

Resources

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NPNRD Reminders...

NPNRD Meetings

Regular NPNRD board meetings are open to the public and held the second Thursday of each month at the NRD conference room, 100547 Airport Road, Scottsbluff unless otherwise announced. Our next meeting will be **May 8 at 7:00 p.m.**

Hearing for Commingled Rule

A public hearing to gather comments and input on the NRD's proposed rule for transferring of commingled water will be held **Thursday, May 15, 7 p.m. at the NRD Conference Room**. The NRD staff and water resources subcommittee have been working with surface water irrigators and legal representatives to develop the rule which would allow for the transfer of ground water from acres served by both surface and ground water (commingled water). More information and full text of the proposed rule is posted on the NRD website at www.npnrd.org/hearing.

Chemigation DEADLINE June 1

The Nebraska Chemigation Act requires any person who intends to apply chemical through an irrigation system must first obtain a permit. It is illegal to chemigate without the proper permit.

Landowners in the North Platte Natural Resources District are reminded that **chemigation permits issued in 2007 need to be renewed by June 1, 2008**. Renewal forms have been mailed to permit holders.

Renewal permits are \$10, new permits are \$30 and emergency permits are \$100. Any renewal forms submitted after the June 1 deadline will not be valid and landowners will have to re-apply for chemigation permits.

An application for Chemigation and more information about the Chemigation law are posted on our homepage, <http://www.npnrd.org/> or call the NRD office at (308) 632-2749 for more information.

Flow Meter Deadline Extension

Due to a high demand and supply shortage of flow meters at area dealers, many landowners will not have their meters installed and inspected by the **May 1, 2008 deadline**.

During the April 10 board meeting, the NRD staff and board of directors discussed the option of work-

See *METERS*, page 2

Flow Meter Deadline is May 1

By Greg Jackson

NPNRD Resource Program Coordinator

The installation of flow meters in the District has been progressing at a slow pace for a variety of reasons. However, May 1, 2008 is the deadline for all flow meters to be installed.

Those who are unable to meet the deadline will need to come in to the NRD office to fill out an extension form and each land owner's situation will be reviewed on a case by case basis. For those who still need meters there are four meters that have been approved for installation. McCrometer, Seametrics and Geyser flow meters are designed for irrigation and must read in acre inches and the Master Meter flow meters, designed for feedlots, should read in gallons.

Installation of flow meters are required to be at the well unless an exception form, available at the NRD office, is filled out by the landowner and approved by the staff. For those that will have their flow meters on during the 2008 growing season we will have on our website, www.npnrd.org, a water use calculator where each grower can plug into the calculator their beginning and ending readings and the number of certified acres for that well or wells. This will give each producer the total number of

inches/acre pumped up to the last reading and will allow you to monitor your water use through out the season.

With ground water allocation coming for the 2009 growing season this will be an advantage to the growers who have their meters on this year to know what your total water use is for an entire growing season.

Meter Readings to Begin

NRD technicians will soon be out recording the beginning readings from flow meters. Preston Hilyard of Mitchell has been hired as a Resource Technician to head up this task for the NRD. Using a specialized program developed by GIS Specialist Jeff Sprock, Hilyard and other "meter readers" will be able to locate the flow meters within the District, installing a seal, taking their recordings and entering that data directly into their field computers. That data will then be processed and filed at the NRD office.

As spring planting and irrigation season gets underway, NRD staff will be out and about visiting with irrigators about their flow meter uses. If you have any questions, please feel free to talk to Preston or other staff at the District office in Scottsbluff.

Contemplating a Crucial Cut

The North Platte NRD, in cooperation with the Nebraska Forestry Service, hosted a tree pruning workshop April 1 at the NRD grounds in Scottsbluff. The trees on-site were targets of many useful, and sometimes challenging, pruning cuts. Here District Forester Doak Nickerson contemplates his next move on an ill-shaped hackberry tree. Forty attended the informative and entertaining workshop and developed a better understanding of the "good, bad, and ugly" of tree care and pruning. Some of Doak's tips are posted on our website.



