



United States Department of the Interior



BUREAU OF RECLAMATION  
Great Plains Region  
Nebraska-Kansas Area Office  
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BUREAU OF RECLAMATION NEBRASKA-KANSAS PROJECTS McCook, Nebraska		
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LRNRD		
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IN REPLY REFER TO:

NK-100  
WTR-4.00

JAN 15 2008

Lower Republican Natural Resources District  
706 2<sup>nd</sup> Street  
Alma, NE 68920

Subject: Written Testimony, Lower Republican Natural Resources District (LRNRD)  
Public Hearing

Dear Sir:

Enclosed is the written testimony of the Bureau of Reclamation, Nebraska-Kansas Area Office submitted for the public hearing records as conducted by the LRNRD regarding the proposed Integrated Management Plan (IMP) for the LRNRD and the Nebraska Department of Natural Resources. Specific comments concerning the draft IMP are included as part of the above-referenced testimony.

Thank you for the opportunity to provide testimony. If you have any questions, please contact me at the above address or telephone 308-389-5300.

Sincerely,

*[Handwritten Signature: Jack B. Waig]*

Aaron M. Thompson  
Area Manager

Acting For

Enclosure

KAN. EXHIBIT 80  
Kan. v. Neb & Colo. No. 126, Orig.  
Arbitration Initiated 10/21/08

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NK-300 (Mike Kube)  
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w/enclosure to all

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**Statement of the Bureau of Reclamation  
Nebraska-Kansas Area Office  
Aaron M. Thompson, Area Manager**

**Regarding the Lower Republican Natural Resources District Ground Water  
Management Rules and Regulations and Integrated Management Plan**

**January 15, 2008**

**EXPERTISE**

This statement was prepared by Bureau of Reclamation (Reclamation) personnel having extensive experience with the hydrology of the Republican River and the construction and operation of Reclamation and Corps of Engineers projects in the basin. This experience also includes considerable involvement with the Republican River Compact (Compact) calculations and the 1998 Compact litigation and 2003 settlement.

**RECENT HISTORY**

The original Compact, signed in 1942, was negotiated and drafted with the knowledge that significant federal water resource development was being planned for the basin. The natural flow rights associated with the Federal projects have priority dates that vary from 1890 to 1954 and numerous small rights with later priority dates. An increase in groundwater wells in the Basin, for irrigation development, became particularly evident in the late 1960's. The development of these wells has significantly impacted the water supply for the Federal projects.

On May 26, 1998, Kansas filed a complaint with the United States Supreme Court (Court). Kansas alleged that the use of groundwater wells had resulted in the appropriation by the State of Nebraska of more than its allocated equitable share of the waters of the Republican River. In 2000 the Supreme Court ruled that the Republican River Compact restricts a compacting State's consumption of groundwater to the extent the consumption depletes stream flow in the Republican River Basin. A Stipulated Settlement was reached and approved by the Court in May 2003. This Stipulated Settlement established general terms governing the settlement, Compact accounting, and additional administration requirements.

In 2007, the NRD Coalition signed agreements with several irrigation districts to lease portions of their water supplies to assist with Nebraska's Compact Compliance. Due to current pending litigation it is uncertain when or if payment will be made to these irrigation districts. This uncertainty could negatively affect the irrigation districts and Reclamation's willingness to enter into similar agreements in the future.

## COMPACT RULES AND CALCULATIONS

Changes to the Compact accounting calculations resulting from the 2003 Settlement Stipulation included the accounting of all groundwater depletions and averaging the states' consumptive use and its Compact allocation over a period of years. The accounting procedure relating to reservoir storage was also changed such that water stored in Federal reservoirs is not counted as part of the basin Computed Water Supply (CWS) until it is released from the reservoir. Water released from Federal reservoirs becomes CWS subject to allocation, only after it is either diverted for use or flows by a Compact gage. This CWS is allocated among the three states according to the terms of the Compact. Since Nebraska receives the largest allocation of the CWS, the release of stored water for diversion and use by Nebraska irrigation districts is generally beneficial to Nebraska's Compact compliance. This release of stored water from Reclamation projects increases Nebraska's Compact allocation by an amount that exceeds the resulting consumptive use assigned to Nebraska. This results in a net positive contribution to Nebraska's Compact compliance. On the other hand, pumping of groundwater in Nebraska results in an increase to Nebraska's allocation that is less than the increase in consumptive use that results from the groundwater use. Because of the large percentage of basin groundwater used by Nebraska, these groundwater depletions have resulted in significant Compact compliance deficits for Nebraska.

