



Summer 2013  
Volume 27, Issue 3

# Tri-Basin Topics

A quarterly publication of Tri-Basin Natural Resources District

## Tri-Basin NRD Allows Certified Irrigated Acre Transfers

The Nebraska Unicameral passed LB962, which linked management of groundwater and surface water in 2004. As a result of this law, Tri-Basin NRD imposed a moratorium on development of additional irrigated land in the Republican Basin and Platte Basin west of Highway 183 in September, 2004. This moratorium was expanded to the rest of the district in 2006. Because a limit on development of new irrigated land has been in place for nearly a decade, and because the NRD Board of Directors want to enable landowners to make the most efficient use of their limited number of irrigated acres, the district has created a process that enables landowners to transfer irrigated acres from one parcel to another.

The following information outlines the process for applying for permits to transfer certified irrigated acres in Tri-Basin NRD. **Specific rules apply to**

**each transfer situation, so producers who want to transfer certified irrigated acres should consult Tri-Basin NRD staff before proceeding with any projects.**

A landowner who wants to irrigate any portion of a parcel of land within the district that has not been certified for irrigation by Tri-Basin NRD must first apply to Tri-Basin NRD for a Certified Irrigated Acre transfer permit. The cost of each permit is \$100.

### **Certified irrigated acre transfer permit process**

The landowner must submit a completed NRD certified irrigated acre transfer permit request form showing the

number and location of certified irrigated acres that will be transferred and the location of the parcel to which they will be relocated. Aerial photos delineating the original location of the certified acres and the destination for the transferred acres must accompany the permit request. Landowners are required to have a title search done on the property from which the acres are being transferred. Anyone holding a lien on the property will have to sign a release form allowing the certified irrigated acres to be transferred from that parcel of

land. Certified irrigated acre transfer permit requests must be received in the NRD office at least seven days prior to the monthly NRD board of directors meeting to be considered for approval.

The Tri-Basin NRD Board of Directors review certified acre transfer permit requests on the second Tuesday of every month

during their regular monthly meetings. The board will approve certified irrigated acre transfer permit requests unless they find that approval would be contrary to federal or state laws or NRD rules.

The Tri-Basin NRD Board of Directors reserve the right to reject certified acre transfer permit applications or cancel previously-approved existing transfers if one or more of the following circumstances are known to exist:

- A landowner request would result in re-locating certified irrigated acres from a Phase I Quantity Groundwater

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## Manager's Message

by John Thorburn

### Jet Streams

We have experienced some really wild swings in our weather the past few weeks. Warm, then cold, sunny, then stormy. Most people just accept that rapidly changing weather is a fact of life in Nebraska, but perhaps you've won-

dered what causes our weather to change so quickly?

This question puzzled scientists for many centuries. While many suspected that "rivers of air" exist in the upper portions of the Troposphere (the lower portion of the atmosphere, up to about 30,000 feet, where most weather occurs), it wasn't until the 1920s that a Japanese scientist, Wasaburo Oishi, produced direct evidence of what were later referred to as "jet stream" winds. He launched weather balloons from a site near Mount Fuji and tracked them as they rose

through the atmosphere. During World War II, when warplanes flew regularly in the upper Troposphere, meteorologists learned about the characteristics of jet streams.

A jet stream, as the name implies, is a fast-moving river of air that meanders around in the atmosphere five to seven miles above the Earth. Our planet actually has four semi-permanent jet streams, two in the Northern Hemisphere and two in the Southern Hemisphere. They form along the boundaries between warm and cold air masses. Smaller, localized jet streams also occasionally form along the fronts of mountain ranges like the Rockies and the Andes. A jet stream, by definition, has winds higher than 50 miles per hour, but these narrow bands of high-speed winds can reach speeds of more than 100 miles per hour.

The sub-Polar jet stream is generally strongest in late winter and early spring, when temperature contrasts between

warm, tropical air masses and cold, arctic air masses are the greatest. Jet streams weaken in summer. The subtropical jet often disappears entirely for a few weeks in July and August.

When the jet stream is flowing steadily from west to east, a condition referred to as "zonal flow", weather conditions tend to be stable, with little mixing between cool weather north of the jet and warmer weather to the south. When an air mass advances, however, it pushes the jet stream ahead of it. The jet then develops bends and kinks, known as Rossby Waves. Storm systems form inside these bends and are pushed across the continent by the jet. When the

jet stream is bent into a wavy pattern, with portions of it flowing north-to-south or vice versa, it is in a "Meridional Flow" state. Strong storms are almost always associated with Meridional Flow. The jet stream tends to alternate between these two states in six to eight week cycles.

Within the jet stream, smaller, localized "jet streaks" are sometimes found. These jet streaks stir the upper atmosphere, displacing cold air and forcing it downward toward the Earth's sur-

face. They are also a source of clear air turbulence, which can toss airliners (and their passengers) around.

The jet stream isn't directly visible from the ground, nor do high winds at ground level necessarily indicate that there is a jet stream aloft. One tell-tale sign of a jet stream is high wispy, "mare's tail" cirrus clouds. These clouds also indicate that a storm is approaching within a couple days, because water vapor is pushed ahead of it into the upper troposphere by the jet.

