



Summer 2011  
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# Tri-Basin Topics

A quarterly publication of Tri-Basin Natural Resources District

## Tri-Basin NRD Launches Platte River Streamflow Augmentation Project

Tri-Basin NRD has launched the first phase of a streamflow augmentation project on North Dry Creek, a tributary of the Platte River, in Kearney County. The overall project involves acquiring or leasing land at up to three sites for the construction of groundwater wellfields that will be used to augment streamflows into North Dry Creek. The primary



*An excavator clears the site for the first phase of the North Dry Creek Streamflow Augmentation Project.*

intended purpose of the project will be 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. This project has the special advantages of: 1) being a controlled offset project; 2) providing water to the Platte within the USFWS designated critical habitat area; and 3) providing cool water that will benefit forage fish during times of summer low flows.

Each site will have one or more production wells located within 100 to 200 feet of the creek, pumping water into the creek via a pipeline. Production wells will be equipped with remote control and monitoring equipment, enabling NRD personnel to start and shut down wells quickly if conditions warrant. Production wells will also be equipped with totalizing flowmeters.

Each site will also have at least one dedicated groundwater level observation well, which will be equipped with a sensor and datalogger capable of recording groundwater levels twice a day. Neighboring irrigation wells will also be measured at regular intervals to try to identify any local drawdown impacts resulting from pumping.

The project will be broken into two or three phases. The

first phase consists of construction of a single 1100 gpm production well adjacent to the creek just south of V Road in Kearney County. Tri-Basin NRD will operate this site for at least one year as a prototype, to test equipment, project design and construction methods and materials. Tri-Basin then may develop as many as two additional sites further upstream, with one or more 750 gpm well at each site.

Tri-Basin NRD will pump water into North Dry Creek whenever the following conditions exist:

1. Platte River flows, as measured at the Overton gauge, are below USFWS target flows, as agreed to by Nebraska in the Platte River Recovery Implementation Program;
2. North Dry Creek flows are less than 250 cfs, as measured at the DNR North Dry Creek stream gauge; and
3. Air temperatures are consistently above 20° F.

Tri-Basin NRD will have impact triggers in its lease agreements with landowners that will require us to shut down our production wells or undertake other remedial action if our wells cause significant drawdowns in neighboring irrigation wells. The NRD may also choose to limit well operation during irrigation season, to take advantage of less expensive "interruptible" electric rates.

Tri-Basin intends to operate the phase one production well up to 5760 hours annually, the equivalent of 240 days a year. We anticipate that the augmentation production wells will have a thirty year operational life-span.



*A crew from Holdrege Well Service drills the first well for the streamflow augmentation project.*



## Manager's Message

by John Thorburn

### Earthworms

My children are participating in a summer day camp that will help them develop their entrepreneurial business skills. That got me thinking about some of my youthful business ventures. One of them was worm farming. A friend and I would go out on rainy evenings with flashlights looking for worms. Those we captured we dumped into an old washtub full of dirt that served as our worm farm. We sold our livestock for ten cents a dozen to local fisherman and gardeners. Demand always outstripped supply, and we weren't able to successfully induce the little critters to breed in captivity, so our income from worm farming was pretty limited.

Earthworms are ideal fish bait, but they serve a much more important function in our yards and fields. According to no less an authority than Charles Darwin, "It may be doubted whether there are many other animals that have played so important a part in the history of the world, as have these lowly, organized creatures."

Worms are decomposers. They eat dead leaves, grass and minerals and convert them into nutrients that are used by growing plants. Worms also aerate soil as they move through it, reducing compaction by creating little tunnels that bring air and water to plant roots and which enable roots to expand more readily. Burrowing moves organic matter downward through the soil profile, effectively "turning" the soil. Finally, worms serve as a primary food source for birds and many other animals further up the food chain. Earthworms contain up to 70% protein by weight.

Two basic types of earthworms occur in Nebraska: shallow-dwelling worms, often referred to as redworms, and



deep-dwelling worms, commonly known as nightcrawlers. The smaller redworms live in the top foot of soil. Nightcrawlers, by contrast, can burrow as deep as six feet. Redworms go dormant in winter and summer, while nightcrawlers remain active year-round.

