

## Basin NRDs will be required to offset 2014 groundwater usage

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Based on the lack of surface water available for delivery in the Republican River Basin in 2014, the Department of Natural Resources has declared 2014 as a compact call year.

DNR is forecasting that 2014 will be a “dry year.” That forecast leading to the compact-call-year declaration creates implications for both surface water and groundwater irrigators in the basin.

For surface water irrigators, it will mean that any water that comes into their storage reservoirs after Jan. 1, 2014, must be passed on through.

It also means the water available to the surface water irrigators will likely be reduced again in 2014. In 2013, DNR made the same declaration.

For groundwater irrigators, they will be required to offset any overuse that creates streamflow depletions in both 2013 and 2014. Fortunately, augmentation pumping is available to offset a big share of these overages.

DNR bases their forecast on the amount of water in Harlan County Dam available for delivery to Kansas for Nebraska to remain in compact compliance.

They also look at the amount of water available to offset stream flow depletions caused by groundwater pumping.

In compact call years, compliance is figured by combining the water consumption in the basin over two years.

Nate Jenkins, assistant manager at the Upper Republican Natural Resources District (URNRD), said Nebraska was in compliance for the years 2012 and 2013.

The URNRD’s operation of the Rock Creek augmentation project was a big factor towards that compliance.

However, DNR is forecasting that for 2013, the basin will be out of compliance by 10,940 acre-feet.

In addition, their forecast expects another shortfall in 2014 of approximately 32,400 acre-feet. Together, the two-year decrease in streamflows is expected to reach 43,340 acre-feet.

That means for Nebraska to be in compliance with Kansas for the 2013-2014 period, Nebraska must offset that much streamflow depletion due to groundwater pumping.

That offset can be gained in several manners including augmentation pumping, surface water leases, acreage retirement and in a worst-case scenario, shut down of wells in the basin’s Rapid Response Areas.

In the URNRD alone, a rapid response shut down would shut down pumping on 23,000 acres. Across the basin, more than 100,000 acres would lose groundwater irrigation.

### **Augmentation pumping key**

In 2013, Jenkins said the augmentation pumping from Rock Creek created a positive balance of 2,120 acre-feet for the URNRD. This balance reduces the amount of streamflow depletions the basin has to offset.

However in 2013, the Lower Republican NRD finished with a negative balance of -6,670 acre-feet. The Middle Republican NRD finished with a negative balance of -6,390 acre-feet. For 2014, all three NRDs are expected to finish with negative balances totalling -32,400 acre-feet if no actions are taken to offset depletions.

For the two-year period, that means Nebraska must offset streamflow depletions of 43,340 acre-feet to remain in compliance.

Jenkins said the pumping from the augmentation projects at Rock Creek and Lincoln County, combined with other possible actions, should offset the entire deficit.

The Rock Creek project generates around 14,000 acre-feet annually towards compliance.

Jenkins said the Lincoln County project is expected to generate about 27,000 acre-feet towards compliance in 2014.

That 27,000 acre-feet, combined with the 14,000 acre-feet from Rock Creek, would total nearly enough to offset the projected two-year depletions for 2013-14.

The Lincoln County project is expected to come online with 12 wells on Jan. 1, 2014 and become fully operational with another 18 wells by April 2014, Jenkins said.

Presently, Nebraska receives only 54 percent credit towards compliance for each acre-foot pumped from the Lincoln County project.

Jenkins noted the entire situation could change significantly if the basin does not experience another year of drought conditions.