Observe "Stewardship Week--Water Is Life" April 27-May 3, 2008

Pumpkin Creek Limited Irrigation Project information available

Dr. Gary Hergert, soils specialist at the University of Nebraska Panhandle Research and Extension Center, secured a Conservation Innovation Grant (CIG) from the U.S. Department of Agriculture to implement a water conservation demonstration project in cooperation with the Natural Resource Conservation Service (NRCS) and the North Platte Natural Resources District. The project began in the fall of 2004.

Research on limited irrigated no-till cropping systems was initiated in 2005 at the Panhandle Research and Extension Center in conjunction with the Pumpkin Creek Demonstration sites.

The objectives of the demonstration project were to:

1. Demonstrate limited irrigation and no-tillage cropping systems to maximize efficient use of groundwater.
2. Educate area producers, local government and agricultural businesses about different management options for limited irrigated areas on production, cultural prac-

tices, economics and natural resources impacts.

3. Develop economic case studies for limited irrigation cropping systems.

Three cooperators were selected for demonstrating limited irrigation and no-till cropping management systems. They are Pumpkin Creek Basin producers Alton Lerwick in western Banner County, Lane and Gary Darnall in central Banner County, and Kirk Laux in western Morrill County. Crops that use lower amounts of water were selected for the demonstration and have included spring and winter canola, winter wheat, sunflowers, dry beans, and corn was also included.

Dr. Hergert and the research team have completed the third and final year of the project.

Full details of the project and its findings are now posted on the Panhandle Research and Extension Center's website, www.panhandle.unl.edu/pumpkin_creek/pcabout.html



Dr. Gary Hergert explaining canola production.

Integrated Management Plan is Progressing

The writing of the Integrated Management Plan is progressing. The local Stakeholders group, which is required by statute to develop an integrated management plan for surface and ground water uses, met in January and February to discuss the requirements for the plan and gather input on developing the goals and objectives of the plan.

During the February 28 meeting, it was decided by the group that in order to keep the process moving a smaller work group would be appointed to meet more often to fine tune the draft.

Since that time, a group consisting of irrigation district managers Dennis Strauch, Kevin Adams, and Rick Preston; surface irrigator Robert Busch; at-large representatives Bruce Rolls and Gary Stone; NRD directors

Gerald Dillman and David Ostdiek; DNR representative and technical advisor Tom Hayden; and NRD staff Ron Cacek, David Christian, Kay Grote, Greg Jackson, and Colleen Steele have been meeting regularly to further develop the IMP. The plan includes specific action items for each goal and objective named.

A draft of the plan will be presented to the full stakeholders group at its next meeting, 7 p.m. April 29 at the NRD office in Scottsbluff.

Also at that meeting, Tina Kurtz with the Department of Natural Resources will present an update on the administration of the state since the retirement of DNR director Ann Bleed on March 24th. It is expected that the May 1 deadline for the completion of the local IMPs will be extended.

Useful Flow Meter Maintenance Tips

You have your meter on. Now what. Proper use and maintenance is crucial to protect your investment and provide for optimum flow rate data. Here are some tips:

Prior to the irrigation season, look for physical damage that could cause the meter to leak or reduce its accuracy. Damage could be caused by cattle rubbing or leaning on the meter. Rabbits and rodents sometimes chew on propellers so it is wise to ensure an end plug is installed during the winter months. One cause of meter damage is freezing water left in the pipe section over the winter. Also, without a lid or cover, the dial can be damaged by prolonged exposure to sun and rain.

Record your beginning readings before starting meter operation and irrigation. Without the correct beginning readings, you will not be able to determine total water pumped for the year. This will be especially important as the NRD will be requiring annual flow meter readings.

During the irrigation season, when the meter is in operation, look for erratic movements of the needle or the

flow rate indicator. Sudden jerks might indicate register gears are not meshing properly. Wobbling of the meter could mean bearing wear or an unbalanced propeller.

Look for moisture under the lens. A fogging of the inside of the lens indicates a moisture leak. Another indicator of leaks is if the flow rate indicator or needle works but the totalizer does not. Early moisture leak detection and repair can prevent expensive repair bills.

Check batteries on electric flow meters.

