

# Nemaha Natural Resources District Insight



ANNUAL  
REPORT

Fall 2005

## CALENDAR OF EVENTS

### NOVEMBER

- 7 NARD Board Meeting
- 10 NRD Board Meeting, Tecumseh
- 11 Veterans Day, NRD Office Closed
- 12-20 Steamboat Trace Closed (Firearm Deer Hunting Season)
- 16-17 Natural Resources Commission Meeting, Lincoln
- 24 Thanksgiving Day, NRD Office Closed

### DECEMBER

- 8 NRD Board Meeting, Tecumseh
- 26 Christmas Holiday, NRD Office Closed

### JANUARY, 2006

- 1-15 Steamboat Trace Closed (Firearm Deer Hunting Season)
- 2 New Year's Holiday, NRD Office Closed
- 12 NRD Board Meeting, Tecumseh

## NRD Small Dams Program is Alive!

In 2002 upon conclusion of several large-scale watershed projects, the Directors of the Nemaha NRD decided it was time to bring the NRD Small Dams Program back to life. Since 2002 the District has received around 50 applications per year; only three or four applications are approved on a yearly basis. To learn more about this program, please contact the NRD or your local NRCS office.

Pictured is Klaus Hartmann, a 2004 recipient of cost-share funds from the NRD Small Dams Program. This project, located between Tecumseh and Lewiston, was engineered by Norm Koester Engineering of Beaver Lake and constructed by Gyhra Construction of Pawnee City. Mr. Hartmann named the 15-acre lake in honor of his wife, Gisela.

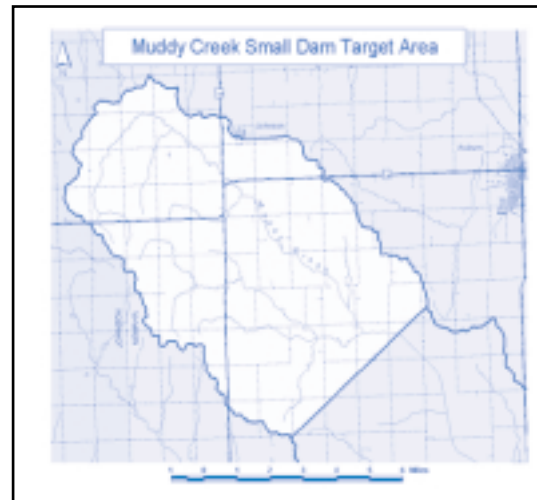


## Stream Bank Stabilization Pilot Project

A first-ever, pilot project focusing efforts mainly on stream bank stabilization is currently being studied by the NRD.

In an attempt to address concerns of stream bank erosion on the Big Muddy Creek, a task force made up of interested landowners, utility companies, and government entities was created to determine the best approach to reduce damages sustained by stream bank erosion.

To date the task force is concentrating their efforts in the upper reaches of this watershed and



Muddy Creek Target Area Map.

recommends for consideration the implementation of small dams, sheet pile weirs, and road dams. The upper reaches of this watershed include portions of Johnson and Nemaha Counties in an area mainly south of the town of Johnson.

In the near future, the NRD plans to hire a consultant to evaluate the effectiveness of the task force plan and ultimately create a watershed plan that will identify the best approach towards stream bank stabilization. Public meetings are planned to receive feedback prior to proceeding with the project.

## Agencies are “Partners for Wildlife”

In a cooperative effort, the Nemaha NRD and the U.S. Fish & Wildlife Service (USFWS) provide cost-share funding for wildlife improvement activities. Known as the “Partners for Wildlife” program, funding starts at 50% and may differ depending upon the scope and benefits of the project. Qualified projects include shallow water wetlands, native grassland establishment/enhancement, or native timber stand improvements.

Cooperators must sign a Wildlife Extension Agreement with the USFWS and NRD agreeing not to destroy or alter any part of the project for 10 years. Though no land payment accompanies the program, cost-share assists with improvements for fish and wildlife.

If you have questions or an interest in the program, call the NRD office and ask for Aaron.

## Nemaha Basin Not Considered Fully Appropriated

Water issues have garnered a considerable amount of attention in the media the past year. Perhaps the biggest reason for the increased interest in water was the passage of LB 962 in 2004. This law will have a major impact on water in Nebraska. It requires that the Nebraska Department of Natural Resources evaluate every river basin in Nebraska and make a determination whether a basin is fully or over appropriated. This must be done by January 1, 2006. Determinations for some portions of the Platte River have already been made. Water use in the Republican basin is essentially controlled by a compact with the State of Kansas, which assures them certain annual flows.

