

# UPPER ELKHORN The Oracle

"Making Wise Decisions Concerning Our Natural Resources"  
<http://www.uenrd.org>

## Upper Elkhorn NRD Joins the NeRAIN Family

What is NeRAIN? NeRAIN is an acronym for Nebraska Rainfall Assessment and Information Network. It is a special project designed which includes volunteers in a study of the complex patterns of rain, hail and snow. Through an Environmental Trust Grant awarded on April 17, 2006, the Upper Elkhorn NRD and eight other NRD's joined the original thirteen NRD's across southern Nebraska to monitor and record precipitation.

The goal of the NeRAIN program in the Upper Elkhorn NRD is to place a rain gauge in every township within the District and have a corresponding volunteer to read and record

the rain gauge information daily. Volunteers will receive a free rain gauge and training to enter their precipitation information directly in to the NeRAIN website which is then available for anyone with internet access.

NeRAIN information will be used to create rainfall runoff models, to study groundwater re-charge, crop water use calculations, to study storm events and flood plain mapping. Data can also be used for agricultural purposes to assist conservation agencies and crop consultants to assist with irrigation scheduling and meeting crop water needs.

### NeRAIN

#### Volunteers Needed!!!

If you are a weather enthusiast and would like to volunteer for the NeRAIN Program contact the Upper Elkhorn NRD at 402-336-3867! Volunteers will receive a new quality rain gauge, installation and brief training (on internet) to record data. All you need is a computer with internet access and a few minutes each day to report readings from your gauge!



Department  
of Natural  
Resources



Natural  
Resources  
District

Fall & Winter 2005

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### East Branch Verdigris Creek Watershed Receives Funding from the Environmental Trust and Nebraska Department of Environmental Quality

A Community-Based Approach (CBA), with local stakeholders and an Advisory Council taking the lead, was used to develop a watershed management plan for the EBVC watershed and was adopted April 5, 2005. Priorities of this plan include decommissioning abandoned wells, promoting agricultural "Best Management Practices", and updating septic systems. Due to the Council's leadership, the EBVC was awarded funding through two primary grants. The first grant money was awarded in 2005 from the Nebraska Environmental Trust to decommission improperly abandoned wells in this area. This grant totaling \$20,000 must be expended by June 30, 2006.

The District just received notification that another Nebraska Environmental Trust grant was approved for funding on April 17<sup>th</sup> in the amount of \$72,150. These funds were the key component in receiving additional funds from the Nebraska Department of Environmental Quality (NDEQ) Section 319 funding, amounting to \$144,300. These funds will be utilized to promote nitrogen and irrigation "Best Management Practices" and inspect and upgrade failing septic systems in a five year program. The Upper Elkhorn NRD and landowners will also be contributing funds or in-kind services to assist in this project totaling \$24,050.

The East Branch Verdigris Creek (EBVC) watershed

above Grove Lake has been identified as a high priority watershed by the Nebraska Department of Environmental Quality. The EBVC watershed is one of two watersheds within the district that has been designated as a Class A, Coldwater Stream.

Landowners with land in the watershed are potentially available for costshare. All of these programs are being administered by the Upper Elkhorn NRD. Landowners are currently or have been contacted regarding their interest in the program. If you have any questions about eligibility or costshare being offered contact the Upper Elkhorn NRD or Phil Steinkamp at 402-887-9960 or 402-929-0542.

### Elkhorn Basin discusses stay on irrigation wells

The Upper Elkhorn NRD and Lower Elkhorn NRD held a basin meeting March 2, 2006 in Norfolk at the Lifelong Learning Center to learn more about LB 962 and the issues relating to the new law. Representatives from the Nebraska Department of Natural Resources were on hand to review the information and methodology used in determining whether or not a river basin would be determined fully appropriated. They explained that DNR will be using the best available data each year when making their designations, which will include changes in water levels, stream flows, precipitation and any new or additional methodology deemed necessary to make the designation. This on-going and changing report will be released by January 1 of each year regarding all or parts of Nebraska's river basins which are still considered to be meeting the supply and demand of its water users.