Redworms are native to Nebraska but nightcrawlers are relatively recent immigrants. They were brought here by pioneers, generally in pots that contained tree seedlings or other plants. Once deposited in our soil, they thrived and proliferated in prairie sod, which is rich in organic matter.

The number of earthworms in a volume of soil is widely considered to be an indicator of soil health. Conventionally-tilled crop fields and gardens may not contain any earthworms at all, while a healthy lawn or pasture may contain as many as 400 worms per square yard. In properly managed "no-till" crop fields, worms become the primary tillage mechanism.

Worms favor untilled soils because they eat dead plant material. There is simply more food available to them in a pasture or no-till crop field. Homeowners should be aware that mulching grass clippings supports worm populations, while bagging grass and power-raking diminish their food supply.

Nightcrawler burrows can make lawns more bumpy, but they provide your lawn with natural fertilizer and help grass root more deeply, which makes it more drought-tolerant. Soil insecticides, grubicides and fungicides are highly toxic to all earthworms, so use them sparingly and only when a problem is identified that clearly indicates a need for application.

If you have a few earthworms left over after your next fishing trip, or even if you find a few on the sidewalk after a rain, don't let them go to waste. Place them in a damp spot in your lawn or crop field so that they can graze, grow, thrive and multiply. They may not make you rich, but they will definitely pay you back by improving the health of your soil.

## Nebraska Natives

### Honeylocust (*Gleditsia triacanthos*)

Honeylocust is native to eastern Nebraska. The fine-textured foliage of the honeylocust gives partial shade and turns a golden yellow in the fall. This medium-lived, relatively fast growing tree lends itself well to windbreak plantings. Honeylocust is used in multi-row windbreaks to increase the effective height of the windbreak. The twisted flat seed pods are 6 to 10 inches long. Cattle often eat the seed pods because they have a sweet taste. The pods and weak limbs make them undesirable for yards and landscaped areas.

Mimosa webworm and other insects present minor problems. Canker diseases may cause occasional branch dieback but are usually not serious problems unless the trees are in a weakened condition. The "thornless" variety is distributed. Honeylocust can be invasive on loamy soils.



# New NRD Recreation Website Available

Nebraska's Natural Resources Districts (NRDs) have created an interactive website that provides information about dozens of outdoor recreation areas perfect for camping, fishing, a family picnic, hiking/biking, wildlife viewing, and much more. The website, [www.nrdrec.org](http://www.nrdrec.org), allows you to search for recreation areas by NRD, highlight an activity at a recreation area such as boating or fishing, or find a lake with a specific type of fish.

In addition to providing opportunities for outdoor fun, NRD recreation areas are often built and operated to meet multiple needs. NRDs combine recreation facilities with other purposes including: Flood control structures to protect lives and property, wildlife habitat enhancement, prevention of soil erosion, aid in sediment control, provide wetland renovation, and other important conservation activities. NRDs often partner on projects with the Nebraska Department of Natural Resources, the Nebraska Department of Environmental Quality, the Nebraska Game and Parks Commission, and other organizations.

Whether you're looking for a quiet fishing hole, a hiking area or bike path, a place to hunt or camp, or just a scenic spot to enjoy a picnic, chances are you can find what you're looking for by visiting [www.nrdrec.org](http://www.nrdrec.org). A "Nebraska Outdoor Recreation" app is also available at no cost for the iPhone, iPod Touch, and iPad from the iTunes App Store.

**Visit our website at [www.tribasinnrd.org](http://www.tribasinnrd.org)!**

## Steinke Joins TBNRD Staff

Destinee Steinke of Holdrege has been hired as a part-time data entry clerk in the Tri-Basin NRD office. She and her husband, Cory, live in Holdrege and have three children: Mersades, age 10; Kegan, age 4; and Hayden, age 16 months. She is involved in the Future Fund and the South Platte Youth Athletic Club. She enjoys golf, boating, fishing, traveling and spending time with her kids. When you stop by the Tri-Basin NRD office, say hello to Destinee!



