

# Tri-Basin Topics

Winter 2009

“Dedicated to Conservation of our Natural Resources”

Volume 23, Issue 1

## Groundwater Declines Necessitate Pumping Limits in Union Twp. In Gosper County

Tri-Basin NRD’s plentiful groundwater supplies are envied by irrigators in most other parts of the state. Even though this area is intensively developed for irrigation, we have been able to maintain plentiful groundwater supplies in much of the district, due to delivery and use of Platte River water for irrigation through the Central Public Power and Irrigation District canal system and geology that allows that excess water that leaks out of those canals to recharge our aquifers.

Unfortunately, geology and recharge aren’t uniformly distributed throughout the district. In portions of southern Gosper County and eastern Kearney County, water-bearing gravel layers are only 25 to 50 feet thick. By contrast, the aquifer is more than 250 feet thick in much of northern Gosper and Phelps counties. For this reason, the Tri-Basin NRD board designated several townships as water short areas

back in 1997 (see figure 1). This water-short designation was used to give irrigators in these areas priority for cost-share funds for irrigation efficiency improvements.

More recently, these areas saw significant draw-downs in groundwater levels during the drought of 2001-2005. These weren’t the only parts of the district that saw groundwater declines during this period, but they are more worrisome because the aquifer is so thin. Furthermore, these areas haven’t seen substantial rises in groundwater levels since the drought ended. This indicates that the soil and rock formations in these water-short townships don’t allow groundwater aquifers to recharge as readily as is the case in other parts of the district. Groundwater level measurements also show that these areas aren’t getting any additional recharge from the “groundwater mound.”

Tri-Basin NRD is responsible for preventing irreversible depletion of groundwater supplies. We identify areas of declining groundwater by comparing current water levels against our benchmark, which is 1981-85 springtime groundwater level measurements. If an area has average groundwater level measurements below 1981-85 averages for three years, we designate it as Phase 2 for groundwater quantity management. Such a designation requires flowmeters to be installed on all wells capable of pumping more than 50 gallons per minute. Restrictions on well drilling and transfers of groundwater and certified irrigated land are also put in place in phase 2 areas. We also start measuring additional wells and even drill continuous-measuring dedicated observation wells to expand our database of (continued on page 2)

