



JASPER'S JOURNAL

THE FUTURE OF THE REPUBLICAN BASIN: HOW DO WE PROTECT IT?

Compact compliance, water short years, and further regulation...there has been quite a buzz lately regarding these three items – and the pending threat of further regulation during water short years to achieve Compact compli-

ance. The good news – for now – is that 2010 will not be a water short year. The urgency remains, however, to resolve these issues, ensuring the protection of natural resources and the future of the Republican River Basin.

An arbitrator's ruling in the Kansas-Nebraska Republican River Compact compliance dispute last summer spurred the Nebraska Department of Natural Resources (DNR) to form several contingency plans for water-short year compliance. Three of these options were publicly released at a meeting in Holdrege in September; since that time, options have been presented at board meetings throughout the basin, and recently at public meetings in Benkelman and Imperial.

Option 1 sets pumping volumes low enough for an NRD to remain within its share of the state's allowable depletions during all years. Also, surface water use would be eliminated to ensure compliance during dry years. All groundwater users would be treated equally. For the Upper Republican this allocation would be 5.9 inches per acre. This is a permanent reduction, not just a reduction during water-short years.

Option 2 eliminates groundwater pumping in a "10 percent-5-year rapid response area." It's defined as an area where pumping from a well for five years will deplete the river or a tributary by at least 10 percent of the amount pumped. Both the use of groundwater wells in the 10-5 area and all surface water would be eliminated as needed to

ensure compliance with the compact.

Option 3 would eliminate groundwater pumping in a "10 percent-2-year rapid response area." It's defined as an area where pumping from a well for two years will deplete the river or a tributary by at least 10 percent of the amount pumped. Both the use of groundwater wells in the 10-2 area and all surface water would be eliminated as needed to ensure compliance with the compact. Additional reductions of approximately 1% per year would be necessary to ensure that regulating the smaller area would be sufficient to insure compliance in the future. DNR has indicated that such reductions can be accomplished through incentive programs.

Each NRD must choose the option they prefer to regulate groundwater for water-short year compliance, and revise Integrated Management Plans and their rules and regulations to include those specific actions. It is important to remember that these options will act as a "backstop," only to be used if sufficient surface water leases and augmentation supplies are not in place to mitigate the need for additional regulation. The Upper Republican NRD is currently investigating the option of voluntary programs that would either provide augmentation water needed to offset pumping in water-short years or to redistribute allocations within the district, so that uses can be reduced in high impact areas. Both of these concepts could allow the NRD to be in compliance with its share of Nebraska's allocation and reduce or eliminate the need to completely curtail uses near the stream.

These management concepts support the economic viability of our local communities, and are hoped to be a large part of the dynamic long-term plan to keep Nebraska's Republican River Basin in compliance. By implementing these programs, the NRD would continue to protect the livelihood and future of our communities.

PROTECTING THE FUTURE BY MANAGING GROUNDWATER

The Upper Republican NRD has been protecting, managing and regulating groundwater supplies since its inception in 1972. To address groundwater quantity issues, the District and the Nebraska Department of Natural Resources utilized the following authorities in their joint Integrated Management Plan:

- Reduced irrigation allocations.
- Flowmeters on all irrigation wells since 1980.
- Moratorium on well development and new irrigated acres.

The URNRD has had flowmeters on the irrigation systems in the District since 1980. Are the meters a necessity? Most definitely! Flowmeters are a great irrigation management tool. A flowmeter is a mechanical measuring device which measures and totalizes the amount of groundwater withdrawn from an irrigation well.

Flowmeters accurately record the amount of water pumped and the rate at which water is passing through an irrigation system. Flowmeter information not only helps an irrigator monitor the efficiency of irrigation wells, but also allows water to be appropriately applied to match a crop's evapotranspiration rate.

These flowmeters are similar to the electric meters that are installed at your home. There is a beginning reading at the start of the calendar year. The URNRD technicians read the flowmeters usually starting in mid-September and finish up reading in late October. The new reading is recorded. Then it is a matter of math and simple formulas to figure the water use of each irrigation system.

If an irrigator applies more water than is left in the water allocation, the base allocation of the next allocation period will be reduced by that amount. However, if an irrigator does not apply as much water in the allocation period, the remaining water can be carry forwarded to the next allocation period. Carry forward is the unused portion of an allocation that can be carried forward to the next allocation period.

One of the services provided by the URNRD is the collection and storage of water use data. Flowmeters are a needed groundwater management tool. If a cooperater does have a question about their water use, please contact the NRD office in Imperial.