By Curt Arens Archives Email Author

Augmentation projects keep Nebraska in compliance with Compact

Two augmentation projects have kept Nebraska in compliance with the Republican River Compact.

Published on: **Jan 27, 2016**

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This article is the first in a two part series on augmentation projects on Republican River

Innovative stream flow augmentation projects along the Republic River Basin have prevented major irrigation well shutdown in south central and southwest Nebraska. The projects, coordinated by Natural Resources Districts in the Basin including the Upper Republican, Middle Republican and Lower Republican NRDs, increase stream flow by up to 80 cubic feet per second and take some irrigated land out of production. Irrigation well water on those formerly irrigated properties is then pumped into the river or a tributary of the river, to increase stream flow into Kansas and satisfy Republican River Compact requirements for Nebraska.

RUNNING WATER: Jack Russell, manager, Middle Republican NRD (left); Mike Clements, manager, Lower Republican NRD; Kent Miller, manager, Twin Platte NRD; and Jasper Fanning, manager, Upper Republican NRD (right) stand in the discharge area of the NCORPE project where water flows into Medicine Creek, a tributary of the Republican River. Photo courtesy of Upper Republican NRD.

"The Rock Creek augmentation project in Dundy County and the Nebraska Cooperative Republican Platte Enhancement augmentation project in Lincoln County have kept the State of Nebraska in compliance with the Republican River Compact in 2013, 2014, 2015 and will do so again in 2016," says Nate Jenkins, Upper Republican NRD assistant manager in Imperial. "The projects have produced the intended results because they have maintained compliance with the Compact in a manner that prevented catastrophic economic consequences in Nebraska's portion of the Republican Basin."

According to Jenkins, after completion in early 2013, the Rock Creek project prevented an irrigation shutdown on about 23,000 acres in the Upper Republican NRD that same year. With the NCORPE project completed in early 2014, the projects combined that year to prevent irrigation shutdown on about 300,000 acres, or almost one third of all irrigated acres in Nebraska's Republican Basin. In 2015, the Rock Creek project wasn't used, but the NCORPE project prevented shutdown on another 300,000 acres.

Jenkins says that producers in the Republican Basin received more good news with a favorable U.S. Supreme Court ruling in early 2015 along with an agreement among Compact states of Nebraska, Kansas and Colorado. "These will both reduce the amount of augmentation water

NRDs will have to produce in 2016 and give more flexibility relative to when it is provided, and help ensure it is available to be beneficially used by surface water users," Jenkins says.

Prior to the new agreement between Compact states, Nebraska received just 54% credit for water pumped at the NCORPE project. In other words, for every two acre-feet of water that had to be pumped, the state only received credit for one acre-foot. "Now, Nebraska receives 100% credit," Jenkins explains. "Combined, the accounting change approved by the Supreme Court and the agreement among the Compact states will reduce augmentation pumping substantially without negative consequences for downstream water users." A bonus is flexibility in the agreement giving NRDs more time to provide augmented stream flow and volumes of water may adjust based on changing conditions throughout the year, he adds.

Learn more about why augmentation projects are being used in part two of this Nebraska Farmer series on the Republican River Compact. You can contact Jenkins at 308-882-5173.

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By Curt Arens Archives Email Author

Why are augmentation projects being used in the Republican Basin?

There are detractors for the two augmentation projects on the Republican River Basin. So, why augmentation?

Published on: **Jan 28, 2016**

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This is the second article in a two part series on augmentation projects on Republican River

There are detractors for two Republican River augmentation projects including the Rock Creek augmentation project in Dundy County and the Nebraska Cooperative Republican Platte Enhancement project in Lincoln County. This was evidenced by testimony at a recent hearing on NCORPE held in North Platte.

These projects increase stream flow and take some irrigated land out of production. Irrigation well water on those formerly irrigated properties is then pumped into the river or a tributary of the river, to increase stream flow into Kansas and satisfy Republican River Compact requirements for Nebraska.

READY FOR INSTALLATION: This photo is of the 42-inch pipes used at the NCORPE project taken just before they were installed in late 2013. Photo courtesy of Upper Republican NRD.

Upper Republican NRD assistant manager, Nate Jenkins, responded to some of the primary concerns, saying, "Both of the projects were designed to provide an offset, via retirement of irrigated acres, sufficient to ensure that the amounts of augmentation water pumped long term will be close to the same amount that would have been pumped had the project lands remained irrigated," Jenkins said. "This was done in part to protect neighboring wells and the local groundwater aquifer."

The big question from some stakeholders relates to the volumes of augmentation water pumped. "While more augmentation water may be pumped in one year than would have been pumped for irrigation on the project lands in the same year, there will be years when the projects aren't used at all, or minimally," Jenkins responded. For instance, if the projects had been in place years earlier, neither of them would have been used in any of the years 2007 to 2012, he said.

Observers have also asked about the impact on groundwater levels. "Declines in groundwater levels from 2013, before NCORPE began being used to fall of 2015 at the NCORPE project were less than the average decline of groundwater wells outside the project, but in the general area during the same time period," said Jenkins.

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Without the augmentation projects, it is difficult to figure what the negative impacts would have been in the Basin moving forward. In a recently decided lawsuit, Kansas sought approximately $70 million in damages from Nebraska and permanent shutdown of irrigation on approximately half of all irrigated acres in Nebraska's portion of the Basin. Instead, Kansas was awarded $5.5 million and no permanent shutdown of irrigation was ordered.

Beyond the augmentation projects, the only other way for the state to comply with the Compact would be a 60% reduction in water allocations for all irrigators. This would be in place every year, or there would be largescale irrigation shutdowns in years when action was needed to maintain compliance, Jenkins explained.

"Incremental decreases in water use will not ensure compliance," he said, adding that reducing water use has always been, and will continue to be a goal of NRDs in the Basin. "The Republican Basin may be the largest and most heavily regulated region of agricultural water use in the country," he added. "All irrigation wells are metered and limitations on groundwater use are imposed on all groundwater irrigators."

Learn more about these projects in upcoming print articles in Nebraska Farmer. You can contact Jenkins at 308-882-5173.

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