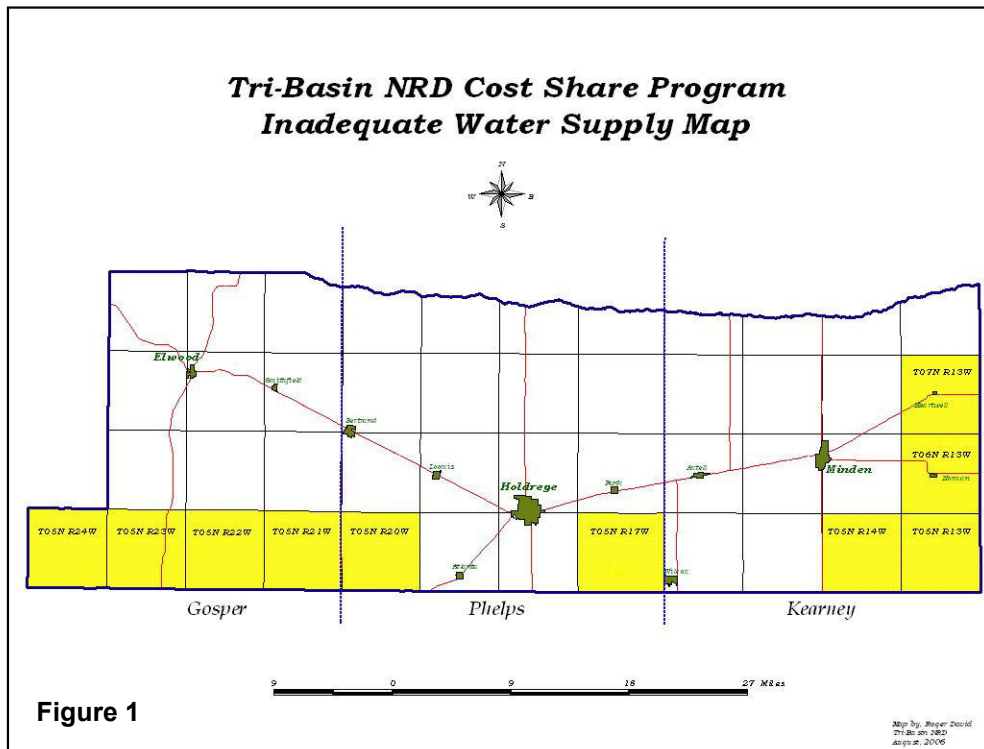


Figure 1

# Pumping Limits Necessary in Union Township

(continued from page 1)

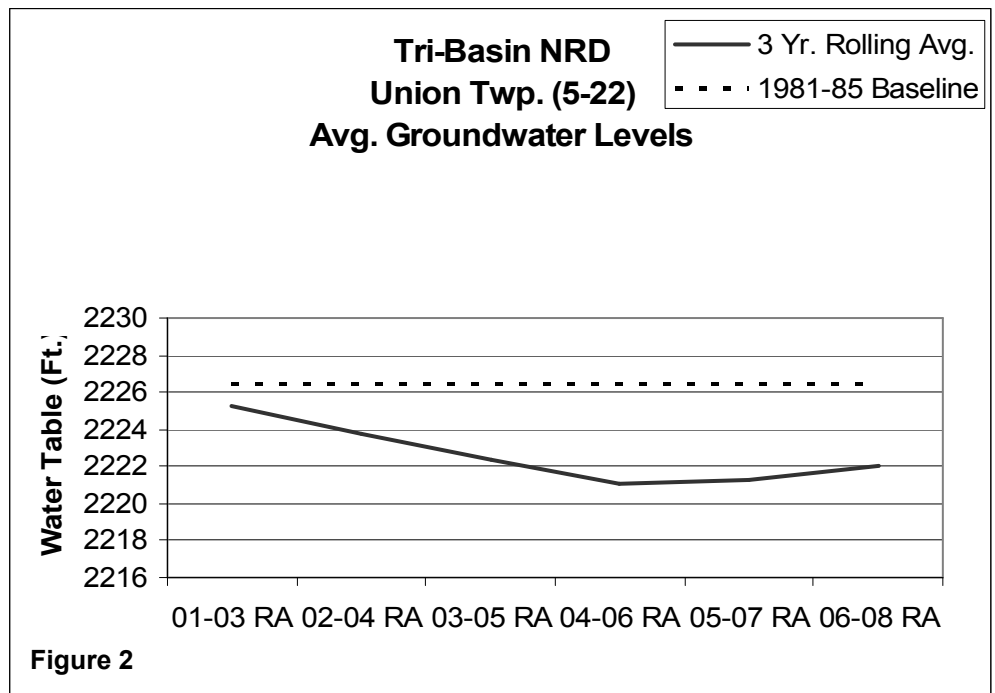
groundwater level measurements in these areas of concern. After we put these additional measures in place in phase 2 areas, we wait for three years to see whether groundwater levels will recover.

Union Township (Township 5 North, Range 22 West) in southern Gosper County was the first township in Tri-Basin NRD to be designated as a phase 2 groundwater quantity management area, in November, 2005. Three years have passed since then, and average groundwater levels remain below 1981-85 levels (see figure 2). In such a situation, NRD rules

specify that a Phase 2 area must advance to Phase 3 groundwater quantity management, which requires allocation, or limits on groundwater pumping. For this reason, the Tri-Basin NRD Board of directors, after holding a public hearing in Elwood last August, determined that it is necessary to limit pumping to a total of 27" of water per acre over the next three years in Union Township. NRD personnel will read flowmeters annually, and irrigators will need to report actual irrigated acres and the crops that they raised on those acres. If groundwater levels rise above 1981-85 levels by the end of this period, the board may decide that allocations are no longer necessary. If not, the board will allow irrigators to

"carry over" up to one year's worth of allocation into the next allocation period. During this meeting, NRD Directors also designated a neighboring township, Elk Creek (T5N, R23W) as a Phase 2 Groundwater quantity Management Area.