Knowing the position and configuration of jet streams is a key to accurate weather forecasting. Next time you want to know what the weather is going to do in the next day or so, find out where the jet stream is located and its expected path of travel. You will still have to endure the rapid changes that are characteristic of our Nebraska weather, but you can be better prepared for them.



## Nebraska Natives

### Sandcherry (*Prunus besseyi*)

Sandcherry is a low growing shrub native to western Nebraska. It has showy white flowers in May and produces small, sweet, purplish-black cherries in July. Sandcherry can tolerate hot, dry conditions, and prefers well-drained soils. The cherries are especially good for making jelly or jam.



<http://www.tribasinrd.org>



TBNRD Summer Interns Zach Gray, Dayana Rodriguez, and Andrew Tellus.

# TBNRD Certified Irrigated Acre Transfers

*(continued from page 1)*

Management Area (GMA) to a Phase II or Phase III Quantity GMA area.

- A landowner request would result in re-locating certified irrigated acres from one river basin to another river basin.
- A landowner request would add irrigated acres in an Integrated Management Area or a Phase II or Phase III Groundwater Quantity Management Area without changing the irrigated land use on the tract within which the certified acres were originally located to a non-irrigated land use.
- A landowner request would result in transfer of irrigated acres from a parcel that is irrigated with surface water alone, or with a combination of surface water and groundwater, to a parcel that is irrigated solely with groundwater.
- A landowner doesn't get consent for a transfer from all affected lienholders.
- A citizen or NRD staff provide information to the NRD Board of Directors indicating that adding irrigated acres in a particular area is likely to deplete groundwater or surface water in excess of the maximum allowable depletion or is otherwise contrary to NRD rules or state or federal laws.
- A request to re-locate certified irrigated acres would result in re-locating irrigated acres from another NRD into this NRD, unless the NRD Board of Directors determine that such a request would not lead to any of the circumstances previously noted.

After approval by the board, NRD staff will submit the certified acre transfer permit request to the county assessor. The landowner must inform the assessor how many acres will be irrigated on both the original parcel(s) and the destination parcel. The assessor will measure the parcels and report the corrected number of irrigated acres listed on the property tax rolls to the NRD. If the assessor determines that the number of certified irrigated acres is equal to or less than the number requested for transfer, both parcels will be adjusted, and the transfer will be considered complete. If the assessor determines that the number of certified acres available on the original parcel or parcels is insufficient to complete the requested transfer, the landowner must either withdraw or correct and resubmit a certified acre transfer permit request.

After a certified irrigated acre transfer request is approved by the board, the NRD office will send written notification to the landowner. A copy of the approved permit will be kept on file at the NRD office.

**Remember to take irrigation well water samples for Groundwater Management Area reports! Sample bottles are available at Tri-Basin NRD and NRCS offices.**

## TBNRD Interns Gain Natural Resources Experience

The Tri-Basin NRD Summer Internship Program gives college students an opportunity to gain natural resources management experience. Interns collect and test groundwater quality samples, monitor wildlife habitat, test irrigation system efficiency, and measure groundwater levels. The interns also work 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.

Zach Gray is from Holdrege. He will attend the University of Nebraska-Lincoln this fall and plans to study ag engineering. He is involved in the Fellowship of Christian Athletes, the Bethel Lutheran Church Youth Organization, and Legion baseball. Zach enjoys hunting, sports, and boating.

Dayana Rodriguez lives in Kearney and attends the University of Nebraska-Kearney, where she is studying environmental science. Her campus activities include Lambda Theta Nu Sorority, The Newman Center, Peer Health, Rotary International, and the Honors Program.

Andrew Tellus from Holdrege has returned to TBNRD for a second summer. He is studying music business at the University of Nebraska-Kearney. Andrew is a member of Delta Tau Delta fraternity and his hobbies include playing guitar and music.

## Nott Joins NRD Staff

Patrick Nott has joined the Tri-Basin NRD staff as Water Resources Technician. He will be working with the district's water management programs, including water sampling and irrigation flowmeter inspections.

Pat is originally from Gosper County and graduated from Arapahoe High School. He has a bachelor's degree in biology from the University of Nebraska-Kearney. He and his wife, Madison, now live in Holdrege. Pat is involved in the Phelps County Future Fund and enjoys fishing and golf.





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Non-Profit Permit  
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Holdrege, NE 68949  
Permit No. 220

**Tri-Basin Natural Resources District**  
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RETURN SERVICE REQUESTED

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

# CALENDAR

July 9	NRD Board Meeting, 1:30 p.m.*
July 14-18	Kearney County Fair
July 21-25	Phelps County Fair
August 1-3	Gosper County Fair
August 20	NRD Board Meeting, 1:30 p.m.*
September 2	TBNRD closed for Labor Day
September 10	NRD Board Meeting, 7:30 p.m.*
September 10-12	Husker Harvest Days
September 18	Rainwater Basin Conservation Day at Sacramento-Wilcox Wildlife Mgmt. Area

\* 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
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Joe Larson	Loomis, NE
David Nelson	Upland, NE
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Larry Reynolds	Lexington, NE
Ray Winz	Holdrege, NE

### TRI-BASIN NRD STAFF

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