, it was considered that a proper meeting frequency would be quarterly; however, meetings should only occur when substantial issues need to be discussed. The meeting was subsequently adjourned.

Written comments were later received from the City of Waco and Baylor University.