

# **N-CORPE**

## ***Nebraska Cooperative Republican-Platte Enhancement Project***

1. NCORPE Project Purpose (Platte and Republican)
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### **Economic Comparison to Compact Compliance Alternatives**

Perennial compliance with the Republican River Compact and associated settlement agreement reached between Nebraska, Kansas and Colorado in 2003 has evolved from an objective to a requirement that, if not met, could trigger severe financial consequences at the state and local levels.

The State of Nebraska and Natural Resources Districts in the Republican River Basin, which encompass about 1.1 million irrigated acres from the Nebraska-Colorado border east to Nebraska-Kansas border near Superior, Neb., have cooperatively developed and approved plans and rules intended to meet this requirement. The process of developing these water-management plans utilizing technical data provided by the state revealed significant economic ramifications of relying solely on water-use curtailments imposed by the NRDs to assure annual compliance. Likewise, the NRDs' experience leasing surface water from irrigation districts in the Basin to maintain compliance highlighted that option as a financially burdensome and unappealing option for continued Compact compliance. Finally, NRDs have also attempted to permanently retire irrigated acres to generate stream flow for compliance purposes. This, too, has proven to be an expensive endeavor that may be impractical as the state and NRDs seek options that will provide a defined amount of water, when needed, for compliance purposes. After nearly a decade of evaluating and testing various compliance options, stream flow enhancement such as that proposed under N-CORPE has emerged as the most cost-effective and reliable action to ensure annual Compact compliance.

N-CORPE has the potential to provide the Republican Basin with approximately 60,000-65,000 acre feet of water in years when action is needed to maintain compliance. During the most challenging year for Compact compliance, 2005, the state's total shortfall was approximately 42,000 acre feet.

On a per-acre foot basis, the cost of water provided by N-CORPE is estimated to be roughly \$300-\$500 per acre foot. Following are brief comparisons of that cost with the other alternatives listed above.

## **Regulations**

The state has determined that by imposing stringent and severe irrigation curtailments on irrigated lands adjacent or nearly adjacent to the Republican River and its tributaries, known as the “Rapid Response Area,” compliance could be achieved during dry years. Two of the three NRDs in the Basin, the Upper and Lower Republican NRDs, have water-management plans and rules that would allow for special regulations in this region. The Middle Republican NRD has rules that would likely apply irrigation curtailments necessary in the Rapid Response Area to maintain compliance to the entire District.

There are approximately 68,500 irrigated acres in the Rapid Response Areas of the Lower Republican and Upper Republican NRDs and approximately 276,000 irrigated acres within the Middle Republican NRD. In the event that regulation of this entire area was the only compliance action taken by the NRDs and a complete shutdown of irrigation in that area was required for compliance, lost revenue in the form of reduced yields at an average of 100 bushels an acre with \$5 per bushel corn would be approximately \$172 million in one year.

In 2007, Dr. Eric Thompson, director of the University of Nebraska-Lincoln Bureau of Business Research, studied the economic impact of reduced irrigation in the Republican Basin. To estimate impacts, Thompson used another regulatory scheme that was being discussed at that time: A permanent reduction in water allocations of 15 percent in upland areas, and a 40 percent reduction in areas near the Republican and its tributaries.

He concluded that lost property values in the Basin caused by such an action could broach \$277 million.

## **Irrigation Retirement**

The Upper Republican NRD has retired from irrigation approximately 1,500 acres with significant and relatively immediate impacts on stream flow at an average cost, including contributions from NRCS, of about \$2,400 an acre. The average and estimated contribution to stream flow from each acre retired is roughly ½ acre foot, per year, over a two-year period.

Assuming that irrigation retirement was the sole action taken by NRDs to achieve compact compliance and each acre retired had a similar level of benefit as what may be experienced in the Upper Republican NRD, the retirement of approximately 120,000 acres throughout the Basin would be needed to increase stream flow by the same amount N-CORPE could – approximately 60,000 acre feet. The cost of retiring that number of acres at \$2,400 an acre would be approximately \$288 million, or \$4,800 per acre foot.

Voluntarily enrolling by willing landowners 120,000 acres with significant impacts on stream flow, in the current land and commodity market, would be extremely difficult if not impossible. Additionally, retirement does not provide certainty in both amounts and timing that stream flow enhancement does.

### **Surface Water Leases**

The “going rate” for surface water, based on knowledge of preliminary negotiations by NRDs with irrigation districts, is approximately \$2,500-\$3,000 an acre foot. A 60,000 acre foot lease would cost between \$150 million-\$180 million and only have one-year or other very short-term benefits, unlike, for example, permanent irrigation retirements. There is significant uncertainty about the ability to obtain that or a similar amount of water from irrigation districts when needed for Compact purposes.

### **Non-Compliance**

Non-compliance with the Compact is not an option for either the state nor the NRDs. Kansas is currently seeking an order from the U.S. Supreme Court to shut down approximately 300,000 irrigated acres in the Republican Basin. State and NRD officials, of course, are confident that this remedy will not be imposed. That confidence will erode significantly if Nebraska does not comply with the Compact in the future and the issue returns to court.

If 300,000 acres were permanently barred from being irrigated, lost revenue in just one year from yield reductions averaging 100 bushels an acre at \$5 per-bushel corn would be approximately \$150 million. In just five years, then, a permanent irrigation ban on that number of acres could reduce revenues by more than \$750 million.