Recently the Nebraska Department of Natural Resources announced that after reviewing the best available data, the Nemaha basin will not be declared fully appropriated. This means there will be no restrictions on the drilling of new wells, and the State will continue to issue surface water permits so long as flows are present.

When evaluating a basin the State looks at both surface water and groundwater use. If a basin is determined to be fully appropriated, an immediate moratorium is placed on drilling new wells and issuing new surface water permits. The State and the local NRD are required to develop a plan that addresses the management of both

surface and groundwater in that basin. In Nebraska the State has jurisdiction over surface water rights, and the NRDs regulate groundwater. New surface and groundwater uses may be allowed, but this would likely include retiring previously irrigated acres or giving up a surface water right. The State is required to review the status of each basin on an annual basis.

Although the Nemaha NRD does not need to develop an integrated management plan, we plan to review and update our 1995 groundwater management plan. New data will be incorporated into the revision, and some management changes will be considered. It will take approximately 8 to 12 months to complete the revised plan.

# Annual Report:----- 2005

## Buck and Duck Creek Project

Geological field work will continue this fall at the site of the proposed Duck Creek Reservoir west of Peru. HWS Consulting of Lincoln has been hired to do the work, which will consist of drilling numerous holes at the site to determine if the soils and geology are suitable to construct a dam and what factors need to be considered when designing the structure. Field work should be completed by the end of 2005 with a final geotechnical report available in early 2006.

Initial results from field work at the Buck Creek site show geologic and soil conditions will present engineers designing the structure with some challenges. Bedrock was closer to the surface than anticipated in some areas, and alluvial soils appear to be mucky enough to warrant special consideration when construction occurs. It will take approximately a year to complete a final design for the site. A private consultant was hired to look at options for keeping the Oregon Trail Road, which is located on the south end of the proposed reservoir, open. It appears that raising the road above the pool elevation is a viable option.

Most of the funding for the project will come through the USDA PL566 program; however, a considerable amount of local funding will also be required. Once design for each structure is completed, it will take approximately two years before construction begins. When completed, these structures will help project 800 acres of floodplain and impact 6,000 acres of cropland in the Peru Bottoms.

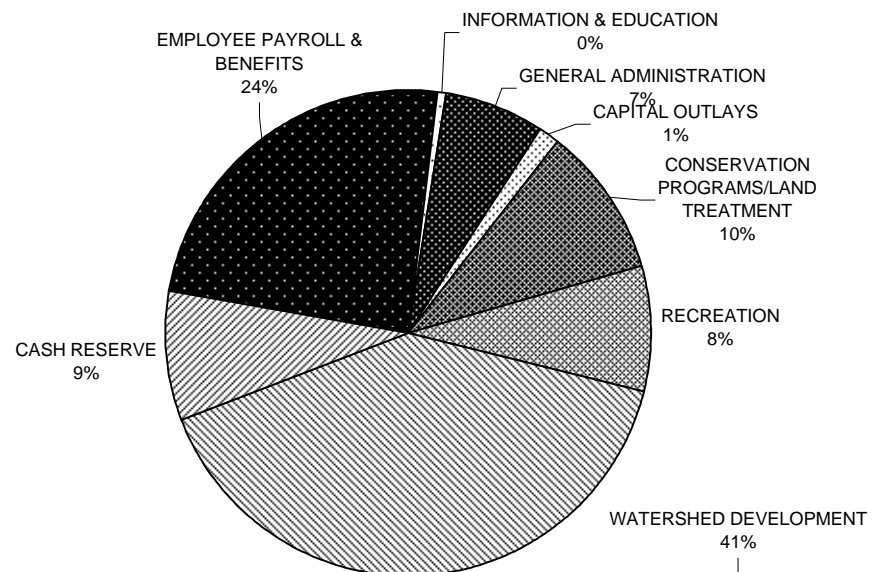
## Pawnee County Lake

The Nemaha NRD is focusing on two areas associated with the proposed Pawnee County Lake Project -- water supply and recreation. The NRD is still interested in determining if at some point in the future it would be economically feasible to use the reservoir as a source of potable water for communities and rural water districts in southeast Nebraska. It was decided that more information on future water demands and supplies was needed before a decision could be made on the feasibility of using the lake as a public water source. Consideration was given to hiring a consultant to assist the NRD with collecting the necessary data; however, it was decided to attempt to complete the study in conjunction with a multi-county water study being sponsored by the Fiver Rivers RC&D. Unfortunately, the RC&D was unable to obtain federal grant funding to do the study in 2005. They will reapply for federal dollars in 2006.

