



The Lower Republican Natural Resources District continues to be proactive in the management of our most precious natural resource, ground water. Our focus has not only been on quantity issues, with the regulation of our consumptive use, but on water quality as well. We established the very first Special Protection Area, the Superior-Hardy Special Projection Area in the state back in 1991. The strict rules pertaining to nitrogen application along with monitoring, and educational workshops have kept the nitrate levels in check.

In October of 2005 work was completed on the Lower Republican Rural Water Project #1. This project provides potable water to 150 rural hook ups and the Village of Guide Rock. Water quality and quantity issues prompted the construction of the project. High nitrate levels along with excessive potassium made the drinking water unsafe in many areas along the Republican River between Franklin and Guide Rock. The aquifer is also very shallow to the extent that even getting a stock well is impossible in places. With 140 miles of pipeline and the water coming from the City of Franklin we now have safe, clean, drinking water for domestic as well as livestock use.

The Lower Republican NRD along with the Nebraska Department of Natural Resources adopted one of the first Integrated Management Plans in the state back in 2005. Our third generation of Integrated Management Plans was adopted in October 2011.

The Integrated Management Plans or IMP's as they are called, are supported by strict rules and regulations. Our IMP addresses every phase of ground water management from well spacing to certified acres to allocations and everything in between.

The Lower Republican NRD established a moratorium on new well drilling on December 9th, 2002. Zero new irrigation wells have been drilled since that date. We established a moratorium on adding new irrigated acres on December 31, 2004. Zero new irrigated acres have been added since that date. All ground water irrigated acres were certified in 2004 and all wells were metered by April 1st of 2005.

In 2005, we began allocations with 12 inches per acre west of highway 183 and 11 inches per acre east of 183. These were the lowest allocations in the State. Water usage went from 11.24 inches per acre in 2004, the year before allocations were in place, to 7.74 inches per acre in 2005. Ground water usage averaged 7.16 inches per acre from 2005 through 2007, the duration of our first IMP.

In 2008, our 2nd generation IMP was approved with allocations lowered to 9 inches per acre for the entire District. Again this allocation was the lowest in the State. The 2008 IMP had a five year allocation period which ran through 2012. Water usage for that period average 6.33 inches per acres. This is particularly amazing since 2012 was one of the hottest and driest years on record.

The third generation IMP, our current one, was adopted in October of 2011 and has a five year allocation period that runs from 2013 through 2017. Allocations are 45 inches for five years or an average of 9 inches per acre. In addition, strict provisions were put in place for how water would be managed in drought conditions when supplies would be low. Compliance standards were also put in place to further reduce pumping by 25% from the 1998 to 2002 average. I am pleased to say that the Lower Republican NRD has met those standards on a running average.

Since 2003 pumping in the Lower Republican NRD has been reduced by 52%, a feat that every irrigator in the District should be proud of. Many things have accounted for that drastic reduction including, allocations, no-till farming practices, more efficient delivery systems such as sub-surface drip and center pivot, and the use of soil moisture sensors.

We have promoted the use of soil moisture sensor technology heavily for the past four years and presently have moisture sensors installed on over 80,000 acres. This technology allows the irrigator to water only when the crop needs it not when his neighbor is water or when it looks like it needs it. Soil moisture sensors have been proven to lower water usage by 1 to 2 inches per acre per year. It is estimated that the sensors are lowering water usage in the Lower Republican NRD by as much as 13,000 acre feet per year.

Since 2005 the Lower Republican NRD has temporarily or permanently retired over 17,000 acres through programs such as AWEF, EQIP, and CREP. This equates to a water savings of nearly 13,000 acre feet every year.

We have worked closely with the Twin Valley Weed Management Area for the past six years and have thoroughly cleaned out the main stem of the Republican River all the way from Cambridge to Superior, 140 miles. It was a long process that began with spraying phragmites, which had totally engulfed the river channel. Next came removing debris and log jams, followed by deep disking to break up the smaller islands. After several years of work the river looks like it did 40 years ago and now water can convey freely from Harlan County Reservoir all the way to the Kansas state line.

Over 300 wells across the District are measured twice a year, in the spring and fall, to check the depth to water. The levels are tracked and over time provide a very good road map of water levels across the District. I am pleased to say that on average, ground water levels have declined less than one foot across the District since 1979.

Recently, the Lower Republican NRD partnered with the Middle, Upper, and Twin Platte NRD's to purchase a 19,500 acre farm south of North Platte. An Interlocal agreement was signed between the Districts and a new entity was formed N-CORPE, the Nebraska Cooperative Republican Platte Enhancement Project. 16,000 acres on the farm will be retired from irrigation and in dry years, about every third year, water will be pumped from the wells into Medicine Creek on the Republican side and into the Platte River to enhance stream flow and help Nebraska meet its obligations with the Republican River Compact and the Platte River Implementation and Recovery Program.

The Lower Republican NRD has made tremendous strides in the management and conservation of ground water and will continue, to work hard to preserve Nebraska's most precious natural resources.