

# Integrated Management Plan Stakeholders Meeting

## Twin Platte Natural Resources District

### August 20, 2007

**Stakeholders present:** Phil Armstrong, Don Colvin, Burdette Cooley, Lisa Dominisse, Mike Drain, Jim Goeke, Marion Kroeker, Tina Kurtz, Jim Meismer, Roric Paulman, Robert Petersen, Page Peterson, Dennis Schilz, Jerry Steinke, Mike Svoboda, Doug Teaford, Steve Van Boening, Joe Wahlgren, T.J. Walker, Mike Wheeler, Robert Wiseman.

**Stakeholders absent (excused):** Jim Hawks, Frank Kwapnioski, Steve Krajewski, Kent Miller, Kenneth Schilz, Jerry Weaver.

**Stakeholders absent (unexcused):** Dudley Oltmans.

**Resource People:** Ann Dimmitt, Kevin Spelts.

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The Stakeholders Meeting was called to order at 7:10 p.m. CDT

### Announcements and Presentations

The facilitator distributed a report entitled "*Strategy for Long-Term Management of Exotic Trees in Riparian Areas for New Mexico's Five River Systems, 2005-2014*" which was referenced in Dr. Robert Wilson's presentation last month regarding invasive species management.

### Presentations and Discussion

**Duane Woodward, Engineering Hydrologist with Central Platte NRD** continued the discussion from last month regarding COHYST information. He specifically addressed estimated stream depletion in the Platte Basin due to new irrigated land after 7/01/1997. Information presented was taken from a more in-depth report dated December 2006 and available online at the COHYST website (<http://cohyست.dnr.ne.gov/>). Results are reported in acre-feet per year. (One acre-foot per day equals 226 gallons per minute). Cumulative results are presented in thousands of acre-feet. (One thousand acre feet equal 325,900,000 gallons). Woodward provided Stakeholders with a map of the area studied and spreadsheets showing annual depletion for each area of the model within the COHYST area and the OA Area from 1999 to 2038.

The areas modeled by COHYST include the following:

- A – Wyoming to Kingsley Dam
- B – Kingsley Dam to Tri-County Supply Canal (including the South Platte River)
- C – Tri-County Supply Canal to Lexington
- D – Lexington to US Highway 183
- E – US Highway 183 to Chapman (the border of the critical habitat area)
- F – Chapman to Columbus

Aerial photography from 3 different data sets were analyzed using color infrared photography to determine the net gain in irrigated acres in the entire COHYST area (Wyoming line to Columbus):

From 1997 to 2001:	282,780 irrigated acres were gained
	78,380 irrigated acres were lost
	<b>204,400 acres NET gain</b>
From 2001 to 2005:	383,780 irrigated acres were gained
	80,170 irrigated acres were lost
	<b>303,610 acres NET gain</b>
From 1997 to 2005	<b>NET GAIN: 508,010 acres</b>
	<b>Of this: 53,500 acres were in the Twin Platte NRD</b>

The impact of these additional irrigated acres in terms of stream depletion was then projected for each of the areas modeled. Projections were for 2008, 2021 and 2038 to show how these new acres are expected to impact the river over time. Even though there were no new irrigated acres after 2005 the projected depletion grows over time due to the cumulative impact on the stream from drawing down ground water.

Projected depletions to stream flow from net gain in irrigated acres:

	<b>2008</b>	<b>2021</b>	<b>2038</b>
Wyoming line to Kingsley Dam	8,400 af/yr	9,600 af/yr	10,000 af/yr
Kingsley Dam to Tri-County canal	8,400 af/yr	12,300 af/yr	14,600 af/yr
Tri-County canal to Lexington	10,100 af/yr	12,600 af/yr	14,200 af/yr
Lexington to Highway 183	1,600 af/yr	2,500 af/yr	3,200 af/yr
Highway 183 to Chapman	1,000 af/yr	2,300 af/yr	3,600 af/yr
Chapman to Columbus	3,000 af/yr	6,000 af/yr	8,500 af/yr
<b>TOTAL depletion</b>	<b>32,000 af/yr</b>	<b>45,000 af/yr</b>	<b>54,000 af/yr</b>

Actual data from 1998 through 2005 will be plugged into the model in the next 6 to 8 months to see how the model calibrations are holding up.