Tri-Basin NRD staff are meeting with irrigators in Union Township to gather information about which parcels of land their wells irrigate, so water use can be accurately tracked. If you have questions about Tri-Basin NRD rules, groundwater levels, or our allocation process, feel free to call us toll-free at (877) 995-6688, or check out our website at [www.tribasinnr.org](http://www.tribasinnr.org).



## NRD to Recognize Conservationists, Directors, Staff at Banquet

Tri-Basin NRD will hold its biennial recognition banquet on January 20, 2009 at Lakeshore Marina at Johnson Lake for staff, directors and honored guests.

Three conservation awards will be presented that evening to Tri-Basin NRD producers for their outstanding efforts in conserving our natural resources. Bunker Hill Farms and the Bill Johnson family of Phelps County will be presented the Soil Conservation Award for their extensive no-till farming practices. The Tree Conservation Award will be given to Johnny Hemmelstrand of Gosper County for his dedication to planting conservation trees over the years. Richard and Jane Fecht will be honored with the Wetland Conservation Award for restoration of wetland areas on their property.

Several Tri-Basin NRD staff and directors will also be honored for their years of service to the NRD. Directors who will be honored are: David Nickel, 20 years of service; Bradley Lundeen, 15 years of service; Ray Winz, 15 years of service; and Phyllis Johnson, 15 years of service. Staff who will be honored are: Carie Lynch, 10 years of service; Charles Brooks, 10 years of service; and Patty Abrahamson, 10 years of service.

# Trees for Newborns



Each year Tri-Basin NRD honors newborns in the district with the gift of a seedling tree. These trees are available to the family of any child born in Gosper, Phelps or Kearney County since the previous tree season (April). You can reserve a baby tree for your newest family member by calling our office at (308) 995-6688 or 1-877-995-6688 or by emailing the baby's name, birthdate, parents' names, address and phone number to [esmith@tribasinrd.org](mailto:esmith@tribasinrd.org). We will send you a postcard in April letting you know when and where to pick up your tree. If you have any questions, please call our office and ask for Esther.

# TBNRD Staff Inspect Meters

Tri-Basin NRD staff are inspecting flowmeters throughout the district during the winter months. Flow-meter inspections are on a four-year rotation, so each meter is inspected once every four years. Staff will check meter installation, condition and confirm ending meter readings reported by irrigators. All meters in Union Township in Gosper County will be inspected in preparation for its move to Phase III Groundwater Quantity Management Area.

# Chemigation and Nitrogen Management Recertification

Tri-Basin NRD will be sending out renewal forms during the first part of January to producers who had chemigation permits last year. Those producers whose chemigation certification has expired will need to attend one of the chemigation training sessions which are held in February and March. Anyone needing to add new chemigation permits for the 2009 season should contact the Tri-Basin NRD office.

Producers in Phase II and Phase III Groundwater Quality Management Areas also need to have a current Nitrogen Management card. Training sessions for Nitrogen Management will be held in February and March for those producers whose training has expired. If your card has expired, you should receive notification from our office.

For specific training dates for either chemigation or nitrogen management, check Tri-Basin's website, [www.tribasinrd.org](http://www.tribasinrd.org). For more information on either of these programs, please contact the Tri-Basin NRD office toll-free at 1-877-995-6688.

## Holdrege Water Conference Set for January 29

The annual Holdrege Water Conference will be held on Thursday, January 29, 2009 at the Phelps County Ag Center. Registration will begin at 10 a.m. and sessions should end around 3 p.m. A free lunch will be provided for those attending.

Sessions at the conference will focus on water-related issues that affect agricultural producers in central Nebraska. For more information on specific sessions, contact Tri-Basin NRD at 1-877-995-6688; Central Nebraska Public Power & Irrigation District at 308-995-8601 or Phelps County Cooperative Extension at 308-995-4222.

## Nitrogen Management Reports Due

Nitrogen Management Reports for the 2008 crop year were due December 31, 2008 for producers in Phase II and Phase III of the Tri-Basin Groundwater Quality Management Area. If you have fields in the Phase II or Phase III areas and have not turned in your reports yet, please do so as soon as possible. If you need reporting forms, please contact the Tri-Basin NRD office.