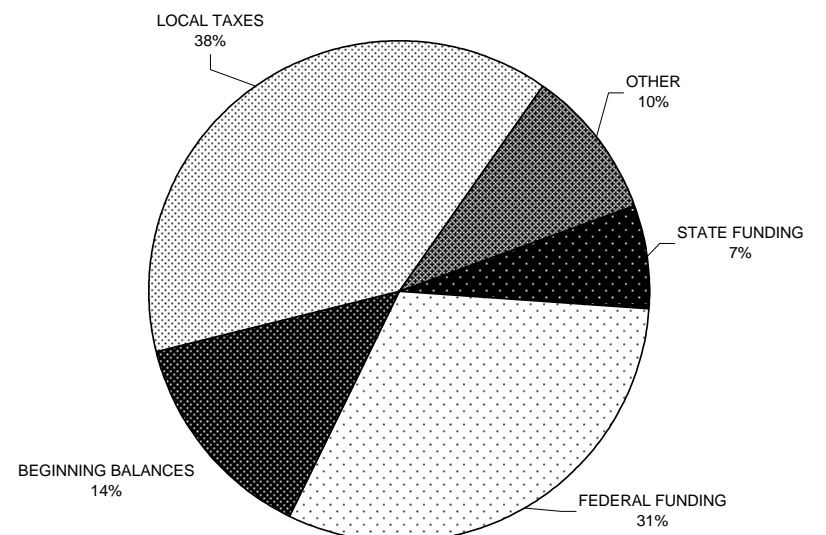
With a private interest now considering construction of the dam and reservoir, the NRD is trying to determine what, if any, role we would play in the project. It seems most likely that it would involve some type of public recreation development. To date the NRD has not agreed to any role in the venture but has been evaluating different options. It is anticipated that once an option for the NRD is developed, the District board of directors will make a decision on whether to participate in the project.

## Projections For 2005 - 2006

Fiscal Year 2006 Projected Expenditures



Fiscal Year 2006 Projected Revenue



The actual breakdown of budget figures is available by contacting the NNRD Office, Tecumseh, NE.

# Water Resources Report 2005 .....

## Groundwater Levels

- Continuous groundwater level recording devices located near Firth, Sterling and Cook indicate overall groundwater level declines of 0.72, 0.54 and 0.20 feet, respectively, from October, 2001, to July, 2005. The average decline for the three wells is 0.49 feet.

- A network of 88 wells (irrigation, livestock, domestic and public water supply) located throughout the District were also measured this fall. Fall readings from last year compared to this year indicated an average groundwater level decline of 1.31 feet.

## Well Abandonment

- 37 abandoned wells were closed with District cost-share funds totaling \$11,965.

- The District provides 75% cost-share for the decommissioning of abandoned wells with a maximum of \$300 for each smaller diameter, cased type well and \$700 for each larger diameter, hand dug type well. Approval prior to the closure is required, and the work must be conducted by a licensed pump installer or well driller.

- Funds are available – Sign Up Your Unused Well Today!

## Well Permits

- In August of 1999 the entire District was designated as a Phase I Groundwater Management Area (GWMA). Phase I controls include obtaining

a permit for wells designed to pump greater than 50 gallons per minute prior to construction.

- The District approved 18 permits in FY05, 22 permits so far for FY06, with a total of 138 since Phase I designation.

## Well Monitoring

- 107 wells (irrigation, domestic & livestock) were sampled this year for nitrate and some for bacteria (domestic wells) also; 68 wells were also tested for pesticides.

- The District is capable of analyzing groundwater wells for nitrate and bacteria and provides this service to residents free of charge. Contact us to have your well tested!

- Additional tests are available from Ward Laboratories of Kearney at varying fees.

## Phase II GWMA

- A Phase II GWMA was established in January of 2004 for Northwest Richardson County. The 73 square mile area includes all land east and south of Pawnee and Nemaha Counties, respectively, north of the North Fork of the Big Nemaha River and west of Highway 75.

- Elevated levels of nitrate in the groundwater prompted the designation.

