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# CORNHUSKER ECONOMICS

February 20, 2008

University of Nebraska–Lincoln Extension

Institute of Agriculture & Natural Resources  
Department of Agricultural Economics  
<http://www.agecon.unl.edu/Cornhuskereconomics.html>

## DNR Study Narrows Republican Water Options

On December 19, 2007 the state of Kansas informed the state of Nebraska that we are out of compliance with the Republican River Compact settlement. Kansas wants us to immediately cut back Republican Basin water consumption by 27 percent. A June 2007 study by the Nebraska Department of Natural Resources (DNR) indicates that our supply from the Republican River will significantly decline over time. These two developments mean it is time to implement a permanent state/local funded irrigation rollback (i.e. reduction) in the Republican Basin.

From 2003 to 2006, Nebraska overused its share of Republican River flow by 143,480 acre feet, an average of 35,960 acre feet per year. Nebraska may have underused its allocation for 2007 by 15,000 to 20,000 acre feet. But that still leaves us significantly out of compliance. It would take six to eight years for us to work off our water debt if we could replicate 2007 rainfall for several consecutive years. Even if that were possible, Kansas isn't going to wait that long, or gamble on the weather to get its water back.

The amount of Republican River water we are allowed to use each year depends on how much water is in the river that year. We can use more water in normal years and less water in dry years. This is the opposite of the normal ground water irrigation pattern: ground water irrigators pump more water in dry years and pump less water in wet years. Early on it appeared that Nebraska might be able to pump as usual during normal years and pay Nebraska surface water irrigators not to irrigate in dry years, to stay within our share. This approach clearly hasn't worked, and probably won't work in the future. So it's time for a different strategy.

On June 22, 2007 the DNR presented its estimate of Nebraska's long-term Republican water supply to the Republican Basin Natural Resource Districts (NRDs). The DNR concluded that Nebraska's available supply will drop

Market Report	Yr Ago	4 Wks Ago	2/15/08
<b><u>Livestock and Products,</u></b>			
<b><u>Weekly Average</u></b>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.....	\$89.91	\$88.74	\$90.24
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.....	118.35	119.24	126.61
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.....	99.77	90.00	*
Choice Boxed Beef, 600-750 lb. Carcass.....	153.29	147.34	151.14
Western Corn Belt Base Hog Price Carcass, Negotiated.....	64.81	48.82	57.85
Feeder Pigs, National Direct 50 lbs, FOB.....	67.68	52.00	50.34
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean.....	71.92	55.32	62.92
Slaughter Lambs, Ch. & Pr., Heavy, Woolled, South Dakota, Direct.....	85.00	86.13	88.12
National Carcass Lamb Cutout, FOB.....	244.02	255.62	256.66
<b><u>Crops,</u></b>			
<b><u>Daily Spot Prices</u></b>			
Wheat, No. 1, H.W. Imperial, bu.....	4.42	9.41	10.12
Corn, No. 2, Yellow Omaha, bu.....	3.95	4.70	4.89
Soybeans, No. 1, Yellow Omaha, bu.....	7.31	11.53	12.77
Grain Sorghum, No. 2, Yellow Dorchester, cwt.....	6.41	8.41	8.75
Oats, No. 2, Heavy Minneapolis, MN, bu.....	2.55	3.18	3.57
<b><u>Hay</u></b>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.....	*	135.00	135.00
Alfalfa, Large Rounds, Good Platte Valley, ton.....	*	85.00	85.00
Grass Hay, Large Rounds, Good Northeast Nebraska, ton.....	*	*	*
* No market.			



by up to one-third over the next 30-35 years, because of reduced streamflows. Based on this, the DNR recommended that NRDs significantly reduce the amount of ground water that irrigators are allowed to pump (see Table 1). The NRDs, however, did not adopt the DNR recommendations. Adopting those recommendations would have been hard on irrigators, but also might have persuaded Kansas to hold off taking enforcement action against Nebraska.

Now that Kansas can legally enforce the compact settlement water use limits, we can no longer just hope that above-normal rainfall will wipe out our prior years' overuse. We must develop and implement a plan to significantly reduce future Republican water use to get back within our long-term supply. And, the plan must be specific enough and strict enough for Kansas to take it seriously.

One option is to follow the DNR recommendations and immediately cut how much Republican water irrigators can pump. Irrigators could pump the DNR dry-year allocation (3.5 to 5.5 inches per acre) for as many years as it takes for us to get rid of our water debt. Then, irrigators would be allowed to use either the normal-year allocation (6.5 to 8.5 inches) or the dry-year allocation, depending upon whether the settlement's dry-year provisions had triggered that year. This approach would probably result in an immediate 25-35 percent irrigation reduction in the Republican Basin.

Another approach is to adopt the DNR normal-year allocation, and then pay 25-35 percent of basin ground water irrigators not to irrigate. Most of these ground water rights should be retired permanently, while some could be leased temporarily. This approach would be more expensive than imposing the DNR dry-year allocations, but the whole burden of compliance would not fall on Republican Basin ground water irrigators alone.

The ground water rights should be paid for by a combination of NRD and state funds. Having the state con-

tribute significantly to purchasing and retiring ground water rights makes sense. If Nebraska is out of compliance, we as a state will be liable for any money owed compliance, we as a state will be liable for any money owed Kansas. If we must spend tens of millions of dollars (or more!) on Republican Basin water problems, let's spend the money on balancing long-term water supply and water use by retiring irrigation rights, rather than paying large monetary penalties to Kansas.

If the Governor and Unicameral decide to follow this compensated rollback approach, Republican Basin NRDs may end up losing their current control over ground water regulations. While the drought is a major reason we overused our share, Republican NRDs must also accept part of the blame. The DNR has attempted to persuade the NRDs to reduce ground water irrigation amounts without success, such that the DNR finally abandoned that approach. Instead, the DNR has sought and received NRD agreement to reduce ground water consumption 20 percent over the next five years. Without reducing ground water irrigation amounts, a 20 percent consumption reduction is likely to occur only if we have five wet years in a row. Kansas is well-positioned to be the "bad cop" in this situation, if it comes to that. Frankly, Kansas is in a position to virtually dictate what the ground water allocations will be from here on out if Nebraska doesn't develop its own plan. The better approach is to implement a compensated rollback of irrigated acres in the Republican Basin to bring us into long-term settlement compliance. And, if a reduction in Republican NRD independence in setting ground water pumping levels is part of the political price for significant state financial support, so be it.

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**Table 1. 2007 NRD and DNR Recommended Ground Water Allocations\***

	URNRD	MRNRD	LRNRD
2007 NRD	13.5	13.0	12/11
DNR Average	8.0	8.0	6.5
DNR Dry	5.5	5.0	3.5

\*acre inches per irrigated acre