After the irrigation season, it may be necessary to remove your meter from the pipeline and check to see if it needs maintenance or repair. If your meter does need to be removed for any reason you are required to notify the NRD that the seal will be broken and the meter removed. Once removed, you can check the propeller and other inside parts for wear and corrosion, ease of propeller movement, and flow rate indicator and totalizer response. The meter must then be reinstalled and the NRD must put on a new seal.

Have You Certified!

Deadline for certification of ground water uses was January 1, 2008. All non-certified ground water irrigated acres and ground water uses are now subject to enforcement procedures, including Cease and Desist Orders, as outlined in the District's rules and regulations, Chapter 2.

Rule 3-2 of the NRD's ground water management rules states: "Beginning January 1, 2008 no regulated groundwater well shall be operated unless such use has been certified and approved by the District pursuant to these Rules and Regulations." NOTE: If you have overlooked your responsibility to certify or are a tenant of an absentee landowner who has not certified, please contact the NRD immediately at (308) 632-2749. We can assist you in complying with these rules.

Meters: *Continued from page 1*

ing on a case-by-case basis with those landowners who have made an honest attempt to purchase and install flow meters but will be unable to meet the May 1st deadline. The staff will take into account any hardships in meeting the deadline due to meter supply shortages, labor, and weather factors.

A flow meter deadline extension form is available to anyone who contacts the NRD office by May 1 to request an extension. Staff will assist you with filing the extension and help direct where you should go to expedite the flow meter installation process.

Periodic calibration or checking the flow rate is also recommended to make sure the meters are recording accurately. Contact your dealer or manufacturer for a detailed calibration and inspection.

After post-season meter inspection and maintenance, take care to correctly reinstall the meter into the pipeline or store in a safe, dry place during the off season.

Environmental Trust Fund supports new aerial survey project

By Kay Grote, Editor

On April 14, 2008 the North Platte NRD, in partnership with the South Platte NRD of Sidney, was the recipient of an \$800,000 Nebraska Environmental Trust grant. The funding will be used during the next two years to conduct an aerial geophysical survey in cooperation with the United States Geological Survey of selected Panhandle aquifers located within the two NRDs. The survey work, which will include flight line planning and preliminary survey platting, is expected to begin in May or early June.

In writing the grant proposal, Jim Cannia of the USGS explained that this type of survey will provide important information that will be far reaching in scope. The survey will provide three-dimensional maps of the project area, consisting of 252 square miles to a depth of up to 300 feet. These maps and collected aquifer data will be vital in assisting the NRDs and the Department of Natural Resources in managing connected ground water and surface water; ensuring high-quality drinking water supplies

for over 60,000 residents; protecting municipalities' long-term investments in their well fields and the long-term potential for economic development in the western Panhandle; and improving the ability to protect ground water supplies from contamination.

The survey work, scheduled to begin in the summer of 2008, will involve the collection of geophysical data performed by a helicopter towing a helicopter electro-magnetic (HEM) sensor similar in shape to a missile, 30 meters below the helicopter, at a height of 30 meters off the ground. Approximately 1512 linear flight miles of geophysical data will be collected, including 1080 miles in the North Platte NRD and 432 miles in the South Platte NRD. The total area covered will be 252 square miles and include nine cities and villages. Flight lines will be 1/6 of a mile apart.

Once the data is collected, it will be processed into the 3-D resistivity data and accompanying maps. Completion of the interpretation and modeling of this data and the pro-

duction of maps and desired GIS databases is planned for June, 2010.

The North Platte NRD has already started a sub-regional ground water modeling effort to develop tools to evaluate its ground water management plan and activities. It is also involved in detailed studies of the surface water canal systems (*see story below*) which provide the majority of the ground water in the North Platte valley. The South Platte NRD is completing a series of studies on the ground water resources of Lodgepole Creek. Both NRDs are involved in the regional COHYST ground water modeling effort and are both committed to ground water management in their districts. This grant will bolster their efforts in the wise use of the water resource. The North Platte NRD would like to thank the Nebraska Environmental Trust for helping fund such important studies.

For full information on the Aerial Geophysical Survey of Selected Panhandle Aquifers project, go to www.npnrd.org/grants.