- The District is offering cost-share assistance for soil sampling & complete fertilizer control systems – contact the District office for more information.

# FY 2005 Highlights . . . . .

☑ A federally funded road dam east of Lorton was completed in December, 2004. The NRD partnered with Otoe County to coordinate the \$302,000 project, which created a 10-acre lake. Another road dam project southwest of Nebraska City is underway following an April bid opening. The NRD and Otoe County will share the engineering and construction costs of this project, which are estimated at about \$139,000.

☑ In January, 2005, the board voted to officially close out the South Branch Watershed with 19 out of 21 planned structures completed since 1983. This watershed covers parts of Otoe, Johnson, and Lancaster Counties.

☑ The last of nine sediment-controlling structures was completed in the fall of 2004 as part of the Nemaha Basin Impaired Waters Pilot Project, which included eastern Pawnee and southern Richardson Counties. Funding was provided through a grant from the Nebraska Environmental Trust and contributions from the Natural Resources Conservation Service, NRD, and landowners.

☑ Fencing and seeding was completed in the fall of 2004 on the last of the 56 structures built in the Turkey Creek Watershed. This nearly \$1.5 million project provided landowners in Johnson and Pawnee Counties with flood and sediment control, grade stabilization, wildlife habitat, and even recreation opportunities. Funding for the project was provided in part through the Nebraska Environmental Trust, Environmental Quality Incentives Program, EPA Section 319 Funds, NRD, and landowners.

☑ Work to replace and rehab the principal spillway on Brownell Watershed structure 13-6 in Otoe County was completed in January, 2005, at a cost of about \$20,500; repair and riprap of the dam face on Wilson Creek structure 1-10, also in Otoe County, was completed for \$7,000. Similar repair work on three dams in the Upper Big Nemaha Watershed in Gage County was done in the spring of 2005.

☑ Land originally purchased by the NRD for construction of Middle Big Nemaha structure 88 was sold at public auction in January. The 149.77 acres near Crab Orchard fetched a total of \$323,503.20.

☑ In May, 2005, NRD staff planted 4,500 trees on 35.8 acres owned by Klaus Hartmann west of Tecumseh to fulfill the District's mitigation requirements in the Middle Big Nemaha Watershed.

☑ Conservation work to reduce erosion in the Kirkman's Cove Watershed is winding down. Over the past year more than \$500,000 was committed to 800 acres of tile terraces, two grade stabilization structures, six flood control structures, and 93 acres of cropland converted to grass. Funding for the work in this watershed, which should help improve the water quality in the reservoir at Kirkman's Cove near Humboldt, has been provided in part through the federal

EQIP, NDEQ/EPA Section 319, and Nebraska Environmental Trust funds as well as contributions from landowners.

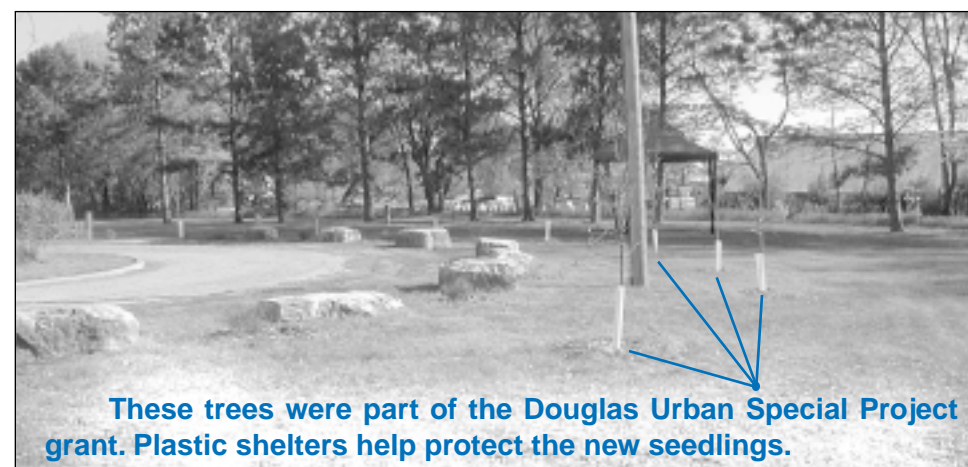
☑ Following a year of meetings and plans for projects to reach the same goal of sediment and nutrient reduction for Iron Horse Trail Lake in Pawnee County, 200 acres of tile terraces have already been installed in the watershed. Sources of funding for this project include EQIP, NDEQ/EPA Section 319, Nebraska Environmental Trust, and NNRD.

