Options for Complying with the Republican River Compact

Under the Republican River Compact Nebraska is allocated approximately 49% of the Virgin Water Supply. To comply with the Compact Nebraska must insure that its beneficial consumptive use of water does not exceed the State's allocated supply. In normal years the allocated supply averages about 300,000 acre-feet. The challenge comes in dry years when the allocated supply is closer to 200,000 acre-feet. Compact compliance in normal years is based on a five-year running average. In water-short years it is based on a two-year running average.

Figure 1 depicts the typical range of variability of Nebraska's allocated water supply. To comply with the Compact, Nebraska's Beneficial Consumptive Use must be less than this supply. One way to insure Compact compliance would be to reduce pumping to a low enough level to insure that Nebraska's consumptive use is never higher than the minimum allocation (Option 1). However, this option would mean in normal or wetter years, much of Nebraska's allocation would flow unused to Kansas. Alternatively (Option 2), Nebraska could raise its consumptive use to a higher level but develop options to reduce pumping when needed to maintain Compact compliance in water short years and allow increased allocations when water is available. Such a strategy would allow Nebraska to make better use of its allocation but would require additional reductions in pumping in water-short years. These reductions would also have to occur in areas where the impact on the river would be fairly immediate. In other words, the reductions would have to occur near the river and its tributaries, in what is called the "Quick Response Well" area as opposed to the upland areas where reductions in pumping far from the river will not have an impact for several years in the future.

Last year, 2003, was the first year that counts toward the five-year average for Compact compliance. Last year was dry and Nebraska's consumptive use was 35,000 - 40,000 acre-feet in excess of its allocation. This year is also dry and there are no additional rules in place to restrict pumping so it is likely Nebraska will continue to consume more than its allocated water supply. To comply with the Compact, Nebraska must reduce its pumping to 1) insure there is no excess consumptive use in the remaining three years and 2) to make up for any overuse in 2003 and 2004.

The option of imposing a low, year-in-year-out restriction on pumping to stay below Nebraska's minimum allocation has been discussed but for the most part has been rejected. The simplicity of the option has some appeal but the option would not allow Nebraska to make good use of its allocated supply and would cause unnecessary economic hardship on the basin.

The following are the options are that are being seriously considered.

For all options, reduce overall pumping by 5% to offset the near-future impacts of the lag effect from previous well pumping. In water short years, the challenge will be to further

reduce pumping an area that will provide an immediate impact on streamflow when the State's allocation is low. There are several ways to make these reductions.

1. **Further reduce pumping throughout the entire basin.** This option would help reduce the impact of the lag effect but, unless pumping was severely reduced, would not provide a very quick impact on stream flow when needed in a water-short year. Like Option I above, this option would reduce pumping in the upland areas producing an impact on the long term lag effect but with a cost to the local economy and little concomitant benefit toward achieving compact compliance in a water-short year.

2. **Make no further reductions in pumping in the upland areas but reduce pumping in the Quick Response Well area.** This option would allow a quicker response for compact compliance and would also mean no additional restrictions on upland wells. The economic impact of those restrictions would not be as severe as in Option 2. There are basically two options available to further reduce pumping in the Quick Response Well area:

   A. Restrict pumping by about 50% through rules and regulations in water-short years;
   B. **Develop an incentive program to compensate irrigators that voluntarily reduce pumping in the Quick Response Area.** If we assume we could get around half of the pumpage reduction from CREP (would require $1.5 – 2.0 Million of non-federal funds), an additional $5 million would then be needed as insurance to achieve the remaining reduction.

   Potential Non-Federal Funding Sources Include:

   1. Legislative appropriations;
   2. Assessment of a mill levy by the NRDs;
   3. The development of an incentive program in which irrigators would be allowed to increase their base allocation in return for payments into a dry-year incentive program that would enable the NRD to reduce it's consumptive use within the district.
   3. Environmental Trust

Irrigated Acres and Pumpage by NRD

	URNRD	MRNRD	LRNRD
1998-2002 Pumping (AF/Yr)	531,763	309,479	242,289
1998-2002 Depletion to River (AF/Yr)	74,161	52,168	43,954
2002 Irrigated Acres	448,716	290,200	277,500
Expected Certified Acres	448,716	312,000	330,000
Percentage of Debit to Offset	43.5%	30.5%	26.0%

Diagram of Managment Options