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Republican River Dry-Years Plans

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The most significant Republican River Compact (RRC) challenge for Nebraska has been staying within its compact water allotment in dry years. After a 2009 ruling that existing Natural Resources District (NRD) ground water regulations did not cut back water use enough to keep Nebraska in compliance during “water short years,” the Nebraska Department of Natural Resources (DNR) and Republican Basin NRDs developed new ground water regulations banning pumping from “rapid response” wells during dry years. These historic NRD dry-year plans are the subject of this newsletter.

Under the December 2002 RRC lawsuit settlement agreement, Nebraska first became responsible for compact compliance in 2006, which was a “water short” year. Nebraska used more than its share of the available RRC water supply in 2006. Although Republican Basin ground water irrigators had reduced their pumping over 30 percent from 2002 to 2006, and the DNR had purchased water from Republican Basin surface water irrigators to send to Kansas, these efforts did not keep Nebraska in RRC compliance. Nebraska exceeded its 2006 RRC allocation by about eight percent.

NRDs had always been understandably reluctant to severely restrict ground water pumping in order to protect streamflow for Kansas. However, the 2006 compact violation was a wake-up call. In response, the DNR in 2007 proposed three dry-year options to the three Republican Basin NRDs. DNR Option 1 would have required significant reductions in ground water pumping by all Republican Basin ground water irriga-
tors under a correlative-rights equal-sharing approach. The DNR recommendations ranged from 6.5 to 8.5 acre-inches of water (east to west) per acre in normal years, and 3.5 to 5.5 acre-inches per acre in dry years. This would have been a significant reduction in irrigation pumping – over 50 percent in dry years.

DNR Options 2 and 3 focused only on wells near the river and proposed banning pumping from “rapid response” wells in dry years, with Options 2 and 3 differing in how these “rapid response” wells were defined. Option 2 defined them as wells reducing streamflow by at least ten percent of the amount pumped within five years (10/5 wells). Option 3 defined rapid response wells as those reducing streamflow by at least ten percent of the amount pumped within only two years (10/2 wells). For example, if a well pumped 120 acre-feet of water per year, a 10/5 well would be one where streamflow is reduced by 12 acre feet within five years, while the 10/2 well would be where the same streamflow reduction occurred in only two years. The number of rapid response wells was greater for the 10/5 option (about 190,000 irrigated acres) than for the 10/2 option (about 110,000 irrigated acres), and NRDs in 2010-2011 ultimately adopted the 10/2 dry-year option. DNR computer simulation of the 2002-2006 period implementing the 10/2 well prohibitions in dry years demonstrated that implementing the 10/2 dry-year plans would have kept Nebraska in RRC compliance during the entire 2002-2006 period (one of the driest on record).

NRD adoption of the 10/2 dry-year plans may be a game changer for Nebraska. Kansas initiated non-binding arbitration regarding Nebraska’s 2006 compact violation. In 2009, the arbiter concluded that the 2006 NRD regulations (which had no dry-year plans) were not sufficient to keep Nebraska in RRC compliance in dry years. This may have been the final push needed to get the NRDs to agree in 2010-2011 to adopt the 10/2 dry-year plans, and that policy change seems to have paid off. In 2011, the United States Supreme Court appointed a Special Master to hear Kansas’ claim for money damages from the 2006 compact violation. In a January 9, 2013 proposed ruling, the Special Master concluded that the DNR modeling demonstrated that the 10/2 dry-year plans were likely to keep Nebraska in compact compliance in dry years. This represents a major water management accomplishment for the DNR and the Republican Basin NRDs, of which all Nebraskans can be proud.

Implementing the 10/2 dry-year plans will hurt the Lower Republican NRD (Alma) the most: 20 percent of its wells are rapid response wells, as compared with 15 percent for the Middle Republican NRD (Curtis), and six percent for the Upper Republican NRD (Imperial). Several NRDs are collaborating in flow augmentation projects, such as the multi-NRD N-CORPE proposal to take 15,800 ground water irrigated acres in Lincoln County out of production and use the saved water to increase streamflow during dry years. Unfortunately, that flow augmentation proposal has been held up by a court challenge filed by Republican Basin surface water irrigators. If sufficient water can be added to streamflow by this and similar NRD projects, shutting down rapid response wells in dry years might be avoided. Funding these types of projects will likely be an important part of the current LB517 Water Funding Task Force deliberations.