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TEXAS STATE SOIL & WATER CONSERVATION BOARD

Protecting and Enhancing Natural Resources for Tomorrow

December 9, 2008

Re: USEPA Review of Pecos River Watershed Protection Plan

VIA EMAIL caldwell.ellen@epa.gov

Ellen Caldwell
U.S. Environmental Protection Agency, Region 6
1445 Ross Ave, Ste 1200, 6WQ-AT
Dallas, TX 75202

Dear Ms. Caldwell:

The Texas State Soil and Water Conservation Board (TSSWCB) is pleased to submit *A Watershed Protection Plan for the Pecos River in Texas* (Pecos River WPP) to the U.S. Environmental Protection Agency, Region 6 (USEPA) for federal consistency review. The WPP was developed with funding provided through a Clean Water Act (CWA) §319(h) Nonpoint Source Grant from the TSSWCB and the USEPA to the Texas Water Resources Institute and the Texas AgriLife Extension Service (TSSWCB project 04-11). The Pecos River WPP was delivered electronically to USEPA on November 19, 2008 and received in-print on November 24, 2008.

The TSSWCB believes that the Pecos River WPP is consistent with and satisfies the nine elements fundamental to a potentially successful watershed-based plan, as described in *Guidelines* promulgated by USEPA in 2003. Our consistency review of the Pecos River WPP was based on our understanding and interpretation of 1) those *Guidelines*, 2) the *Handbook for Developing Watershed Plans to Restore and Protect Our Waters* (USEPA 2008), 3) *The Best Watershed-Based Plans in the Nation* (USEPA 2006), and 4) the *EPA Region 6 Process for Review of Watershed-Based Plans in lieu of TMDLs* (USEPA 2007). Subsequent to our review, we received the draft *EPA Region 6 Guide for Review of Watershed-Based Plans*; nonetheless, a further review of the Pecos River WPP, judged against this draft *Guide*, continues to support our assertion that the Pecos River WPP is consistent with and satisfies the nine elements fundamental to a watershed-based plan.

The TSSWCB and cooperating entities involved in the development of the Pecos River WPP invested significant effort over the course of four years to effectively and sufficiently engage stakeholders in the decision-making process. Our role as a facilitator was to conduct the science behind the WPP and then provide guidance to landowners as they made decisions on how best to manage their water resources. Shortcomings we've identified in hindsight include not engaging stakeholders from New Mexico (both landowners and governmental entities) and our use of a "surrogate" steering committee in the beginning

of the process. Ultimately, we believe we have garnered widespread stakeholder buy-in such that the implementation of the Pecos River WPP will achieve our mutual water quality goals.

The Pecos River WPP is a coordinated framework of prioritized and integrated strategies driven by environmental objectives to protect and restore water quality based on the current understanding of the Pecos River – key concepts of the Watershed Approach. One of the lessons we've learned from developing the Pecos River WPP is that an overly large watershed presents challenges to describing effective and reasonable management measures that, when implemented, will holistically address sources and causes of impairments and threats to water resources. The Pecos River watershed in Texas is over 10 million acres; however, the Pecos River WPP does a fairly good job of describing those management measures we know will have an effect, especially in the riparian corridor of the River. Inherent in the Watershed Approach, and explicitly characterized in the Pecos River WPP, is the concept of adaptive management – a process of modifying implementation approaches and strategies based on the on-going collection and evaluation of scientific data. Adaptive management permits us to begin implementing components of the Pecos River WPP that will generate improvements in water quality, while at the same time gaining a better comprehension of those watershed dynamics not currently well understood.

Element A – Causes and Sources of Water Quality Issues – While many causes and sources are discussed in the Pecos River WPP, primary focus is given to salinity and related issues. Such emphasis is warranted as the WPP references work which concludes that the Pecos River annually accounts for 26% of the salts entering Amistad Reservoir but only accounts for 9.5% of annual inflow. This disproportionate contribution is of primary concern to drinking water users downstream; likewise, and perhaps more importantly, salinity in the Pecos River was identified as a major issue by landowners throughout the watershed. Ultimately, the Pecos River WPP concludes that the sources of salt throughout the watershed are natural – remnant deposits left by the ancient Permian Sea in both New Mexico and Texas – but that anthropogenic activities have impacted and exacerbated the effect this natural salt has on the River. The Pecos River WPP only generally defines areas in Texas where salt loading is high and admits more data is needed to characterize these source areas. However, reducing loadings is not the only way to affect salinity; increasing flow alternatively affects the equation. Further, the Pecos River WPP concludes that increased flow, through riparian restoration, will have positive effects on dissolved oxygen levels and aquatic life use.

Element B – Load Reductions Expected – The Pecos River WPP provides defensible estimates for changes in salinity, flow, sediment, and biological diversity as a result of saltcedar control. Water quality effects of other management measures, such as salinity control at Malaga Bend or a series of check dams to increase interaction between air and water, are not possible to estimate without conducting engineering feasibility/site suitability studies (similar to how urban stormwater BMPs might be characterized). Finally, the Pecos River WPP does not provide specific, calculated increases in dissolved oxygen as an in-stream hydrologic water quality model was not developed for the Pecos River which correlated increasing flow and decreasing salinity with dissolved oxygen (a known empirical relationship). However, Elements H and I adequately address these seeming shortcomings.