### ONLINE RESOURCES

<http://dnrdata.dnr.ne.gov/wellssql/?&> .....Dept. of Natural Resources Well Data  
<http://water.usgs.gov/ogw> ..... Ground water information  
[http://www.cnppid.com/Elevation\\_Flows2.htm](http://www.cnppid.com/Elevation_Flows2.htm) ..... Reservoir elevation/Platte River Flow  
<http://tribasinrd.org/domesticwatertest.html> ..... Domestic Nitrate Testing  
<http://www.arborday.org> ..... Tree recommendations, identification  
<http://www.websoilsurvey.nrcs.usda.gov/app/> .....Determining soil type  
[http://water.usgs.gov/cgi-bin/daily\\_flow?ne](http://water.usgs.gov/cgi-bin/daily_flow?ne) ..... Current water resource conditions for Nebraska

# CALENDAR OF EVENTS

(All meetings are at NRD office in Phelps County Ag Center unless otherwise noted.)

## January

- January 1 ..... New Year's Day (office closed)
- January 13 ..... NRD Board Meeting at 1:30 p.m.\*
- January 19 ..... Martin Luther King Jr. Day (office closed)
- January 20 ..... TBNRD Recognition Banquet
- January 29 ..... Holdrege Water Conference

## February

- February 10 ..... NRD Board Meeting 1:30 p.m.\*
- February 16 ..... Presidents' Day (office closed)

## March

- March 8 ..... Daylight Saving Time Begins
- March 10 ..... NRD Board Meeting at 1:30 p.m.\*

\* Times are tentative

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 Tri-Basin Natural Resources District  
 1308 Second Street  
 Holdrege, NE 68949 (308) 995-6688  
 Toll Free 877-995-6688  
 E-mail [tribasin@tribasinnr.org](mailto:tribasin@tribasinnr.org)

### 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
- Ruth Nielsen ..... Minden Office Secretary
- Lori Hagan ..... Elwood Office Secretary
- Patty Abrahamson ..... 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.

### TRI-BASIN NRD BOARD OF DIRECTORS

- Todd Garrelts, Chairman ..... Holdrege, NE
- David Nickel, Vice Chairman ..... Kearney, NE
- Ed Harris, Treasurer ..... Loomis, NE
- Larry Reynolds, Secretary ..... Lexington, NE
- Brian Bergstrom ..... Axtell, NE
- Harold D. Erickson ..... Holdrege, NE
- Dick Helms ..... Arapahoe, NE
- Phyllis Johnson ..... Bertrand, NE
- Brad Lundeen ..... Wilcox, NE
- David Nelson ..... Upland, NE
- David Raffety ..... Kearney, NE
- David Olsen ..... Minden, NE
- Ray Winz ..... Holdrege, NE

## WATER CONSERVATION TIP

Insulate hot water pipes for more immediate hot water at the faucet and for energy savings.



**IN THIS ISSUE**

\*Pumping Limits in Union Twp.  
 \*Conservation Tree Order Form  
 \*Holdrege Water Conference

**RETURN SERVICE REQUESTED**

**1308 Second Street  
 Holdrege, NE 68949**

*Natural Resources District*



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

**TRI-BASIN NATURAL RESOURCES DISTRICT 2009 HAND PLANT ORDER FORM**

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY/STATE/ZIP: \_\_\_\_\_ PHONE: \_\_\_\_\_

ORDERS MUST BE IN MULTIPLES OF 25 at \$15.00 per bundle.