In an effort to acquire the best available data, the Upper Elkhorn NRD and Lower

Elkhorn NRD are participating with the U.S. Geological Survey and the Nebraska Department of Natural Resources in developing an Elkhorn Loup Model. This model would be another tool to assist local and state officials in better understanding the interconnectedness of surface and ground water in the basins. Other districts in the Loup and Elkhorn River basins are also joining in this project.

Following the presentation by DNR, the Upper Elkhorn and Lower Elkhorn NRD's Board Members discussed how LB 962 and the issues surrounding the law might impact the basin. After reviewing and discussing the information presented it was the consensus of both the Upper Elkhorn NRD and Lower Elkhorn NRD that a stay on new wells and new irrigated acres would not be required at this time. However, this is a NRD local decision, which could be reversed if the Department of Natural Resources finds evidence of that the water supply is not meeting the demand.

**Attention Chemigators**  
**On-line Forms Now Available at**  
**[www.uenrd.org](http://www.uenrd.org)**

# Upper Elkhorn NRD Presents Conservation Awards

The Upper Elkhorn Natural Resources District held its Annual Awards Banquet, Tuesday, January 17, 2006 at the Blarney Stone Restaurant in O'Neill. Each year the District recognizes individuals, families or organizations that have made a conscience effort to preserve, protect and enhance our natural resources. This year the Upper Elkhorn NRD awarded the 2005 Outstanding Grassland Award to Dale Matschullat and his Family; and, the 2005 Conservation Honor Farm Award was presented to Bernard and JoEllen Kamphaus.

## Upper Elkhorn Natural Resources District 2005 Outstanding Grassland Conservation Award Winner Dale Matschullat



2005 Outstanding Grassland Award winners Doug, Dale and Kris Matschullat pictured with UENRD Assistant Manager Don Caouette.

Dale has been a farmer or rancher now for 55 years. Beginning in 1951 on a rented quarter by Page he began as a small farmer growing and expanding until he built the farm and ranch operation that it is today. The main ranch headquarters is now located south of Atkinson where they oversee some 12,000 acres of pasture and meadowland. Dale's son Doug, grandson Kris and Doug's son-in-law Jason Wiseman are all involved in the operation. They manage approximately 1500 cows and with the improvements they are making in conjunction with their Environmental Quality Incentive Program contract they hope to increase their capacity to 1700 cows.

The Matschullat Family have installed many conservation practices over the years. Improvements on

the ranch include installing over 5 miles of cross fence; five wells; four windmills with 30 foot bottomless tanks with overflow drains, 3700 feet of underground pipe with rubber tanks, pressure tanks and floats; over 27,000 feet of livestock pipeline; and, they maintain 5372.9 acres of prescribed grazing so that proper rotation of pastures can be utilized to maintain the quality of the land. The Matschullat's have also planted over 19,600 trees for livestock and building protection with the aim being to improve the ranch to the point of maximizing their carrying capacity. And, in an effort to maintain the new trees and promote survivability, they have also installed more than 46,600 feet of conservation weed mulch.

Following the purchase of the ranch south of Atkinson in

2002, Dale noticed that some of the land was suffering from overgrazing. As a staunch believer in proper grazing, Dale set aside some 4000 acres to lay idle for two growing seasons because of the over grazing practices in previous years. After lying idle the Matschullats turned cattle out on to the pasture for six weeks to trample in seed for the purpose of re-establishing the grasses. Along with maintaining the pastures, Dale and his family have also fenced out some blowouts and seeded and covered others, which they find is a never ending job.