☑ A new, concrete outhouse was installed near the swimming beach/RV camping area at Kirkman's Cove in June. The new facility is more durable and handicapped accessible.

☑ Toxic algae reared its ugly head a little earlier this year at both Iron Horse Trail Lake and Kirkman's Cove. Water activities at Iron Horse remained restricted for nearly three months, while Kirkman's Cove's waters were closed during August and September.

☑ A combination county road bridge and pedestrian bridge crossing Weldon Creek north of Brownville was completed this summer through a cooperative effort between Nemaha County and the NRD. The NRD contributed to the cost of the project, which provides a pedestrian crossing for the Steamboat Trace trail. Federal-Aid Bridge Highway Rehabilitation Funds paid for much of the project.

☑ An urban special project in the Village of Douglas was completed in the spring of 2005; \$2,484 of NRD funds were dedicated to the project which included planting of trees and grasses in and around the village park and public properties. Projects in Pawnee City, Syracuse, Adams, and at the Norris Public School near Firth were approved for FY06 funding.



These trees were part of the Douglas Urban Special Project grant. Plastic shelters help protect the new seedlings.

☑ \$139,554 of State Soil & Water Conservation Program funds coupled with about \$9,500 of NRD funds provided 50% cost-share for:

- 175,761 linear feet of terraces
- 22,986 linear feet of grass waterways
- 37,316 linear feet of tile
- 8,923 cubic yards of diversions

The next sign-up will be January 2, 2006, through June 1, 2006, at your local NRCS office.

☑ Three carbon management education sessions, co-sponsored by the NRD, were held in February. Martin Kleinschmidt from the Center for Rural Affairs conducted the classes for the 10 participants. Following completion of the classes, participants who submitted an NRD approved plan received incentive payments for such practices as seeding clover, oats, or turnips, applying lime, or for soil testing. Three more education sessions are planned for this winter.

☑ Approximately 33,000 trees and shrubs were distributed and/or planted by the NRD during the spring of 2005.

☑ The NRD hosted a forestry workshop on February 24 providing info on insects/disease, programs available, species selection, etc. Nebraska Forest Service personnel assisted with the workshop.

☑ In April the NRD participated in Arbor Day events at Peru State College. Staff provided information on trees, and the NRD donated 250 trees to be distributed to visitors of the event.

☑ About 600 third graders throughout the District took home a tree seedling in April, provided by the NRD. Each spring the NRD distributes the trees and provides planting and care information to the youngsters.

- Annual groundwater sampling occurred in September with 27 wells sampled for nitrate-nitrogen averaging 10.8 parts per million.

## Irrigation Well Registrations

• Is your irrigation well properly registered with the Nebraska Department of Natural Resources (NDNR)? Improperly or unregistered irrigation wells are considered "illegal wells" according to State Statutes and could ultimately be required to cease pumping or to be decommissioned. Registration of irrigation wells has been required since 1957.

• How do I know if my well is properly registered? District staff can assist you with looking up the information, or you can log on to NDNR's website at <http://dnrdata.dnr.state.ne.us/wellssql/> and search by several methods such as owner name, legal location, county, or NRD.

• What if I find that my irrigation well(s) is not registered? District staff can also assist you with gathering the information needed for the registration and completion of the form. PLEASE NOTE: There is NO PENALTY for registering a well late. Registering your well helps to protect it from encroachment of other nearby, high capacity wells.

• What if I find my irrigation well(s) is registered but is in a previous landowner's name? A simple and free Change of Ownership form is all that needs to be completed; District staff can assist with this also.

## From the Manager's Desk . . . . . by Bob Hilske, General Manager

### Beavers Win Over NRD

Beavers seem to be about everywhere these days. Oregon even calls itself the “Beaver State” although I was in Oregon recently and failed to see one beaver. Then, of course, I haven’t seen masses of people in Nebraska standing around husking corn either. Beavers do have one thing in common with NRDs -- we both are in the dam building business. Sometimes I think that beavers may be a little ahead of the NRD when it comes to building dams, however. Why would I arrive at such a conclusion, you ask? Well, here are some facts:

- NRDs spend lots of time and money planning before we build dams.
- Beavers build dams overnight and watch NRDs spend lots of time and money trying to take them out.
- NRDs have to hire high priced engineers to come up with designs that usually leave everyone in the dark.
- Beavers don’t need a design and can build dams in the dark
- When NRDs build dams, we have to plant new trees for the ones we destroy.
- Beavers build their dams by cutting down the trees the NRD planted.
- NRD dams are sometimes deemed harmful to the ecosystem because they block streams and pond up water.
- Beaver dams create new ecosystems and provide habitat by ponding up water.
- NRDs use contractors with big equipment and no teeth.
- Beavers use no equipment and have big teeth.
- NRDs work hard cutting trees on dams to keep them safe.
- Beavers build dams out of trees.

