

Comparing and Contrasting the Pecos and Republican River Basins

compiled by

Michael Jess

Conservation & Survey Division

University of Nebraska-Lincoln

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New Mexico's portion of Pecos River Basin

1. Over-appropriated stream flows
2. Over-committed ground water supplies in nearly all locations
3. Hydraulically inter-connected surface water & ground water supplies in substantial portions of basin
4. Water consumption in New Mexico limited by 1948 Pecos River Compact
5. Citing Compact limitations & claiming New Mexico had deprived it of 1.1 M acre feet of water, Texas initiated U.S. Supreme Court litigation against New Mexico in 1974
6. U.S. Supreme Court lawsuit goes to trial; Court decisions in 1980 & 1983 (contested legal matters), 1987 (substantive ruling) and 1988 (remedies)
7. To comply w/Court rulings, New Mexico required to a) pay damages to Texas, b) increase Pecos River flows into Texas and c) fall under oversight authority of Court-appointed River Master (Prof. Neal S. Grigg, Colorado State University) if its efforts to increase Pecos River flows into Texas fail to meet specified criteria

Nebraska's portion of Republican River Basin

1. Over-appropriated stream flows
2. Over-committed ground water supplies in nearly all locations
3. Hydraulically inter-connected surface water & ground water supplies in substantial portions of basin
4. Water consumption in Nebraska limited by 1943 Republican River Compact
5. Citing Compact limitations & claiming Nebraska had allowed excessive water consumption, particularly from ground water sources, Kansas initiated U.S. Supreme Court litigation against Nebraska (and Colorado) in 1998
6. Without going to trial, lawsuit settlement negotiated by parties and approved by U.S. Supreme Court in 2002
7. Under terms of settlement agreement, Nebraska avoids payment of monetary damages but in exchange, it agrees to a) halt additional development from surface water and ground water sources in the Republican River basin and b) significantly restrict those who may already divert from surface water supplies or from aquifers in hydraulic connection with the Republican River and its tributaries

8. Resulting estimated economic expenses¹ for New Mexico state budget:

- a) One-time damages payment to Texas = \$14 M
- b) Increase Pecos River flows into Texas = \$100 M (current estimate)
 - acquire title & retire irrigation on 18,000 acres (willing sellers)
 - design/install augmentation well fields

9. Since entry of decree in *Texas v New Mexico*, New Mexico has fulfilled all water flow and other requirements imposed on it by U.S. Supreme Court.

8. Resulting estimated economic expenses for Nebraska state budget:

- a) Damages payment to Kansas = \$0
- b) Curtail irrigation consumption by retirement of existing uses²
 - purchase rights to consume water
 - \$64.8 M (required compensation equal to market value)
 - \$97.2 M (estimated voluntary transactions)
 - lease rights to consume water . . . assumes 50-yr program duration
 - \$213.2 M (required compensation equal to on-farm costs)
 - \$319.8 M (estimated voluntary transactions)

9. During the interim period following settlement of *Kan v Neb*, Nebraska has been unable to fully constrain water uses. For 2003 thru 2005, Nebraska officially reported consumption was 104,000 acre feet over and above limits specified in the 2002 settlement agreement.

In 2006 \$1.7 M was spent to purchase well water irrigation retirement easements and \$2.5 M was spent for a one-year buy-out of diversion rights held by Nebraska Bostwick Irrigation District. In spite of those expenditures and the imposition of vigorous basin-wide regulatory efforts, Nebraska officials said excessive consumption during 2003 through 2006 was approximately 200,000 acre feet.

10. Additional complications:

- unintended water consumption by salt cedars & other phreatophytes annual management expenses range from \$3-6 M³
- minimum flow requirements for federally-listed endangered fish species

10. Additional complications:

- unintended water consumption by salt cedars & other phreatophytes research planning activities under way
- no minimum flow requirements for any fish & wildlife species

¹Titus, Frank, "Lessons from the Pecos River," (pp. 3-6) in *Water Resources of the Lower Pecos Region, New Mexico*, edited by Peggy S. Johnson, Lewis A. Land, L. Greer Price and Frank Titus, New Mexico Bureau of Geology & Mineral Resources, Socorro, NM, 2003.

²Suppala, Ray, Tom Buell and Brian McMullen, *Economic and State Budget Cost of Reducing Consumptive Use of Irrigation in the Platte and Republican Basins*, Working Paper, Department of Agricultural Economics, University of Nebraska-Lincoln, Aug. 21, 2006.

³McDaniel, Kirk, Department of Animal & Range Sciences, New Mexico State University, Las Cruces, NM, *personal communication*, Feb. 20, 2007.

Options to look at:

Allocations
Restrict irrigated acres
Vegetation management
Incentive programs
Reviewing model inputs and processes to assure that they are accurate
Augmentation
Inter-basin transfer
Surface water buyouts
Additional surface water regulation – protecting saved water in the stream, treating surface water users the same as ground water users (equal protection)
Conjunctive management
Equity between quick response and upland wells
Channelizing the river
Weather modification
Fee structure
Potential bonding authority/trust fund

Near-term ideas (2007)

Work toward using best information – i.e. certified acres
Buyout surface water
Buyout KS Bostwick
Vegetation management
CREP / EQIP
Plans for augmentation
Additional model runs

2008-2010

Augmentation programs
Look into conservation impacts
Reduce allocations/reduce acres – look at both options
Vegetation management
Breach livestock dams – replace with stock wells
Water outlets in terraces
Get flows into Elwood Reservoir
Pumping water from the east to the Republican Basin