

Fall 2014

Volume 28, Issue 4

# Tri-Basin Topics

*A quarterly publication of Tri-Basin Natural Resources District*

## 2014 Annual Report

### 2014 Project Highlights

Tri-Basin NRD (TBNRD) started or continued work on several conservation projects in 2014.

In the Platte Basin, the North Dry Creek Streamflow Augmentation project utilizes groundwater to augment streamflows of North Dry Creek, a tributary of the Platte River. The purpose of the project is to help the State of Nebraska fulfill its commitment to the Platte River Recovery Implementation Program to reduce shortages to Platte River flow targets by offsetting impacts to Platte streamflows resulting from post-July 1, 1997 water uses within Tri-Basin NRD. The first phase of the project was completed in 2012. In 2013, TBNRD directors took steps to begin the second phase of the project, which was the first operational streamflow augmentation project in the state. A second augmentation well was drilled in July 2014.

Tri-Basin NRD and the Nebraska Department of Natural Resources (NDNR) contracted with Central Nebraska Public Power and Irrigation District (CNPPID) to divert high flows from the Platte River in the fall of 2013 and again in spring of 2014. Water was diverted into Elwood Reservoir and the E-65 Canal. More than 15,000 acre-feet were diverted last fall and 13,000 acre-feet were diverted this spring. The purpose of these diversions was to recharge groundwater supplies and to re-time the excess streamflows, which will return to the Platte and Republican Rivers as tributary baseflows over the next several years. Tri-Basin NRD will receive credit for augmenting streamflows as a result of these diversions.

In July 2013, Tri-Basin directors voted to be a partner in the J-2 Reservoir Project, along with the Platte River Recovery Implementation Program, the Department of Natural Resources, and Central Nebraska Public Power and Irrigation District. The project calls for construction of two reservoirs along the Platte River in northwest Phelps County and northeast Gosper County. Participation in the project will allow TBNRD to move even closer to meeting its offset requirements for the Platte River.

Tri-Basin NRD directors are also currently exploring options for a depletion offset project in the Republican Basin. The NRD Board of Directors are focused on a streamflow

augmentation project, similar to the North Dry Creek project described above, on Turkey Creek in Gosper County. It is anticipated that two wells will be drilled along the creek.

In the Little Blue Basin portion of Tri-Basin NRD, directors have moved forward with the proposed Sand Creek Reservoir project in eastern Kearney County. The reservoir would store water for the purpose of groundwater recharge. A site has been chosen and funding options are currently being discussed. The dam is being designed by E A Engineering of Omaha and Miller Associates of Kearney.

In August 2013, Tri-Basin NRD's directors voted to proceed with plans to form a new Improvement Project Area (IPA), called the Odessa IPA. The project will create a drainage ditch that will divert water to the Platte River, alleviating high groundwater and cropland flooding problems faced by landowners in the area. The ditch will be excavated in the fall of 2014.



*North Dry Creek Augmentation Well*

### Protecting Our Groundwater

TBNRD staff monitor groundwater quantity throughout the district by measuring water levels in irrigation wells and dedicated observation wells. Tri-Basin has installed at least one dedicated observation well in every township in the district. Data loggers in the observation wells automatically measure water levels at regular intervals. Regularly measuring our aquifers helps Tri-Basin NRD directors make better informed decisions about our groundwater supplies and discern trends in water levels. Those trends prompted Tri-Basin NRD directors to enforce groundwater pumping limits in Union Township in Gosper County in 2009 in an effort to protect the declining groundwater supply there.

Tri-Basin NRD also operates a district-wide Groundwater Management Area to protect groundwater quality. The NRD has regulated fertilizer application to protect groundwater quality since 1989. District staff have worked cooperatively with farmers and agronomists for more than 20 years to help improve the timeliness, efficiency and effectiveness of fertilizer application. These efforts have resulted in stable or declining nitrate-nitrogen levels in groundwater supplies throughout the district. In 2014, TBNRD staff took 247 samples from irrigation wells, which were tested for nitrates and

pesticides.

Chemigation, the process of applying fertilizer and ag chemicals through irrigation systems, is permitted and overseen by Tri-Basin NRD staff to assure that groundwater supplies are protected from contamination. The district issued 114 new chemigation permits and 1694 renewals in 2014. District staff inspected safety devices on 682 center pivots in 2014, insuring that groundwater supplies are protected from contamination by fertilizer and ag chemicals.

Rural residents in Gosper, Phelps and Kearney Counties need to know whether they have safe drinking water. The district offers a program that allows rural residents to have their household drinking water tested for nitrates and bacteria free of charge once a year. Test kits are available at the NRD office and at NRCS offices in Elwood, Holdrege, and Minden.

### **Conservation Cost-Share Assistance**

Tri-Basin NRD provides and administers cost-share funds for many soil and water conservation practices, including well decommissioning, soil moisture sensors, irrigation well flowmeters, conservation tree plantings and conversion of irrigated cropland to dryland cropland and grassland. In fiscal year 2013-2014, Tri-Basin NRD approved \$25,283.86 in local funding for conservation tree planting cost-share, \$192,530.90 in state-funded NSWCP cost-share funds for other conservation practices, and \$61,000.00 in cost-share for well decommissioning.

