

Pecos River WPP Meeting Summary: June 4th and 5th, 2013

A series of four public meetings were held to update watershed landowners on efforts related to the implementation and updates to the Pecos River WPP. Each meeting included the same presentations and content. A summary of the meetings is below.

Meeting Locations:

Pecos, TX: June 4th, 8:30 am

Imperial, TX: June 4th, 1:30 pm

Iraan, TX: June 4th, 6:30 pm

Ozona, TX: June 5th, 8:30 am

Welcome, Introduction and Meeting Overview:

Lucas Gregory, Pecos River Watershed Coordinator

Pecos River WPP Update:

Lucas Gregory

- WPPs are developed to adapt as needs across the watershed change
- periodic WPP updates provide an avenue to make changes to the WPP as needed and also provides documentation of implementation progress made
- recent drought has influenced implementation progress; especially related to water delivery for irrigation and other water quantity management measures
 - lack of water from New Mexico has resulted in no irrigation water releases from Red Bluff reservoir in the last 2 years
 - no progress has been made on changing the timing of water delivery from NM to Texas
 - sustained releases of 12 cfs have also ceased
 - irrigation canal audits have not been able to be conducted due to lack of water; some districts are interested in the audits though
 - some progress has been made on irrigation system upgrades through NRCS EQIP funding
- salinity management measures are under way
 - the Malaga Bend project in New Mexico has been resurrected with Southwest Salt operating the facility
 - a Salt Source ID project has been initiated to determine the sources of salt entering the Pecos in the Cayanosa to Girvin area of the river
 - a basin wide (NM and TX) river assessment is being developed by the US Army Corps of Engineers to improve understanding of river operations and suggest improved management strategies
- brush control implementation has exceeded goals in the WP

- chemical saltcedar treatments have totaled 2,642 acres since 2009
- saltcedar leaf beetles are well established across the watershed and are continually defoliating trees
- upland brush control conducted through EQIP in 15 counties making up the majority of the watershed has exceeded 81,000 acres

- saltcedar debris burning is underway to remove woody debris left behind from earlier chemical treatments. To date, about 35 river miles have been burned

- WQMPs are being developed across the watershed
 - currently 15 plans have been certified with 2 more in development

- only native revegetation of riparian areas has occurred to date
- the availability of seed stock for plants that can tolerate the harsh Trans-Pecos environment is limited at best. Improved stocks of the seed sources are needed to improve native revegetation options
 - the Trans Pecos Native Plant Initiative is working to address this need but needs cooperators for seed collections and demonstration plots

- an assessment to evaluate the causes and sources of the dissolved oxygen impairment on the river has been completed (results will follow)

- Education and outreach continues through meetings, newsletters, and frequent updates on WPP implementation activities
- a tool known as the Pecos River Information Management System was built to illustrate general locations of WPP implementation and is available on the project website: <http://pecosbasin.tamu.edu>

- water quality monitoring continues and is important for continued assessments of the river's health
- the number of routinely monitored sites has decreased since the WPP was implemented; however the number of automated monitoring stations on the river has doubled from 4 to 8
- trends in water quality have remained relatively static since WPP implementation began
 - dissolved oxygen levels start off well downstream of Red Bluff Reservoir and gradually deteriorate as the river moves to the Girvin area; from there downstream they improve
 - the area of the river between the Ward 2 Irrigation Turnout and US 67 near Girvin is considered impaired for low dissolved oxygen levels
 - salinity levels in the river follow the same general trend that dissolved oxygen does

- the WPP Implementation Schedule has been updated to provide documentation of progress made as well as the current implementation status
 - this table is the last 4 pages of the WPP update

- landowners were asked to review the WPP Update and provide comments to Lucas

Gregory by July 22nd via mail, email or phone

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Dissolved Oxygen Modeling Update

Dr. Larry Hauck, Texas Institute for Applied Environmental Research

- when the WPP was developed, the dissolved oxygen (DO) impairment had just come about
 - no investigative work was done to assess the problem, so no management recommendations were included to address the issue
 - the WPP did include assessment work to define the problem and evaluate potential management scenarios

 - to evaluate the issue, a computer model called QUAL2K was developed and applied to the Pecos River to evaluate minimum DO levels in the impaired area
 - the model was focused on the FM 1776 to US 67 area but was run to evaluate DO for the entire length of river in Texas
 - the model calibrated well and was able to adequately predict minimum DO levels

 - the assessment showed that DO levels in the impaired area were below the minimum DO standard of 3.0 mg/L approximately 79% of the time; to meet designated water quality standards, DO levels should be above 3.0 mg/L at least 90% of the time

 - to assess the source of the problem and potential management strategies, 9 management scenarios were applied
- 1: reduce the salinity of Red Bluff Reservoir by 25% (Malaga Bend Project)
 - 2: increasing streamflows by 50% as recommended in the BBEST report
 - 3: increasing streamflows by 50 and 75% as recommended in the BBEST report
 - 4: decrease instream algae by 25%
 - 5: decrease sediment oxygen demand by 25%
 - 6: decrease nutrients in Red Bluff Reservoir by 25%
 - 7: add an artificial riffle 1.5 km upstream of FM 1776
 - 8: combination of 3, 4 and 6
 - 9: combination of 3, 4, 5 and 6

No single management measure yielded the needed DO improvements as predicted by the model (specific results are included in the meeting slides and DO report)

Only option 9 yielded minimum DO levels that would meet the DO standard

- Essentially, hydrologic modification is the primary culprit of the low DO levels
 - scouring flows are extremely rare in the impaired zone due to upstream dams and general lack of water
 - this leads to sedimentation buildups that store nutrients
 - instream algae feed on these nutrients and cause wide swings in daily DO levels
- It should be noted that the feasibility of management measures evaluated was not considered and it will prove extremely challenging to restore DO levels in the river as a result of the volume of hydrologic modification in NM and TX

WQMP Update:

Amy Porter: Upper Pecos Soil and Water Conservation District

WQMP = Water Quality Management Plan

They are:

- voluntary plans requested by the landowner
 - provide free technical assistance to the landowner on resource management
 - developed through a local SWCD to meet the needs of the producer and achieve statewide water quality management goals
 - can provide up to \$15,000 in financial assistance
 - reimbursement rate is 60% of the installed practice cost
- 15 WQMPs have been certified
- 2 more are being developed
- Have included:
- cross fencing
 - water troughs
 - water wells
 - pipelines
 - water storage
 - water pumping systems (solar, electric, wind)

If interested in a WQMP, contact your local SWCD or Amy

amy.porter@tx.nacdnet.net

A series of photos documenting debris burning conducted to date was shown as well.

- a private contractor, Global Frontline Solutions has been conducting the burns
- approximately 35 river miles have been treated thus far extending down to I-10

Pecos River Heliborne Electromagnetic Survey

Lucas Gregory: Pecos River Watershed Coordinator

WPP identified the need to study the source of salts entering the Pecos River between FM 1776 and US 67

A helicopter based electromagnetic (HEM) survey was identified as the quickest, most effective way to collect needed information to identify these salts

A HEM survey is similiar to a CAT scan where electromagnetic waves are sent into the soil and the rate at which they return to the surface yields the electrical resistivity of the ground and water below

- electrical resistivity readings can be translated into soil types and also measure the salinity of groundwater when paired with ground based hydrogeological information

- this will produce a 3D map illustrating the hydrogeology of the area near the Pecos River and should show where saline intrusion zones are along the river

- this will allow for management strategies to be evaluated to address salt loading in this portion of the river