As far as the farm is concerned, they have 6 irrigated quarters and 180 acres of dryland on which they rotate corn and soybeans as well as rotating alfalfa across part of the land. The alfalfa is used to condition approximately 1500 calves from weaning until they are sold in the early part of the next year. Calves are usually sold at 600 to 700 pounds. Doug and Jason handle the doctoring of the livestock as well as conditioning and feed preparation from corn and silage raised on their own farm. They have also used some ethanol by products for their livestock feeding operations. Congratulations to Dale and the entire Matschullat Family the 2005 Upper Elkhorn NRD Outstanding Grassland Award Winner!

## Upper Elkhorn Natural Resources District 2005 Honor Farm Award Winner Bernard & Jo Ellen Kamphaus



JoEllen and Bernard Kamphaus are presented the 2005 Conservation Honor Farm Award from UENRD General Manager Dennis Schueth

Bernard and JoEllen Kamphaus Farm and Ranch is located in southern Holt County. The Kamphaus' operate approximately 300 acres of cropland and 1900 acres of rangeland. Bernard runs a herd of fall calves after dispersing of his spring cows in 2002. In order to maintain the ranch, Bernard has installed two new wells, 2 tanks and 6,390 feet of livestock pipeline. All of his windmills have 21-24 foot tanks, which provide at least a three day water supply that is also supported by dugouts as a back up system. They also cut silage for winter feed and utilize the corn stalks in their ranching operation. All of their pastures have been cross-fenced into pastures of 160 acre or less so cattle can be properly rotated to maintain the quality of the land. They have also leveled and shaped blowouts, seeded them and fenced them off for as many as fifteen years to repair the damaged area.

The Kamphaus' have two pivots on which they grow grass, corn and alfalfa. They also manage dryland corn, meadows and pasture areas. As a conservation minded farmer, Bernard, has a conservation plan for crop residue management and has also participated several years in the Upper Elkhorn NRD Deep Soil Sampling program. The purpose of this program is to manage fertilizer application better by accounting for available nitrate-nitrogen that already exists in the crop root zone. For almost a decade, Bernard, has taken soil samples and credited those results during his planting season. He has also converted one irrigation system to low pressure nozzles, which services 112.8 acres with a net water savings of 7.2 inches.

Over the past 30 years the Kamphaus' have planted trees in several different shelterbelts. They have planted over 2500 trees and shrubs of various species for livestock and farmstead protection as well as wildlife habitat. Congratulations to Bernard and JoEllen Kamphaus the 2005 Upper Elkhorn NRD Honor Farm Award Winner!

## UENRD Awards Senior Scholarships

Each year the Upper Elkhorn Natural Resources District awards three scholarships to graduating high school seniors in the district. These are students who have chosen to pursue a career in a field related to agriculture or natural resources. This years recipients are Patrick Moser of Pope John Central Catholic High School; Calvin Kilmurry of West Holt High School; Trevor Gotschall of West Holt

High School; and, alternate Clayton Hensley of Elgin Public High School. Scholarship winners will receive a scholarship in the amount of \$500 to help defer costs during their first year of College. The Upper Elkhorn NRD would like to congratulate the 2006 Senior Scholarship Winners and wish them good luck in achieving their future goals.

## UENRD Employees Also Recognized for Outstanding Service

Also recognized at the Annual Banquet were Chris Dierks of Ewing for his outstanding work as the Chairman of the Board from January 2003 to December 2005; Don Caouette, Assistant Manager, for 15 years of service; Beth Walsh, Information & Education/Chemigation Coordinator for 15 years of service; and, prior to the awards banquet, Mike Russman of Ewing was recognized for 5 years of service to the Upper Elkhorn NRD Board of Directors.



Dennis Schueth, UENRD, Manager, congratulates Don Caouette and Beth Walsh (left) and Board of Director Chris Dierks (right) for their years of service to the Upper Elkhorn Natural Resources District.