### **Managing Financial Resources Wisely**

TBNRD's total operating expense budget for July 1, 2014 to June 30, 2015 is \$1,201,289.63 with the levy set at .034185 per \$100 valuation. An owner of a house valued at \$100,000 will pay just \$34.18 in 2014 to protect this area's natural resources.

### **Planting Trees for Future Generations**



Each year, Tri-Basin NRD offers conservation trees and shrubs for sale for windbreak and habitat plantings. In 2014, 2,824 trees and shrubs were planted by the NRD's contractor and 3,017 trees and shrubs were sold for hand-planting. Tri-Basin NRD also provides free tree seedlings for several educational events and for local Arbor Day celebrations. The district distributed nearly 1000 free trees to district residents in 2014. Tri-Basin staff also help landowners diagnose tree diseases and fungal blights and decide on treatment methods.

### **Educating and Informing Local Residents**

Tri-Basin NRD sponsors several educational events for both youth and adults. Each winter, Tri-Basin NRD joins Central Nebraska Public Power & Irrigation District, Holdrege Area Chamber of Commerce and UNL Extension

to host the Holdrege Water Conference. At this event, agricultural producers and agri-business professionals gather to discuss current water issues relevant to the TBNRD area.

Other adult information and education programs include Nitrogen Management classes for agricultural producers and the weekly Natural Resources Report on KRVN 880 radio station.

In September, Tri-Basin NRD holds the Rainwater Basin



### **Vital Statistics**

**Counties:** Gosper, Phelps, Kearney

**Elevation Above Mean Sea Level**

High = 2,741 (Gosper County)

Low = 1,985 (Kearney County)

**River Basins**

Little Blue (25% of land area)

Platte (35% of land area)

Republican (40% of land area)

**Population:** 17,721 (2010 census)

**Land Area:** 1920 square miles (1,228,800 acres)

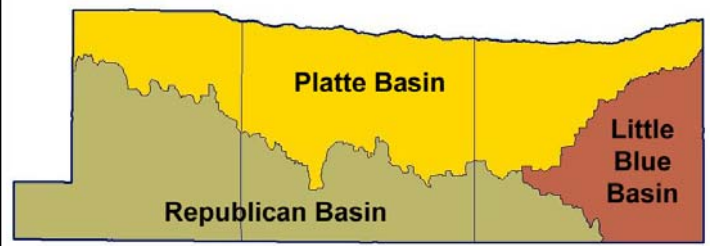
### **Vision Statement**

The vision (overall goal) for Tri-Basin NRD is to “**work cooperatively with District residents and others to promote good stewardship of land and water resources.**”

### **Mission Statement**

Tri-Basin NRD's mission is to “**manage, conserve and protect the District's land and water resources.**” This mission will be accomplished by protecting the quality and quantity of surface water and groundwater, reducing potential for soil erosion and flooding, promoting agricultural best management practices, forestry and wildlife habitat preservation. These tasks can only be accomplished by working cooperatively with local residents and agencies of local, state and federal government.

### **Tri-Basin Natural Resources District**



Conservation Day for eighth grade students at Sacramento-Wilcox Wildlife Management Area. Over 200 students attend this event each year to learn about geology, wetlands, soils, trees and wildlife. Tri-Basin also helps sponsor the Water Jamboree for area fifth grade students, held every April at Harlan County Reservoir. All aspects of water conservation are presented in hands-on sessions to the approximately 500 students who attend this event.

### About Tri-Basin Natural Resources District

Nebraska's Natural Resources Districts (NRDs) were established in 1972 to protect our natural resources. This system for managing natural resources through locally elected officials is unique to Nebraska.

In 1969, Senator Maurice Kremer introduced, and the Nebraska Legislature enacted Legislative Bill (LB) 1357, to combine 154 special purpose entities into 24 Natural Resources Districts. The NRDs' boundaries were organized based on Nebraska's major river basins, which allows for management practices to be applied more efficiently to similar topography. In 1989, the Middle Missouri NRD and the Papio NRD merged, becoming the Papio-Missouri NRD, which resulted in the current 23-NRD system.

Locally, Tri-Basin Natural Resources District was formed by consolidating the Phelps, Gosper, and Kearney County Soil and Water Conservation Districts. TBNRD is unusual because it encompasses portions of three different river basins: the Republican River Basin, the Platte River Basin, and the Little Blue River Basin.

Tri-Basin NRD is governed by a Board of Directors with 13 members, 12 of whom are elected from designated sub-districts and one at-large member.