A second analysis was completed to look at the impact of gained or lost irrigated land in the Hydrologically Connected Area for the Overappropriated Basin (HCA/OA). The HCA/OA area is an administrative determination by DNR based on 28% stream depletion in 40 years. This analysis also looked at the Eastern Analysis Area (EAA) which was developed for comparative purposes only. This is the area from Highway 183 to Chapman and is based on 10% depletion in 50 years or Fully Appropriated Area. Below is a summary of changes in the HCA/OA and EAA:

From 1997 to 2001:	47,170 irrigated acres were gained 18,770 irrigated acres were lost <b>28,400 acres NET gain</b>
From 2001 to 2005:	70,460 irrigated acres were gained 26,870 irrigated acres were lost <b>43,590 acres NET gain</b>
From 1997 to 2005	<b>NET GAIN: 72,000 acres (14.2% if total)</b> <b>Of this: 34,300 acres were in the Twin Platte NRD</b>

Projected depletions to stream flow from net gain in irrigated acres in HCA/OA and EAA:

	<b>2008</b>	<b>2021</b>	<b>2038</b>
Wyoming line to Kingsley Dam	8,400 af/yr	9,600 af/yr	9,800 af/yr
Kingsley Dam to Tri-County canal	8,000 af/yr	10,100 af/yr	10,800 af/yr
Tri-County canal to Lexington	9,200 af/yr	10,500 af/yr	10,900 af/yr
Lexington to Highway 183	1,300 af/yr	1,700 af/yr	1,800 af/yr
Highway 183 to Chapman	1,700 af/yr	2,400 af/yr	3,400 af/yr
Chapman to Columbus	NA	NA	NA
<b>TOTAL depletion</b>	<b>29,000 af/yr</b>	<b>34,000 af/yr</b>	<b>37,000 af/yr</b>

Woodward shared aerial maps that were color coded to show where irrigated acres increased and decreased. He also provided net gain information by county and Natural Resources District. Lincoln County saw a net gain of 48,010 in irrigated acres from 1997 to 2005.

Net Irrigation Requirement projections from 1997 through 2038 were computed using CropSim, assumed 1997-98 meteorological conditions and actual cropping patterns from 1997-98, 2001-02 and 2005-06. CropSim is a soil moisture budget model using information from 1950 – 1998. Woodward detailed assumptions used in the groundwater model analysis and answered specific questions about how numbers were gathered and analyzed.

## **Discussion of IMP Management Scenarios**

Discussion of possible management scenarios continued.

**Prevent or Limit expansion of consumptive use:** This is a broadly worded approach in the statutes which can be defined by each NRD. In addition to a continued moratorium on new irrigated acres it could include other uses (like municipal or industrial). Consumptive use would be determined using university studies, CropSim, COHYST, Federal Government and EPA declarations. Since a moratorium on new irrigation is already in place it may make more sense to describe this management approach as: **Managing Consumptive use**. One way to do this is to determine total consumptive use allowed on a farm-by-farm basis, leaving cropping decisions to the producer. If consumptive use was increased on one part of the farm this increase would have to be offset by alterations in cropping plans elsewhere. Note: Gary Hergert's group was recently contracted by the NRDs to complete an analysis of current and historical consumptive use based on satellite images of vegetation.

<b>PROS</b>	<b>CONS of Managing Consumptive Use</b>
Managing consumptive use through a crop equivalent basis (which allows farmers to decide what they will grow) would be more equitable. It would give producers more management control and the ability to plan what will happen on their own land (within limitations).	This would limit the potential for economic growth. (e.g. expanded corn acres for ethanol production).
This method <i>may</i> be less costly than meters (which would require installation, maintenance, regulation).	A system to monitor compliance using aerial photography or satellites still needs to be developed / perfected.
This may be a more efficient way to monitor compliance with the IMP.	This approach may be too broad. Difficult to pin down exactly what is needed.
The statutes for this are broad enough to allow things like incentives.	May not be as easily understood as meters. Will require new terminology and thinking.
This approach "makes sense" to people so there may be less negative feedback when implementing.	Doesn't tell us the source of water (ground/surface). It avoids gathering the kind of information useful in modeling that would be available with metering.
Consumptive use is at the heart of solving the problem.	

### Meeting Schedule

All meeting times are from 7:00 to 9:30 p.m. CDT and **will be held at the Holiday Inn Express**.

Future meetings:

7:00 p.m.	September 17
7:00 p.m.	October 15
7:00 p.m.	November 19
7:00 p.m.	December 17

The meeting was adjourned at 9:30 p.m.