

Lower Loup Natural Resources District

IN THE LOUP

Phase III work on the Elkhorn-Loup Modeling Study will begin this year.

Phase III of the study will include:

- Increased study accuracy with refinement to quarter-mile grid cell size
- Multi-layered examination of the aquifers across the study area
- Inclusion of additional irrigation data
- Additional geologic and geophysical data collection will be included

Elkhorn-Loup Study Moves Into Third Phase

Work is starting on the third phase of the Elkhorn-Loup Modeling (ELM) Project which is creating a groundwater model that will aid Natural Resources Districts in the Loup and Elkhorn River Basins in managing that resource.

Tyler Naprstek, the Water Modeling Coordinator for the Lower Loup NRD, said that Phase II of the project has provided more accuracy, allowing NRD officials to examine groundwater use in one-mile grids. When Phase III of the model is complete, that accuracy will be further refined to quarter-mile

grids. Phase III will also allow for examination of the aquifer in multiple layers and will include additional geophysical and irrigation data to improve the model's overall accuracy.

Naprstek said that the goal of the ELM Project is to create a model that accurately represents groundwater flows, the interaction of surface and groundwater, and can show potential future impacts from management decisions made by the NRD or other agencies. The ELM Project is a study of surface and groundwater resources in the Elkhorn River basin upstream

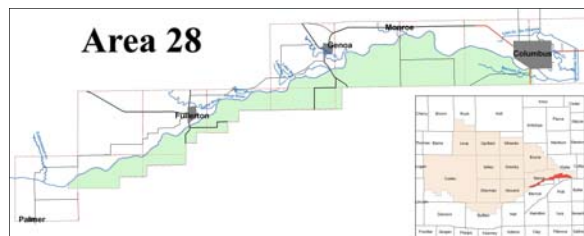
of Norfolk and in the Loup River basin upstream from Columbus. He said that the model will be used to assess current and future impacts of groundwater pumping on surface and groundwater availability.

The ELM Project has been a cooperative effort that includes the Lower Loup and other NRDs, the Nebraska Department of Natural Resources, UNL Conservation Survey Division, and the United States Geological Survey (USGS). He said the USGS has conducted a majority of the modeling effort.

NRD Tackles High Nitrates In Groundwater

Area 28, a groundwater quality area south of the Loup River in Nance and Platte Counties, will be the focus of an aquifer study as NRD officials work to determine causes for high nitrate levels.

NRD Assistant Manager Russell Callan said the study's goal is a better understanding of the aquifer's composition, its layers, and geomorphology—the examination of the landscape and the forces that formed it. Callan said groundwater management practices implemented



in the area have not been as effective as officials had hoped, so the study will clarify the factors affecting the aquifer. Area 28, which stretches from southwest of Fullerton to south of Columbus, has seen an upward trend in nitrate levels since 1975. The NRD implemented specific controls through a higher phase of management placed on the area in

2002.

Callan said the average nitrate level in Area 28 exceeds the human drinking standard for nitrate contamination.

High nitrates in groundwater can cause adverse health effects in newborn babies and the elderly.

Callan said Olsson Associates of Lincoln will handle the aquifer work and sampling and JEO Consulting Group will perform LIDAR work. LIDAR uses laser pulses to measure the distance to an object similar to the way RADAR uses radio waves.

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Envirothon competitors tackle questions in a variety of conservation and natural resources categories.

Two Envirothon Teams To Compete At State

Envirothon teams from Ord and Boone Central High Schools will move to state competition after posting the top scores at the North Central Contest hosted by the Lower Loup Natural Resources District.

Ord scored 106 points to take first place and had the top scores in the forestry, policy, range, soils, and wildlife categories. Boone Central was second in the contest

with 96 points. The team tied with David City for first place in the special topic category.

Teams from Humphrey, Twin River, Aurora, Columbus Lakeview, Schuyler Central and Osceola also competed in the Envirothon, which was held March 2, in conjunction with the District V and VI Agriculture Contests at Central Community College-Platte Campus in Columbus.