Understanding the Canal Geophysics Survey

By Jeff Sprock

NPNRD GIS Specialist

If you live near, or have spent some time near one of the canals in the North Platte Natural Resources District (NPNRD) during the last two winters you may have seen a United States Geological Survey (USGS) field crew driving an ATV down the middle of the canal dragging a long line of equipment behind them. What you have seen is a joint study between the USGS, NPNRD, and many of the local Canal Districts to determine the amount of leakage in the canal systems throughout the NPNRD area.

Over the last two winters a USGS crew has been using ATVs and pickups mounted with equipment that send electric pulses into the canal, while its empty, to measure the resistivity of the soil structure that makes up the canal. The resistivity data collected by the equipment will be used to understand the relationship that local canal systems have as they leak water into ground filling/recharging the aquifer in the North Platte River Basin.

Surface geophysical techniques employ sophisticated instruments on the earth's surface to measure the charac-

teristics of underlying rock, clay, sand and gravel. The ATV tows a long cable, to which are attached transmitters and receivers that send electrical pulses into the ground and measure the response. Data from the sensors is uploaded into a computer and analyzed, all to help characterize the layers of clay, sand, gravel and rocks.

The underlying geology's coarseness or fineness determines its permeability – the ease with which water will seep through it. This is important because, during irrigation season, water seeps from the canal and recharges the underlying aquifer.

Eventually, this water that originated from the big canals makes its way back to tributaries, drains and the river itself. Along the way it is used by cities and villages, rural homeowners, livestock producers and other irrigators, including irrigation districts closer to the river and groundwater irrigators, who pump from wells.

The advantage of surface geophysical methods of gathering geological data is that they can yield accurate information more cheaply and easily than previous methods, such as drilling test holes and pulling up the sediments. The disadvantage is that this process only penetrates to 15 to 20 meters in depth.

Variations in the underlying ground's resistivity – its ability to resist the conduction of electricity – indicate which sediments are sandier, as opposed to finer, clay-bearing areas. Clay is more conductive than dry sand.

The theory behind the field techniques being employed in this project is the coarser the materials, the higher their permeability – the ability to allow water to seep through



the spaces between particles.

Seepage from the large irrigation canals on the north slope of the North Platte Valley is the primary source of the valley's groundwater. In most other areas, groundwater comes mainly from precipitation.

The ultimate goal is to map all of the irrigation districts in the valley, to pinpoint areas where intentional groundwater recharge can add to the amount of groundwater in storage.

This is the second year of the three year study, so crews will be out next winter to finish the study. The data collected by this study will be one more piece in the puzzle of understanding the water resources in the NPNRD.

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Annual Water Wonders teaches importance of water to youth

Approximately 300 students from area elementary schools were recently immersed in water – or at least the knowledge, understanding, and use of water.

The annual Water Wonders festival was held April 14 at the Scotts Bluff County Fairgrounds in Mitchell. The event has been held annually since 1988 for all area 5th graders.

The students spent a half-day engaging in activities related to water use, conservation, properties, ground water, and the environment.

At one stop, students learned about different physical properties of H₂O. For instance, they saw how water under pressure could launch a pop bottle “rocket” into the air. At another stop, they learned how water is used to generate electrical power in Nebraska. Students learned how farmers use siphon tubes to irrigate fields in the North Platte Valley, and how different animals rely on water. They learned about ground water, which is hidden from view but vital to

Nebraska’s supplies of drinking water.

One concept that was stressed at the ground water station was the difference between surface water and ground water and how recharge from surface water such as rivers, lakes and the area canals helps supply the underground aquifer.

This year a special attraction was Walter Walleye, the mascot that was developed by the Nebraska Stormwater Cooperative and provided by the City of Scottsbluff. Walter was brought to life by members of the Scottsbluff FFA Chapter, who also assisted with the day’s activities.

Water Wonders is a joint project of the University of Nebraska Cooperative Extension, North Platte NRD, Educational Service Unit 13, Nebraska Public Power District, Riverside Zoo, U.S. Fish and Wildlife Service, USDA Natural Resources Conservation Service, National Park Service, and the Scotts Bluff County Health Department.