## Sign Up Underway for NRD Cost Share Programs

Anyone wishing to participate in an Upper Elkhorn NRD cost share program should contact the Upper Elkhorn NRD office or their local NRCS office. Cost share is available for the installation of the practice itself and will not include any sales tax on the materials or labor. Cost share programs available include:

**NSWCP/NRD:** The UENRD in conjunction with the Department of Natural Resources offers cost share practices to landowners wishing to install conservation practices. Some practices included in the program are: windbreaks; planned grazing systems; irrigation water management; pasture planting and range seeding; grade stabilization; and, wind-break renovation. Cost share is available at a rate of 50%.

**Water Well Decommissioning:** The UENRD in conjunction with the Department of Natural Resources offers cost share funds at a rate of 75% to landowners who wish to properly decommission an abandoned well.

**Domestic Water Quality:** The UENRD offers cost share to cooperators whose drinking water is contaminated with nitrates over the federal health standard of 10 parts per million. Cost share is available at a rate of 50% or a maximum of \$800.

**Anhydrous Ammonia Application:** The UENRD offers 50% cost share to landowners for the purchase of a flow control monitor not to exceed \$900; and, \$200 for the purchase of a vertical dam manifold.

**Livestock Manure Analysis:** The UENRD offers 50% cost share not to exceed \$200 for manure analysis to credit useful materials into the soil.

**Nitrogen Management:** The UENRD offers 50% cost share not to exceed \$200 to cooperators to encourage producers to manage fertilizer application better by accounting for residual nitrate-nitrogen which already exists in the soil root zone and irrigation water.

**Cost share applications are approved by the Upper Elkhorn NRD Board of Directors and available on a first come first serve basis and does not include sales tax.**



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## Water Conservation on Irrigation is Possible with a Flowmeter Installed

Price of farming on irrigated crop ground has seen a continually increasing trend over the past 5 years for owners and operators. With fluctuating markets and skyrocketing gas prices, there is no room for guesswork and estimation when it comes to proper irrigation. According to the University of Nebraska the cost of over applying 2 inches of unnecessary irrigation with a groundwater static level of 100 feet and diesel costing \$1.50/gallon is \$687 plus wear and tear on the system. Flowmeters are a device that irrigators can install to insure that precise amounts of water are being applied to adequately meet the needs for the crop while preventing over application.

Flowmeters accurately record the amount of water pumped and the rate at which water is passing through a system. While there are a

wide variety of flowmeters, proper installation and maintenance is essential for meter accuracy and longevity. Upstream turbulence can negatively affect a meter's performance and cause meter



problems. Generally, a distance of 5 pipe diameters in front of the meter and 1 pipe diameter behind will ensure accuracy however, check with each manufacturer for specifications. In addition, installing straightening vanes effectively reduce turbulence and stress on the mechanical components of a meter. The Upper Elkhorn NRD has an

ultrasonic flowmeter which can be used to get an accurate reading on irrigation wells. This unit is portable, has no permanently attaching parts and is available for irrigators in the Upper Elkhorn NRD upon appointment.

Flowmeter information not only helps an irrigator monitor the efficiency of irrigation wells but also allows water to be appropriately applied to match a crops evapotranspiration rate. The Upper Elkhorn NRD provides evapotranspiration rates each growing season on a variety of crops either on the website or on a call in hotline. This data is taken from weather stations located at Newport, O'Neill, Brunswick, and Elgin. The number for the evapotranspiration hotline is 336-2081. If you have any questions regarding flowmeters or crop water use please contact the Upper Elkhorn NRD.