Element C – Management Measures to be Implemented – The Pecos River WPP identifies and rationalizes specific and feasible management measures to reduce salt loadings and increase flow, among other things. The Pecos River WPP concludes that the majority of salt loadings actually originate in New

Mexico. As such, salinity management at Malaga Bend would provide significant impacts on salinity levels in Texas. The Pecos River WPP also concludes that riparian restoration in Texas through short-term chemical control of invasive saltcedar (*Tamarix* spp.), followed by prescribed burning of debris and long-term biological control, will have important and positive biological diversity, water quality, and water quantity impacts.

Element D – Technical and Financial Assistance Needed – The Pecos River WPP does a relatively good job of estimating implementation costs of those strategies that are known to be effective and will have a positive impact on water quality, especially in the riparian corridor. Specifically, funding needed for chemical and biological control of saltcedar, including follow-up burning of debris, is realistic and precise. Additionally, technical and financial assistance needed for implementing water quality management plans (WQMPs) and riparian revegetation on private rangeland are fleshed out. The monitoring and education/outreach components also have realistic costs. Admittedly, the Pecos River WPP does identify numerous strategies for which technical and financial assistance needs are not adequately identified. However, through adaptive management we are able to begin implementing those things we know will positively impact water quality while at the same time collecting more data on and conducting feasibility studies to confirm the applicability of other recommended strategies. Finally, commitment to implement any WPP must be continually cultivated by a watershed coordinator – fundamental technical assistance. With the Pecos River WPP, the Texas Water Resources Institute and the Texas AgriLife Extension Service have established themselves with landowners and entities, through the CWA §319(h) grant to develop the WPP, as this facilitating entity.

Element E – Education and Outreach Component – The Pecos River WPP calls for education and outreach strategies that are targeted to specific audiences critical to implementation success and are clearly related to on-the-ground implementation measures. Market research (Appendix B of the WPP) was used to gain a better understanding of the values of Pecos River watershed landowners and barriers to change. While the Pecos River WPP may not adequately describe methods to evaluate behavior change, effects of the education and outreach strategies will ultimately be captured in the evaluation of programmatic and environmental (water quality) criteria (Element H).

Elements F and G – Implementation Schedule and Interim Milestones – The Pecos River WPP implementation schedule covers a reasonable timeframe and is sequenced with linked short-, mid- and long-term milestones. Again, founded on adaptive management, the Pecos River WPP is a dynamic plan that will evolve as strategies are implemented and new data are gathered that result in a deeper understanding of watershed dynamics, specifically natural salt loading sources from Texas. Vigilant efforts by the watershed coordinator will be needed to work with landowners and entities to track milestone achievement and keep the implementation of the Pecos River WPP on schedule.

Element H – Criteria to Evaluate Water Quality Improvement – The Pecos River WPP includes a blend of quantitative and qualitative criteria which measure a variety of environmental, social, and programmatic indices and correlate to various milestones in the implementation schedule. The water quality criteria are linked to the monitoring component. Other criteria, such as the number of WQMPs developed/implemented in the riparian corridor, will be correlated to load reductions and water quality improvement through the USEPA Grants Reporting and Tracking System (GRTS), if CWA §319(h) monies are used for implementation; otherwise water quality improvement from the suite of strategies will

be observed through the monitoring component of the WPP and quantified through the general water quality criteria in this component.

Element I – Monitoring Component – The Pecos River WPP concludes that the coordinated water quality monitoring currently conducted across the watershed is fundamentally adequate to assess success of the WPP because this is the same monitoring that is used to develop the State’s CWA §305(b) Water Quality Inventory and CWA §303(d) List of Impaired Waters. However, the Pecos River WPP does call for the expansion of the current continuous water quality monitoring network in specific geographical areas; continuous water quality monitoring is a cost-effective and time-efficient approach to monitoring the parameters of primary concern in this WPP – salinity, flow, and dissolved oxygen – especially in this overly large and remote watershed.

While TSSWCB, and USEPA, fostered the development of the Pecos River WPP to restore and protect water quality in west Texas under the auspices of the federal CWA, the implementation of the WPP will help achieve other important federal and state goals, namely invasive species control (saltcedar). Both of these priorities are consistent with the priorities identified by landowners during the development of the Pecos River WPP. When government empowers landowners and citizens to make local decisions about managing water resources, implementation of mutually beneficial strategies is more successful.

In conclusion, the TSSWCB affirms that the Pecos River WPP is consistent with and satisfies USEPA’s nine elements fundamental to a potentially successful watershed-based plan. And, the TSSWCB is pleased to submit the Pecos River WPP to the USEPA for federal consistency review. The TSSWCB is committed to supporting the long-term successful implementation of this WPP to restore and protect water quality across the Pecos River watershed. If I can provide further clarification on our consistency review of this WPP, please do not hesitate to contact me at (254) 773-2250 x 232 or awendt@tsswcb.state.tx.us.

Respectfully,



Aaron Wendt
State Watershed Coordinator

cc: Dr. B.L. Harris, Texas Water Resources Institute
Dr. Charles Hart, Texas AgriLife Extension Service
Kerry Niemann, Texas Commission on Environmental Quality, Nonpoint Source Team