## CURRENT CONDITIONS

For the 1998-2002 baseline period, Nebraska's total annual allocation averaged 288,000 acre-feet/year. The Compact accounting for 2003 through 2006, show Nebraska's annual allocation has averaged 205,000 acre-feet and Nebraska's annual use has averaged 250,000 acre-feet, resulting in Nebraska's computed beneficial consumptive use exceeding its allocation. This deficit corresponds with the reduction in surface water supplies in the basin. Nebraska is currently using about 75% of the total water being used in the basin while it is allocated only about 56% of the total CWS. This has created the deficits ranging from about 25,000 to 40,000 acre-feet annually since Compact Settlement accounting was initiated.

## CONCERNS

Reclamation is very concerned with Nebraska's failure to meet Compact compliance. Reclamation is even more concerned about the continuing depletion of inflows to the Federal reservoirs. Federal projects were constructed based on the concept that project surface water rights would be protected. Prior to construction of the Federal Dams, a Definite Plan Report (DPR) was prepared by Reclamation. The following table shows the average flows that were included in the DPR compared to the actual flows experienced since 1956. The table depicts the historic decline of inflows since the projects were first developed. Of specific concern is the inflow decline over the last 20 year period. This decline cannot be attributed to a decline in precipitation. The average precipitation occurring at the Republican River Compact Administration precipitation

stations for the 1986-2005 period was 20.98 inches, which is 103% of the 1918-2005 average. The only Federal reservoir located in the LRNRD is Harlan County Lake.

**RESERVOIR INFLOW COMPARISONS – Acre-Feet**

RESERVOIR	DPR AVERAGE	20 Yr. AVERAGE 1986-2005	7 Yr. AVERAGE 2001-2007
SWANSON	115,300	45,000	17,500
ENDERS	55,100	16,200	7,400
HUGH BUTLER	19,300	15,300	11,600
HARRY STRUNK	56,800	38,200	35,900
HARLAN COUNTY	359,000	146,700	80,600
TOTALS	605,500	261,400	153,000
Percentage of DPR		43%	25%

Activities in the LRNRD directly impact the water supply for several canals associated with Federal projects in the Basin. Reduced surface water supplies have caused project water deliveries, throughout the Basin, to decline over the last 40 years. Water deliveries have been far below the levels that were expected when the projects were planned. The following table indicates the canal deliveries for several time periods showing a progressive decline in water deliveries to the farms. It should be noted that the lands within Bostwick Irrigation District in Nebraska have not received storage water from Harlan County Lake since 2003. Project lands on the Cambridge Canal of the Frenchman-Cambridge Irrigation District and within the Kansas Bostwick Irrigation District have also experienced declines in water deliveries.

**WATER DELIVERIES – INCHES/ACRE**

	FRANKLIN CANAL	NAPONEE CANAL	FRANKLIN PUMP CANAL	SUPERIOR CANAL	COURTLAND CANAL (NE)	COURTLAND CANAL (KS)
1966-1975	13.9	15.8	11.9	14.8	10.5	10.5
1976-1985	12.4	13.2	11.3	13.2	9.6	11.0
1986-1995	10.3	9.7	9.7	10.0	7.5	8.9
1996-2005	8.3	7.7	8.1	9.2	8.0	10.5
2006-2007	0.0*	0.0*	0.0*	0.0*	0.0*	6.3

\* Limited water supply – water purchased by State of Nebraska.

Under Legislative Findings, Nebraska Statute 46-703, "The Legislature further finds: (1) The management, conservation, and beneficial use of hydrologically connected ground water and surface water are essential to the continued economic prosperity and well-being of the state, including the present and future development of agriculture in the state; (2) Hydrologically connected ground water and surface water may need to be managed differently from unconnected ground water and surface water in order to permit equity among water users and to optimize the beneficial use of interrelated ground water and surface water supplies; . . (4) The Legislature recognizes that ground water use or surface water use in one natural resources district may have adverse affects on water supplies in another district or in an adjoining state. The Legislature intends and expects that each natural resources district within which water use is causing external impacts will accept responsibility for ground water management in accordance with the Nebraska Ground Water Management and Protection Act in the same manner and to the same extent as if the impacts were contained within that district; . ."

According to NE Stat. 46-715, the Integrated Management Plan (IMP) should include clear goals and objectives with the purpose of sustaining the balance between water uses and water supplies. Reclamation is very concerned with this balance in the Basin as it relates to surface water supplies for existing surface water uses.