## Attention Chemigators!!!

**Chemigation Renewal Deadline Is June 1**

The deadline for renewal chemigation applications is June 1! Anyone wishing to run fertilizer/chemicals through their center pivot irrigation system within the Upper Elkhorn NRD will need to submit an application for chemigation to the Natural Resources District. New applications are available at a cost of \$30.00 per site and must be approved by NRD personnel before any chemigation activity. Chemigation sites, which were permitted and approved in 2005, are eligible for renewal and are available at a cost of \$10.00 each. All renewals must be submitted by June 1 to the Natural Resources District. Applications may be picked up at the Upper Elkhorn NRD office, Neligh NRCS office and RC&D office in Bassett. Chemigation forms are also available on line at [www.uenrd.org](http://www.uenrd.org). These forms may be filled out on line, printed and returned to the NRD office with the appropriate fee. Due to the tremendous number of application sites, which change from year to year the Upper Elkhorn NRD, does not mail out applications. Remember, it is the responsibility of each chemigator to maintain and permit each chemigation site on an annual basis. For further information or questions, please contact the Upper Elkhorn NRD, 301 N. Harrison, O'Neill, NE 68763, (402) 336-3867.

## Cost Share Eligibility Requirements

Any person who fails to comply with any of the Upper Elkhorn Natural Resources District's Rules and Regulations shall not be eligible to participate in any programs or receive payments that are administered by the District. Programs requiring compliance include but are not limited to the following: UENRD Groundwater Management Plan - Phase I and Phase II Rules & Regulations; Chemigation Act;

Irrigation Runoff and Erosion and Sediment Control. Cost share programs that may be affected due to lack of compliance include but are not limited to the following: Nebraska Soil and Water Conservation Program; Upper Elkhorn NRD Conservation Program - Land Treatment Fund; WILD Nebraska/Wildlife Habitat Improvement Program; Nebraska Buffer Strip Program; Corners for Wildlife; Liquid/NH<sub>3</sub> Appli-

cation Program; Livestock Manure Analysis Program; Domestic Water Quality Program; Nitrogen Management Program; and, the Water Well Decommissioning Program. Anyone who is already a participant in any of these programs or may be a participant will not receive any payments as long as they fail to comply with any District rules and regulations.

## East Branch Verdigris Creek Watershed Continues Promoting Best Management Practices

The East Branch Verdigris Creek Watershed Program was instrumental in decommissioning the old municipal well in Royal. This is one of approximately 18 wells which have been properly decommissioned within the watershed area with \$20,000 worth of funding from the Environmental Trust and funding from the Upper Elkhorn NRD. Anyone who has an abandoned well and lives in the

watershed area would be eligible for 90% cost share to decommission their abandoned well. For further information contact Phil Steinkamp at 887-9960 or 402-929-0542.



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# Upper Elkhorn NRD Static Water Level Summary

The Upper Elkhorn NRD has administered a static water level monitoring program since 1975. This spring, the District's sampling network has been increased to 147 observation sites including both irrigations wells and dedicated monitoring wells. The static water level is measured by the District on a biannual basis during the spring and fall seasons. The results of these measurements are used locally by the NRD to assess the change in groundwater levels over time.

Overall, the average static groundwater level has increased since spring of 2005 throughout the District. Antelope County (+2.33 ft) had the greatest increase in average levels followed by Holt County (+1.44 ft). Timely precipitation and extended periods of snow cover were primarily responsible for the recharge in the aquifer. Soils in the Upper Elkhorn NRD are generally sandy and highly permeable which contribute to a high infiltration rates and low runoff.

Large yields of groundwater can be obtained from this region which is comprised of Tertiary and Quaternary age aquifers. It should be noted that according to the United States Geological Survey, a majority of the Elkhorn River in the Upper Elkhorn NRD is considered a gaining stream. A gaining stream is any surface flow where the groundwater table is higher than that of the river. This causes the groundwater to feed into the stream creating an increase in flows.