### 2013 Active Irrigation Wells

County	Total Number of Irrigation Wells	Certified Irrigated Acres
Kearney County	2,119	228,579.78
Phelps County	2,168	257,851.14
Gosper County	746	93,429.00
Total	5,033	579,859.92
Basin	Total Number of Irrigation Wells	Certified Irrigated Acres
Republican Basin	1,606	189,447.16
Platte Basin	2,601	298,977.01
Little Blue Basin	826	91,435.75
Total	5,033	579,859.92

### Republican Basin Water Use\*

Irrigation System	2008	2009	2010	2011	2012	2013
Pivots	6.88	7.11	5.05	6.63	13.88	12.46
Gravity	11.79	12.42	8.62	10.86	21.33	22.84
Pivot/Gravity	8.06	7.79	5.31	7.20	14.28	15.05
Weighted Avg.	8.26	8.36	5.82	7.57	15.36	14.25

\*All Republican Basin irrigation wells are metered. Metered water use is also reported from 464 wells in the Platte and Little Blue Basins. Data updated February 3, 2014.

## TBNRD Staff to Inspect Meters



With irrigation season over, Tri-Basin NRD staff are beginning annual irrigation meter inspections. Each year, NRD staff inspect and take readings from meters in about one-third of the townships in the District.

This year we will be doing inspections in Ranges 15W, 19W, and 24W, along with 5N-22W (Union Township in Gosper County).

If you have irrigation wells in these townships and you put your meters in storage for the winter, you can call the Tri-Basin NRD office at 1-877-995-6688 to schedule an inspection. If there is no meter at the site when TBNRD staff come to inspect, you will receive a letter requesting access to the meter for inspection.

**Irrigation Water Management (Water Use) Forms for 2014 are ready. If you would like to have your reports mailed to you, call our office at 1-877-995-6688. (All forms will be mailed mid-October.) Reports are due November 21, 2014.**

## Reminder of Tri-Basin NRD Meter Requirements

Tri-Basin NRD rules require irrigation flowmeters on:

- All active wells in the Republican Basin portion of Tri-Basin NRD
- All well permits for non-replacement wells in the Platte Basin and Little Blue Basin portions of Tri-Basin NRD
- All wells associated with a Groundwater Transfer
- All wells associated with irrigation-related cost-share practices

Additional meter requirements:

- All meters installed in Tri-Basin NRD must read in gallons or acre-inches. If cost-share funds are received on the flowmeter, the totalizer must read in acre-inches.
- All meters in Tri-Basin NRD must be installed according to the meter manufacturer's specifications.

### Attention Chemigators:

*Remember to drain your main line check valve to prevent freezing. This will extend the life of the check valve and may help prevent check valve failure.*



Fall 2014

# Tri-Basin Topics

Non-Profit Permit  
U. S. Postage  
PAID  
Holdrege, NE 68949  
Permit No. 220

**Tri-Basin Natural Resources District**  
1723 Burlington St. Holdrege, NE 68949  
(308) 995-6688  
email: [tribasin@tribasinprd.org](mailto:tribasin@tribasinprd.org)  
[www.tribasinprd.org](http://www.tribasinprd.org)

RETURN SERVICE REQUESTED

*Nebraska's NRDs: Protecting Lives, Protecting Property, Protecting the Future*

# CALENDAR

October 13..... NRD Closed for Columbus Day  
 October 14.....NRD Board Meeting, 7:30 p.m.\*  
 November 11..... NRD Closed for Veteran's Day  
 November 13.....NRD Board Meeting, 7:30 p.m.\*  
 November 27-28.....NRD Closed for Thanksgiving  
 December 9.....NRD Board Meeting, 1:30 p.m.\*  
 December 25-26.....NRD Closed for Christmas  
 January 1.....NRD Closed for New Year's

\* Times are tentative. All meetings are at TBNRD office in Holdrege unless otherwise noted.

### TRI-BASIN NRD BOARD OF DIRECTORS

David Nickel, Chairman .....	Kearney, NE
David Olsen, Vice Chairman .....	Minden, NE
Todd Garrelts, Treasurer .....	Holdrege, NE
Bradley Lundeen, Secretary .....	Wilcox, NE
Brian Bergstrom .....	Axtell, NE
Joe Bilka .....	Holdrege, NE
Ed Harris .....	Loomis, NE
Phyllis Johnson .....	Bertrand, NE
Joe Larson .....	Loomis, NE
David Nelson .....	Upland, NE
David Raffety .....	Kearney, NE
Larry Reynolds .....	Lexington, NE
Ray Winz .....	Holdrege, NE

### TRI-BASIN NRD STAFF

John Thorburn .....	General Manager
Nolan Little .....	Water Resources Manager
Patrick Nott .....	Water Resources Technician
Charles Brooks .....	Land Resources Coordinator
Jon Munter .....	Land Resources Technician
Carie Lynch .....	Administrative Secretary
Tammy Fahrenbruch .....	Office Manager
Nicole Salisbury .....	Information Coordinator
Destinee Steinke .....	Educational Event Coordinator
Esther Smith .....	Receptionist
Jeff VanEperen .....	Seasonal Field Technician
Ruth Nielsen .....	Minden Office Secretary
Lori Hagan .....	Elwood Office Secretary
Tami Reese .....	Holdrege Office Secretary

A mailing list is maintained and requests to be placed on the list should be sent to the above address. Comments and suggestions may be addressed to the General Manager.

***Get Tri-Basin Topics in your inbox instead of your mailbox!***

To request an electronic version of this newsletter, send an email [nsalisbury@tribasinprd.org](mailto:nsalisbury@tribasinprd.org).