The Nebraska State Envirothon will be held May 1 at the Nebraska Nature Tourism and Visitor Center near Alda. The winner of the state contest will represent Nebraska at the Canon National Envirothon Contest in Fresno, California this summer.

Envirothon contests test high school students' knowledge on a wide array of subjects relating to natural resources and the environment.

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Hazard Mitigation Plan Receiving Review

A hazard mitigation plan being developed for the counties and communities in the Lower Loup Natural Resources District has been submitted to the Federal Emergency Management Agency and the Nebraska Emergency Management Agency for their review. NRD District Engineer Robert Mohler said that the review may take as long as four months to complete.

When finished, the plan would assist 11 counties and 48 communities in minimizing losses from natural disasters such as floods, tornadoes, large hail, and severe winter storms. When approved, the plan makes funds available from the Federal Emergency Management Agency (FEMA) to pre- and post-

disaster mitigation projects. After the reviews are complete, each community, as well as the NRD, consider a resolution to adopt the plan.

The plan's public comment period was recently completed and the input received was reviewed and incorporated into the final draft of the plan.



The proposed trail will cross this area of Melham Park from the corner of 5th Avenue and Memorial Drive to the ballpark/swimming pool area.

Broken Bow Trail To Receive NRD Funding

A new segment of recreational trail in Broken Bow will receive funding from the Lower Loup NRD to fund a portion of the estimated \$326,536 total project cost.

At their March meeting, the NRD Board of Directors voted to approve funding for the 5th Avenue Trail Connector Project, which will connect the intersection of 5th Avenue and Memorial Drive

at the southwest corner of Melham Park with new ball fields in its northeast corner. The ten-foot wide trail would be approximately 2,800 feet long.

The NRD will contribute ten percent of the total project cost, or \$32,654, toward the project. Broken Bow City Administrator Anthony Tolstedt told the NRD Board of Directors that the city had

also received federal funding approval from the Transportation Enhancement Fund that will provide 80 percent of the total cost. He said the new trail will encourage pedestrian traffic to the park's sports fields and swimming pool.

District Engineer Robert Mohler said the construction on the new trail is not planned to begin until 2012.

A Message From The Manager

Welcome to another edition of 'In The Loup.' We are pleased you have taken the time to join us.

In our last issue, I asked 'What is the NRD, and what does it do anyway?' I then explained that we were a multi-purpose, multi-jurisdictional, conservation district dealing with a multitude of projects and resource-related issues. I then explained some of the programs and issues the Lower Loup NRD deals with on a daily basis. This month I'll describe some of the physical characteristics of the District.

The Lower Loup Natural Resources District (LLNRD) is located in the heart of Nebraska. It is the largest NRD by land area, comprising approximately 7,923 square miles. Its land area is 265 square miles smaller than the State of Massachusetts, and is larger than the states of New Jersey, Connecticut, Delaware, Rhode Island, and Hawaii. It comprises 10.3% of the State of Nebraska, and

52% of the Loup River Basin. At its maximum, the LLNRD is 156 miles from the Custer-Logan County line on the west, to the Platte-Colfax County line east of Columbus. The District's 96-mile width stretches from southern Rock County on our north boundary to Buffalo County, ten miles south of Ravenna.

The LLNRD has all or part of 16 counties including all of Loup, Garfield, Greeley, Sherman, and Valley; 91% of Howard; 89% of Custer and Nance; 87% of Boone; 75% of Wheeler; 41% of Platte; 36% of Buffalo; 16% of Rock; 6% of Merrick; and 1% or less of Hall and Butler.

The topography of the district is generally irregular encompassing the drainage systems of the North, Middle, and South Loup River systems along with the Cedar and Calamus Rivers. Relief varies from elevations of 3,146 feet mean sea level (MSL), six miles north of Arnold, Nebraska; to 1,402 feet MSL southeast of Columbus.