Static Water Level Results for Spring of 2006

County	spring 2000	spring 2001	spring 2002	spring 2003	spring 2004	spring 2005	spring 2006
Antelope	66.22	66.89	66.15	68.62	67.02	68.76	66.43
Holt	22.81	23.65	23.28	25.71	24.31	24.37	22.93
Wheeler	19.98	20.40	20.25	20.96	19.77	20.48	19.16
Rock Co.	16.30	17.40	16.38	19.28	17.51	17.05	15.96

Spring Changes in Static Water Levels from year to year by County

County	Change 2001-2002	Change 2002-2003	Change 2003-2004	Change 2004-2005	Change 2005-2006	Past 5 Year Change
Antelope	0.74	-2.48	1.60	-1.74	2.33	0.45
Holt	0.37	-2.43	1.41	-0.07	1.44	0.72
Rock	1.02	-2.90	1.76	0.46	1.09	1.44
Wheeler	0.15	-0.72	1.19	-0.71	1.32	1.23

## Upper Elkhorn Natural Resources District Board of Directors

Jerry Heithoff - Chairman	Subdistrict 7 ~ Elgin	(402) 843-2467
Janet Koinzan - Vice Chair	Subdistrict 7 ~ Elgin	(402) 843-2410
Dale Wiles - Treasurer	Subdistrict 3 ~ O'Neill	(402) 336-2338
Ted Hughes - NARD Rep	Subdistrict 6 ~ Neligh	(402) 887-4942
Jerry Childers	Subdistrict 4 ~ Chambers	(402) 482-5688
Chris Dierks	At Large ~ Ewing	(402) 485-2618
James Dvorak	Subdistrict 2 ~ Atkinson	(402) 925-5776
Gregg Felker	Subdistrict 3 ~ O'Neill	(402) 336-2864
Curtis Gotschall	Subdistrict 2 ~ Stuart	(402) 925-2504
Reg Green	Subdistrict 5 ~ Creighton	(402) 358-5479
Jim Keller	Subdistrict 1 ~ Newport	(402) 244-5448
Tim Knuth	Subdistrict 5 ~ Brunswick	(402) 358-5430
Jeff Krebs	Subdistrict 6 ~ Neligh	(402) 887-5215
Mike Russman	Subdistrict 4 ~ Ewing	(402) 485-2638
Roy Stewart	Subdistrict 1 ~ Newport	(402) 244-5360

*UENRD Board Meetings are held the 4th Monday of every month.*

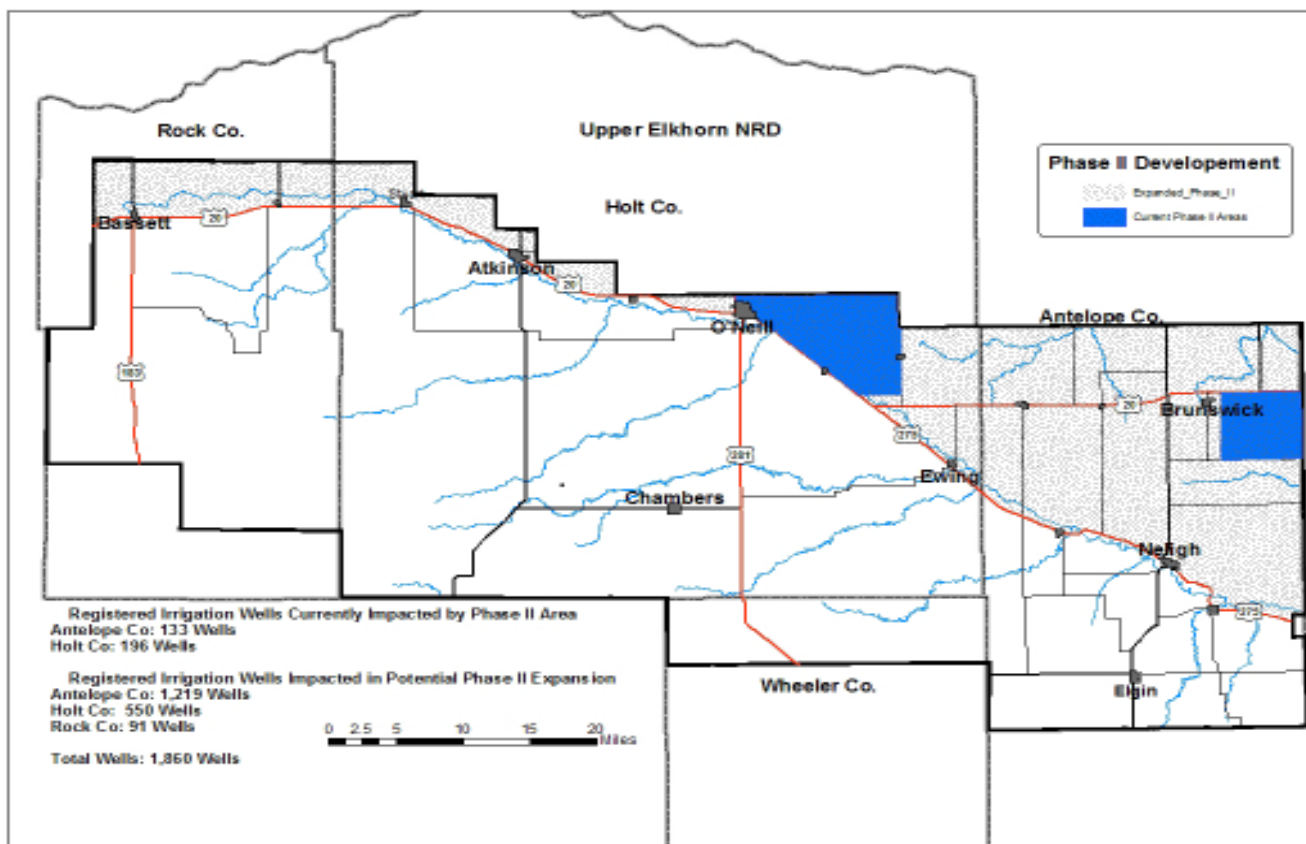
*March through October at 8:00 P.M. and November through February at 2:30 P.M.*

