



AgEcon SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Cornhusker Economics

Agricultural Economics Department

9-19-2007

Republican River Challenges

J. David Aiken

University of Nebraska-Lincoln

Follow this and additional works at: https://digitalcommons.unl.edu/agecon_cornhusker



Part of the [Agricultural and Resource Economics Commons](#)

Aiken, J. David, "Republican River Challenges" (2007). *Cornhusker Economics*. 334.

https://digitalcommons.unl.edu/agecon_cornhusker/334

This Article is brought to you for free and open access by the Agricultural Economics Department at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Cornhusker Economics by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

CORNHUSKER ECONOMICS

Republican River Challenges

The amount of water that can be used for irrigation in the Republican River Basin is controlled by the Republican River Compact. On June 22, 2007 the Nebraska Department of Natural Resources (DNR) presented to officials of the Republican River Basin Natural Resource District (NRD), DNR projections of future Republican River Basin water allocations to Nebraska. The DNR model (which is the official model established in the Republican River Basin Compact litigation settlement) indicates that streamflows will decrease over the next 40 years, due primarily to the impact of past and current ground water pumping. The DNR also calculated ground water allocations for irrigators within the Upper Republican NRD, the Middle Republican NRD and the Lower Republican NRD, that would allow Nebraska to stay within its allocated share of Republican River water. This newsletter explains the DNR projections and explores management options relative to implementing the DNR recommended allocations.

Under the Republican River Basin settlement agreement, the three basin states (Colorado, Kansas and Nebraska), jointly developed a model to be used in determining how much water is available for each state's use each year, and how much water each state has used each year. According to this basin water accounting system, from 2003-2006 Nebraska has overused its allocation by around 37,000 acre-feet of water per year. In normal years the state water allocations are based on a five-year average. But in dry years, two-year averaging is used. This means that because 2005 and 2006 were dry years, the official 2006 results will be the first year for which Nebraska is legally required to be in compliance with the settlement agreement. If a five-year average would have been used, 2007 would have been the first year for compliance. The states will approve the water use figures from 2006 later this year. When those numbers are approved, Nebraska will

Market Report	Yr Ago	4 Wks Ago	9/14/07
<u>Livestock and Products,</u>			
<u>Weekly Average</u>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.....	\$88.45	\$90.17	\$92.75
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.....	134.44	136.14	127.68
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.....	122.84	119.10	123.72
Choice Boxed Beef, 600-750 lb. Carcass.....	147.26	144.39	147.07
Western Corn Belt Base Hog Price Carcass, Negotiated.....	67.55	67.12	62.89
Feeder Pigs, National Direct 50 lbs, FOB.....	53.65	58.20	50.28
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean.....	73.36	72.37	67.67
Slaughter Lambs, Ch. & Pr., Heavy, Woolled, South Dakota, Direct.....	98.00	104.00	102.37
National Carcass Lamb Cutout, FOB.....	240.58	255.27	259.49
<u>Crops,</u>			
<u>Daily Spot Prices</u>			
Wheat, No. 1, H.W. Imperial, bu.....	4.12	5.70	7.64
Corn, No. 2, Yellow Omaha, bu.....	1.98	3.16	3.10
Soybeans, No. 1, Yellow Omaha, bu.....	5.13	7.40	8.60
Grain Sorghum, No. 2, Yellow Columbus, cwt.....	3.30	5.05	5.34
Oats, No. 2, Heavy Minneapolis, MN, bu.....	2.19	2.52	2.70
<u>Hay</u>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.....	135.00	135.00	135.00
Alfalfa, Large Rounds, Good Platte Valley, ton.....	87.50	85.00	87.50
Grass Hay, Large Rounds, Good Northeast Nebraska, ton.....	82.50	*	*
* No market.			



officially be out of compliance with the Republican River Compact.

Given that Nebraska has over-used its allocation for 2003-2006 (preliminary figures indicate that Nebraska was about 44,000 acre-feet over its 2006 allocation), it seems clear that future water use will need to be reduced to bring use and allocation into balance. To date, ground water irrigators have been reluctant to reduce ground water pumping, particularly while (as now) corn prices are high. However, the DNR (using the settlement-approved model) projects that future Nebraska compact allocations will be lower because future Republican River streamflow will be lower. In light of this the DNR has recommended that NRD ground water allocations be reduced 59-71 percent for 2008-2011, as summarized in the table below. Governor Heineman has recommended to the three Republican Basin NRDs that they establish a three-year allocation based on the DNR dry-year recommended allocation. This would likely keep Nebraska under our future compact allocations and reduce our cumulative overuse, and it would also get irrigators used to the lower allocations that will be inescapable in coming years.

Current & Recommended Ground Water Allocations*			
	URNRD	MRNRD	LRNRD
2007 NRD	13.5	13.0	12/11
DNR Average	8.5	8.0	6.5
DNR Dry	5.5	5.0	3.5

*acre inches per irrigated acre

What are the choices for reducing ground water pumping? One choice would be to simply adopt the DNR recommended allocations. This would be a difficult adjustment for ground water irrigators. If this approach were followed, the NRDs might allow irrigators to sell their allocation to other irrigators. If for example, I was allocated five inches per acre and I think I need eight inches to irrigate, I would (with NRD permission) purchase the right to buy an extra three inches from my neighbor. So then I would pump eight inches and my neighbor would be able to pump two inches. More than likely the neighbor would sell the other two inches to someone else. This approach costs the least in terms of tax dollars, but the cost to ground water irrigators is the highest.

Another approach would involve giving irrigators larger ground water allocations and then purchasing sufficient pumping rights from some irrigators to bring the total ground water pumped down to the desired amount. For example, if the NRD decides to give irrigators eight inches per acre but pumping needs to be five inches per acre in order to meet compact requirements, the NRD could pay irrigators not to irrigate 38 percent (3/8) of the

total irrigated acres. So even though the remaining 62 percent of the acres were irrigated at eight inches per acre, the total amount pumped would average five inches per acre. This approach would have lower costs for ground water irrigators, but the public costs to taxpayers to pay ground water irrigators not to pump would be much higher.

What happens if NRDs don't agree to reduce ground water pumping through one of the two approaches outlined here? When later this year Nebraska is officially determined to be out of compact compliance, Kansas can take enforcement action against us. Kansas officials have indicated that they believe Nebraska ground water pumping must be reduced to achieve long-term compact compliance. If Kansas sued to enforce the compact, the DNR and Nebraska's Attorney General could propose to implement the DNR dry-year allocations until (for example) Nebraska has brought its water account into balance. Then Nebraska could implement the DNR dry year allocations in dry years and the DNR normal year allocations in normal years. If Kansas agreed with this general approach, the DNR could present this to the NRDs. If the NRDs refused to adopt this approach, the DNR could invoke the "tie-breaker" provisions of Nebraska statutes that allows the Governor to pick a committee to resolve DNR-NRD disputes of this nature. Given the Governor's stated position (that the NRDs implement the DNR dry-year allocations now), it seems likely that the Governor's committee would select that option.

The DNR projections and recommended allocations are important because they represent a clear picture of what is needed to be in long-term compliance with the Republican River Compact. Reduced ground water pumping in the Republican Basin is inevitable – but how best to accomplish that reduction should generate some interesting policy discussions.

J. David Aiken, (402) 472-1848
 Professor (Water & Agricultural Law Specialist)
 Dept. of Agricultural Economics
 University of Nebraska–Lincoln
daiken@unl.edu