*Andy Miller, Nathan Kreutzer, and Helen Breuer are working as interns at Tri-Basin NRD this summer.*

## Interns Gain Natural Resources Experience

Each summer, Tri-Basin NRD gives college students who have an interest in natural resources management an opportunity to gain on-the-job experience through the Tri-Basin NRD Summer Internship Program. Interns are able to experience a wide range of natural resources-related work, including collecting and testing groundwater quality samples, wildlife habitat monitoring, irrigation system efficiency testing, and groundwater level measurement. The interns work with not only the Tri-Basin NRD staff, but also with staff from Central Nebraska Public Power and Irrigation District, the USDA Natural Resources Conservation Service and the Phelps County Weed Control Authority. TBNRD currently has three interns.

Helen Breuer, originally from Blair, Nebraska, graduated from the University of Nebraska-Kearney in May 2011 with a degree in geography. Helen enjoys music and outdoor activities, such as tubing.

Andy Miller is originally from Omaha. He plans to graduate from the University of Nebraska-Kearney in December 2012 with degrees in geography and geographical information science and a minor in environmental science. Andy's interests include camping and outdoor recreation.

Nathan Kreutzer, son of Mark and Rita Kreutzer of Atlanta, Nebraska, graduated from Holdrege High School in May. He will attend the University of Nebraska-Lincoln in the fall in the pre-law program with a major in philosophy and is enrolled in the NROTC Program with a Marine option. Nathan is involved in 4-H, All-Saints Catholic Church and the Marine Reserves and enjoys coin collecting.

## Groundwater Transfer Process

In Tri-Basin NRD, groundwater transfer permits are required any time a landowner wants to pump groundwater onto a parcel that is located more than one mile from the parcel on which the well that is the subject of the permit is located, or when a landowner wants to pump groundwater onto a parcel that is owned by another person or entity.

In order to transfer groundwater, the owner of the land upon which the well that will be used to transfer water is located must submit a transfer application to Tri-Basin NRD at least seven days prior to the monthly NRD board of directors meeting. The board reviews transfer applications to assure they do not conflict with district rules or federal or state laws. Once the transfer is approved, written notification is sent to the landowner. Before any groundwater is transferred, a flowmeter must be installed on the well used to transfer groundwater. The landowner must also submit an annual water use report to Tri-Basin NRD.

*"Dedicated to Conservation of our Natural Resources"*

# CALENDAR OF EVENTS

(All meetings are at NRD office in Holdrege unless otherwise noted.)

## July

July 5..... Independence Day (office closed)  
 July 12..... NRD Board Meeting at 7:30 p.m.\*  
 July 16-21..... Kearney County Fair in Minden  
 July 24-28..... Phelps County Fair in Holdrege  
 July 28-30..... Gosper County Fair in Elwood

## August

August 9..... NRD Board Meeting at 1:30 p.m.\*  
 August 26-September 5..... Nebraska State Fair

## September

September 5..... Labor Day (office closed)  
 September 13..... NRD Board Meeting at 7:30 p.m.\*  
 September 13-15..... Husker Harvest Days  
 September 22..... Rainwater Basin Conservation Day  
 for TBNRD 8th grade students

\* Times are tentative

## CONSERVATION TIP

Choose shrubs and groundcovers, instead of turf, for hard-to-water areas such as steep slopes and isolated strips.



## 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  
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 Ray Winz..... Holdrege, NE

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## TRI-BASIN NRD STAFF

John Thorburn ..... General Manager  
 Richard Holloway..... Assistant Manager  
 Charles Brooks ..... Land Resources Coordinator  
 Carie Lynch..... Administrative Secretary  
 Nolan Little..... Water Resources Technician  
 Alex Hasenauer ..... Land Resources Technician  
 Tammy Fahrenbruch ..... Office Manager  
 Esther Smith ..... Office Clerk  
 Nicole Salisbury .... Information & Education Coordinator  
 Destinee Steinke..... Data Entry Clerk  
 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.

- ◆ TBNRD Summer Internship Program
  - ◆ Steinke Joins TBNRD Staff
  - ◆ Platte Streamflow Augmentation Project
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