### UENRD Staff

Dennis Schueth	General Manager e-mail: dschueth@uenrd.org
Marsha Hart	Administrative Assistant e-mail: mhart@uenrd.org
Tylr Naprstek	Water Resources Manager e-mail: tnaprstek@uenrd.org
Kelly Kloppenborg	Water Resources Technician e-mail: kloppenborg@uenrd.org
Don Caouette	Assistant Manager e-mail: caouette@uenrd.org
Beth Walsh	Information & Education/Chemigation Coordinator e-mail: bwalsh@uenrd.org
Joy Knapp	NRCS Clerk, Neligh
Barbara Shannon	NRCS Clerk, Ainsworth
Mary Zakrzewski	NRCS Clerk, O'Neill

# Upper Elkhorn NRD Considering Phase II Expansion

The Upper Elkhorn NRD is considering expanding the Groundwater Management Plan Phases II areas. The expansion would include all land north of the Elkhorn River and would require anyone applying more than 50 pounds of nitrogen fertilizer per acre to continue Phase I regulations and integrate Phase II regulations.



The following is an overview of the Phase II requirements:

A continuation of Phase I activities will remain in effect unless modified or negated by Phase II requirements.

The District will require the certified operator to accomplish a deep soil sampling analysis (mandatory two foot sample, three foot sample encouraged, if applicable) for nitrate-nitrogen content on each field larger than 40 acres with more than 50 pounds per acre per year of actual nitrogen fertilizer applied. The sample must be collected and analyzed using UENRD approved methods.

Approved sampling and analysis techniques will be included as part of the District's educational program. This analysis will give the certified operator knowledge of usable and inaccessible nitrogen in the soil profile.

Certified operators must submit a report to the UENRD by February 1 following each crop year on forms provided by the District for areas larger than 40 acres where more than 50 pounds per acre per year of actual nitrogen fertilizer is applied. The report may consist of, but is not limited to, the following sections:

- Section I. Nutrient Mgt
- Section II. Pest Management
- Section III. Irrigation Management