**Deadline for placing orders is April 10, 2009.**

QUANTITY	SPECIES
	<b>CONIFERS</b>
	AUSTRIAN PINE
	BLACK HILLS SPRUCE
	COLORADO BLUE SPRUCE
	PONDEROSA PINE
	RED CEDAR (EASTERN)
	RED PINE
	SOUTH WESTERN WHITE PINE
	<b>BROADLEAFS</b>
	AMUR MAPLE
	BLACK WALNUT
	BUR OAK
	HACKBERRY
	KENTUCKY COFFEE TREE
	RED OAK
	SWAMP WHITE OAK
	<b>SHRUBS</b>
	AMERICAN HAZEL
	AMERICAN PLUM
	BUFFALO BERRY
	CHOKECHERRY
	COTTONEASTER
	GOLDEN CURRANT
	LILACS
	RED OSIER DOGWOOD
	RUSSIAN ALMOND
	SAND CHERRY
	SKUNKBUSH SUMAC
	<b>Total # of Trees</b>
	<b>Multiply total # of trees x .60</b>
	<b>Mulch</b>
	<b>Subtotal</b>
	<b>Tax (Holdrege 7%, Elwood 5.5%, Minden 6.5%)</b>
	<b>TOTAL AMOUNT DUE/PAID</b>

Tree Pickup will be at: \_\_\_\_\_ Tri-Basin NRD \_\_\_\_\_ Minden NRCS \_\_\_\_\_ Elwood NRCS

# WHY PLANT A WINDBREAK?

Windbreaks and shelterbelts provide many benefits. Windbreaks planted along field boundaries reduce soil erosion by reducing wind velocity. Shelterbelts planted around farmsteads reduce heating costs in homes and shop buildings. Shelterbelts can protect livestock from blizzards and serve as "living snow fences." Trees and shrubs also provide food, shelter and nesting habitat for many species of birds and mammals.

## NRD TREE & SHRUB PLANTINGS

Contact the NRD Office or your county NRCS for help with determining the type and number of trees and shrubs you need. The technician will make arrangements for the tree order and planting service. The NRD will plant the trees according to the plan.

Trees are planted in the spring as soon as conditions are suitable. The NRD tree planting crew will notify landowners of the approximate date and time of planting.

## SITE PREPARATION

Good site preparation is a key to rapid tree growth and survival. The best site preparation begins the year before the trees are planted. On heavier soils, working the ground to kill competing vegetation is an excellent method of preparing the site. The technician assisting in planning a windbreak or habitat plot can advise you about the type of site preparation needed. The technician can also help you determine if herbicide carryover will be a problem.

## WEED CONTROL

Weed control in the form of plastic mulch is available through the district. This woven material is installed over the trees after planting. Slots are then cut for the trees. Plastic mulch not only eliminates weeds but also helps to preserve soil moisture.

## PRICES

Trees & Shrubs ..... 60¢ each/multiples of 25

## PLANTING SERVICE

Tree planting (no mulch) ..... 50¢/ft

## Trees, tree planting, mulch, and mulch laying

Tilled sites ..... \$ 1.05/ft

Untilled sites..... \$ 1.10/ft

Drip tape ..... 35¢/ft

Pull-in Charge ..... \$20

Minimum plan charge \$350 per planting

## PLASTIC MULCH

Material Only ..... 35¢ per ft

Stakes ..... 15¢ each

Seedling Tubes ..... \$1.10 each

*Prices are subject to change.*

## PLANTING YOUR OWN TREES

You can order trees and shrubs at the NRD or your local NRCS Office. Orders must be in multiples of 25 per species. We will send you a postcard when your trees arrive.

## DRIP TAPE

Tri-Basin has a subsurface drip tape available for watering trees planted by the District. The water source could be a portable tank or a hydrant. Check with the TBNRD Land Resource Coordinator for more information.

## COST-SHARE

Tri-Basin NRD offers cost-share funds for tree plantings and plastic mulch installation. You should apply at your county NRCS office before March 1.

All sites must be properly prepared before planting to qualify for cost-share. Reimbursement is made only after full payment is received. The minimum total cost of plantings eligible for cost-share is \$500.

Cost-share may also be available from your county USDA office. Pheasants Forever and Nebraska Game & Parks Commission also offer programs for wildlife habitat improvement. NRCS staff can help you determine which programs have funds available and best suit your needs.

## BILLING ON NRD PLANTINGS

Tri-Basin NRD bills for trees/tree planting service after completion. Full payment is due upon receipt of the billing. Cost-share forms will not be finalized until payment is received at the Tri-Basin or NRCS office.