#### REALITY

Republican River Compact overall allocations for Republican River waters are Nebraska 49.0%, Kansas 39.7% and Colorado 11.3%. Nebraska groundwater pumping is currently causing over 80% of the depletion to the streamflows in the Basin. As long as the groundwater depletion is at this or near this percentage level, significant surface water will be needed to offset Nebraska's groundwater depletion and to achieve Compact Compliance.

It is obvious to Reclamation that the use of available storage water from the Federal projects by irrigation districts is beneficial to Nebraska's Compact compliance. Basin wide pumping at the current levels or even at the proposed reduced levels will only further reduce streamflow resulting in a reduction in the quantity of stored water available to supply surface water users. Reducing groundwater depletions will gradually allow the streamflows to recover and result in improved chances of maintaining long term compliance. Storage water use during normal operations by the irrigation districts improves the chances of Compact compliance as this increases the total CWS allocated to Nebraska by more than the accounted consumptive use charged to Nebraska.

#### COMPACT ADMINISTRATION

The hydrologists and others associated with the Compact Administration have stated that significant reduction in groundwater depletions is necessary for Nebraska to come into long-term compliance with the Compact. Reclamation agrees that long-term Compact compliance can only be achieved through significant basin wide reductions in groundwater use.

## EXPECTATIONS

The Bureau of Reclamation expects the water rights associated with the authorized Federal multipurpose projects located in the Republican River Basin, be protected by Nebraska Department of Natural Resources and the Natural Resources Districts. Reclamation expects to continue to operate the Federal projects for their authorized purposes. With the exception of wet periods, Reclamation does not believe that the IMP's proposed by the Natural Resources Districts and DNR will result in Nebraska meeting long-term Compact Compliance. Reclamation requests action by the NRDs and the State of Nebraska to place further and sufficient restriction on groundwater pumping that will allow streamflows to recover, provide equity among water users, and assist Nebraska in achieving Compact compliance.

## SPECIFIC COMMENTS

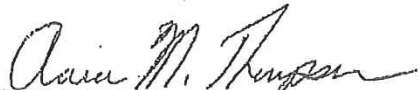
1. It is not clear how credits and benefits from streamflow augmentation projects will be calculated.
2. Proposed IMP does not address the need to improve long-term surface water flows, make up existing deficits or provides for long term compact compliance. Improved surface water flows will be needed to achieve long-term compliance.
3. Reclamation has not seen data for other reservoirs in the Republican River Basin, but the data for Enders Reservoir indicated that inflows will continue to decline even with pumping reductions at the proposed levels. As a result, long-term surface water supplies will continue to decline eventually reaching a point where they are unavailable for use or to provide augmentation. Other reservoir inflows are likely to decline in a similar manner.
4. Reductions may need to be higher to improve surface water supplies and achieve long-term compliance. Nebraska has been out of compliance since 2003 and surface water supplies have continued to decline.
5. It is difficult to understand the LRNRD's practice of allowing carryover to future years of any unused allocation when there are pumping limits associated with the proposed plan. This could allow an additional 2 to 3 inches to the 9 inch allocation. A lower allocation is needed to allow Nebraska to be in compliance with the Compact on a long term basis and to allow groundwater supplies to recover.

## CONCLUSION AND FINAL STATEMENT

Due to the reduced streamflow in the LRNRD, surface irrigators and their water rights have been adversely affected by receiving inadequate water supplies far less than what was expected from the Federal projects. It needs to be noted that the most senior water rights in the basin are the surface water rights that are currently not being provided equity among water users. This is not consistent with Nebraska Statute 46-703 and is not acceptable to Reclamation. The reduced water deliveries have significantly reduced the economic benefits provided by the projects.

Another impact associated with reduced streamflows is reduced reservoir levels which negatively impact the recreational and fish and wildlife benefits associated with these projects. I would like to note that goal number 3 of the Integrated Management Plan states "To sustain a balance between water uses and water supplies within the District so that the economic viability, social and environmental health, safety, and welfare of the District can be achieved and maintained for both the near term and the long term." Sustained surface water inflows to the Federal reservoirs are essential to provide not only irrigation benefits, but also significant recreation and fish and wildlife benefits to the area. Reclamation is encouraged by the LRNRD's efforts to reduce groundwater pumping within their District.

In conclusion, Reclamation is fully supportive of the Federal projects and these projects continuing to operate as planned and authorized. Continued operation of these projects requires the protection of existing water rights and restoration of inflows to the reservoirs. Reclamation requests action by the NRDs and the State of Nebraska to protect and restore streamflows and inflows to the reservoirs, provide equity among water users, and assist Nebraska to achieve Compact compliance.

  
Aaron M. Thompson, Area Manager