For some reason this just doesn’t seem fair. I’m getting a better idea why they gave me a box of shotgun shells designated exclusively for shooting beavers when I started this job. I guess one advantage NRDs have over beavers is that our reward for paying big money to engineers is getting invited to play golf in their annual “Slide Rule Open”. There’s nothing like playing free golf and winning a pocket protector for holing the longest putt. You beavers are really missing out.

#### NEMAHA NRD STAFF

Bob Hilske, Manager  
Scott Nelson, Assistant Manager  
Jane Kuhl, Administrative Assistant  
Artis Fisher, Business Assistant  
Allison Caspers,  
Administrative Secretary  
Lisa Bartels, Secretary  
Chuck Wingert,  
Water Resources Manager  
Charlie Pierce,  
Water Resources Technician  
Steve Bartels, Field Representative  
Mark McDonald, Field Representative  
Vernon Speers, Jr., Field Representative  
Aaron Stalder, Resources Specialist  
Tomas Chalé Aké, Projects Crew Leader  
Shawn Kreienhop,  
Watershed Project Coordinator

#### NRD STAFF IN NRCS OFFICES

Deb Kreienhop, Auburn  
Glenda Bates, Tecumseh  
Carolee DeVorss, Syracuse  
Lori Foster, Falls City  
Cheryl Skinner, Pawnee City  
Dave Stalder, Farm Program Assistant,  
Auburn

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Jim Wirth, Nebraska City (**Chair**)

## Spring Tree Planting Requires Fall Planning

Fall is the time to begin thinking about your tree needs for next spring, whether you want a large farm windbreak, habitat for wildlife, or a smaller planting to protect your house from cold winter winds. The Nemaha NRD will provide assistance with planning, ordering, and planting. Details of this year’s program are:

- Species Available (*contact the NRD for specifics*)
  - Conifers
  - Deciduous
  - Wildlife Shrubs
- Minimum order
  - 200 if the NRD plants
  - 25 if you plant
  - All orders must be in lots of 25/species
- Prices
  - Seedlings - \$0.65/each (+ tax)
  - Planting - \$1.00/seedling planted (+ tax)
  - All seedlings/services are payable in advance
  - \$2.00 handling/packaging charge
  - Tree Planter Rental: \$40/day (plus refundable deposit)
- Minimum requirements
  - If the NRD will be planting your trees, orders must be placed and paid in full no later than December 31. Also, if your ground is currently in sod, it must be fall plowed to qualify for planting services.
  - If you will plant your own trees, orders must be placed and paid in full by March 1



## Steamboat Trace **CLOSED** November 12-20

Trail visitors should be aware that the Steamboat Trace trail, which runs from south of Nebraska City to Brownville, will be closed Saturday, November 12, through Sunday, November 20. This coincides with the state’s rifle deer hunting season.

The trail has been closed each year during this season in the interest of safety for everyone. However, this does not mean the trail is open to hunters. Possession of a weapon on the trail or its right-of-way is always prohibited, and violators will be cited. *Anyone* found on the trail during the closure will be considered trespassing. Signs will be posted at the three trailheads and other major points of entry.

The trail will be closed again January 1-15 for the late rifle season.

#### NEMAHA NRD OFFICE:



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[www.nemahanrd.org](http://www.nemahanrd.org)

The Nemaha NRD's *Insight* is a publication of the Nemaha Natural Resources District. Requests to be placed upon the *Insight* mailing list and/or comments regarding information in this publication should be directed to Jane Kuhl, Administrative Assistant, at the above address.

All seedlings will be available approximately April 1, and planting will begin as soon as ground conditions allow. You, or the ground where your trees will be planted, must reside within the Nemaha NRD.

To obtain a brochure and/or order form or to request planning assistance, contact the NRD at (402) 335-3325; or check our website at [www.nemahanrd.org](http://www.nemahanrd.org).