The 2000 census reports we have a population of 70,754 with approximately one-half concentrated in one-third of the NRD. Columbus, the Platte County seat, is the largest and only city of the first class within the NRD. Other county seat towns located inside the LLNRD include Albion, Bartlett, Broken Bow, Burwell, Fullerton, Greeley, Loup City, Ord, St. Paul, and Taylor.

Land use in acres include 1,177,748 acres of irrigated crop land; 510,400 acres of dryland crop land; 3,275,000 acres of range and pastureland; 91,200 acres of forestland; 2,775 acres of roads; 19,600 acres of urban areas; and 25,600 acres of large water impoundments and public lands.

The LLNRD is one of 23 Natural Resources Districts in the state. Each has its characteristics and particular projects and programs to protect lives, protect property, and to protect the future for the people of the state.



Leon "Butch" Koehlmoos is the General Manager of the Lower Loup Natural Resources District.

*Visit the Lower Loup
NRD web site at
www.llnrd.org*

District To Look At Invasive Weeds In Basin

An invasive weed survey of the North, South, and Middle Loup River Basins will take place this fall following approval of the project by the Lower Loup NRD Board of Directors.

NRD General Manager Leon "Butch" Koehlmoos said that the survey would be part of a project that will also survey

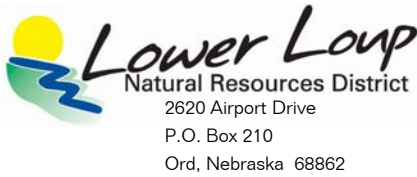
the Platte River Basin. The Platte Valley Weed Management Area will fund 50 percent of the project cost through a grant from the Nebraska Department of Agriculture. The NRD would fund the other half of the total cost, approximately \$16,900. The survey will provide the locations of populations of phragmites, purple loose-

strife, salt cedar, autumn olive, and Russian olive.

Koehlmoos said that locating the invasive plant populations would be followed by control efforts, including targeted spraying and manual eradication of the plants. Invasive plants can crowd out native plants while using large amounts of water.



Purple loosestrife is one of the invasive weeds that will be surveyed this fall in the North, Middle, and South Loup River Basins.



Phone: 308-728-3221
Fax: 308-728-5669
E-mail: larrys@llnrd.org
www.llnrd.org

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IN THE LOUP is a publication of the Lower Loup Natural Resources District. It is published quarterly by the LLNRD and is distributed to the residents of the 16 counties that make up the District. Questions regarding information in this newsletter can be directed to the NRD using the contact information at left. IN THE LOUP is edited by Larry Schultz, NRD Information/Education Coordinator.

NRD Offers Scholarship Funds For Two Summer Camps

The Lower Loup NRD is offering \$100 scholarships to two summer camps that take a fun approach to teaching students about natural resources. The 2010 Nebraska Range Youth Camp and the Adventure Camp about the Environment (ACE) will both be held at the Nebraska State 4-H Camp at Halsey.

Range Camp will be held June 7-11 and ACE Camp will run June 20-23. The camps target different age groups. Range Camp is open to students who are 14 to 18 years of age by October 1,

2010, while ACE Camp is open to students currently enrolled in the 6th, 7th or 8th grades.

Range camp provides educational opportunities in rangeland and rangeland management with hands-on learning and field activities. ACE Camp is designed for middle school students and offers experiences in water quality, soils, wildlife, aquatics and more. The fee for Range Camp is \$275 and the fee for the ACE Camp is \$175. To help offset the costs for students to attend the camps,

the Lower Loup NRD is offering \$100 scholarships. The scholarships will reimburse part of the costs for students who live inside the NRD boundaries.

To apply for a scholarship or to get more camp information, contact NRD Information/Education Coordinator Larry Schultz at (308) 728-3221 or e-mail larrys@llnrd.org. You may also visit the Lower Loup NRD web site at www.llnrd.org.



The Lower Loup NRD offers scholarships to both the Nebraska Range Youth Camp and Adventure Camp about the Environment.