NRD Information & Education Coordinator Kay Grote demonstrates the ground water aquifer to students during the annual Water Wonders day held April 14 in Mitchell.

Range Camp scholarship deadline is May 12

The North Platte Natural Resources District is sponsoring scholarships for four area high school students to attend the 2008 Nebraska Range Youth Camp to be held June 9-13 at the State 4-H Camp in Halsey.

The NRD will pay the camp fee of \$275 for four students, age 14-18, who reside in Scotts Bluff, Banner, Morrill, Garden, and southern Sioux counties. The camp fee covers meals, lodging, recreation, books, and camp insurance. **Scholarship application deadline is May 12.**

A camp registration form, which can be printed and submitted to the NPNRD office in Scottsbluff, and full information on the Range Youth Camp is available at the North Platte NRDs website, www.npnrd.org/camp.

Strong candidates for the scholarship and camp participation include those students who demonstrate leadership ability and good citizenship, a willingness to work and learn while attending camp, a commitment to report to their home community about their camp experiences, and hold leadership positions in 4-H clubs, FFA chapters or other youth organizations.

The Nebraska Range Youth Camp provides educational opportunities to students who are interested in rangelands and practical range management. The camps’ focus is on plant-soil-animal relationships, range livestock management, ranching, economics, and wildlife habitat management. Campers will also enjoy recreational activities including canoeing, hiking, and swimming.

Camp registration applications are due to the North Platte NRD office, P.O. Box 280, Scottsbluff, NE 69363-0280 by May 12. The four approved applications will then be forwarded to the state camp headquarters by May 19. For more information, contact Kay Grote at (308) 632-2749.

Interest shown in buffalograss program

The North Platte NRD has received over 15 applications for their buffalograss seed cost-rebate program, “Seeding for Savings.” We have also received one application from a school for the outdoor classroom cost-rebate program, “Plant a Classroom.” We are very excited about the interest these two new programs have generated and encourage other homeowners and schools to participate. Applications are still being accepted.

Notification letters have been or will be sent to all elig-

ible applicants of these programs. A hands-on workshop for all approved “Seeding for Savings” program participants showing the proper ground prep and seeding procedures for buffalograss is being planned for the first week of June. NRD staff will actually be planting buffalograss on site at the district facilities. The date and time will be announced soon.

Complete information on these programs is posted at <http://www.npnrd.org/programs.htm>.

High Plains WMA is up and running

The High Plains Weed Management Association is now operating as an independent entity, thanks to a major funding grant from the Nebraska Environmental Trust and institutional support from the North Platte NRD and Panhandle RC&D.

On April 14, the High Plains WMA was recipient of the Environmental Trust’s largest 2008 grant award in the state. The \$1.6 million first year and \$200,000 second year award will drive the High Plains WMA’s efforts in controlling invasive plant species, including Saltecedar, Russian olive, and phragmites, along the North Platte River and its tributaries in the western Panhandle.

High Plains also received a \$28,300 grant to be administered for the next three years for ongoing control of invasive species along Nine Mile Creek in east central Scotts Bluff County.

A group including county weed superintendents, landowners, and representatives from the North Platte and South Platte NRDs, have been laying the groundwork for the Association since last June. In that time, the group has developed by-laws, established itself as a non-profit under

the Panhandle Resource, Conservation & Development, Inc., appointed an Executive Committee, secured funding for targeted project areas, and named its Project Manager and Field Coordinator. High Plains covers seven counties in the western Panhandle.

The North Platte NRD has contributed two experienced resource managers to oversee the operations of the High Plains WMA.

Dennis Beyer, who has served as the NRD’s watershed coordinator for the Nine Mile project since 2003, will now make the transition as High Plains Project Manager.

Roy Lyles, who has served for over 25 years as the NRD’s soil conservation coordinator, will share time with High Plains as Field Coordinator working with area landowners who want to participate in High Plains’ weed control projects.

The High Plains WMA is now housed out of the Panhandle RC&D office in downtown Scottsbluff.

For more information, contact High Plains WMA president Jeff Schledewitz at (308) 436-6709 or Beyer or Lyles at (308) 632-2749.