

Nebraska's Natural Resources Districts  
Making the Good Life Better Since 1972



**BASIN FACTS:**

The Loup River Basin includes all or part of 24 Nebraska counties.

Total Basin Acres: 9,345,720

Lower: 5,070,720 acres

Upper: 4,275,000 acres

Total Certified Irrigated Acres: 1,275,965

Upper: 73,812 acres

Lower: 1,216,402 acres

Registered Irrigation Wells:

Upper: 725

Lower: 11,113

Conservation Trees Planted in 2013:

Upper: 16,630

Lower: 30,237

*Protecting Lives & Property, Now & For the Future*

***Groundwater Studies***

The water modeling study of the Elkhorn and Loup River Basins, called the ELM Study, is nearing completion. Now in its final phase, the groundwater model is being refined to better reflect actual conditions in the basins.

The ELM model has been refined from half-mile cells to quarter-mile cells and has been calibrated.

The model now works in multiple layers thanks to geophysical and test hole data and data from the Ogallala Aquifer.

The modeling has been conducted by the USGS. The participating NRDs have provided data from test drilling, monitoring wells, and irrigation flowmeter readings to assist in the refinements.

Following scientific review, the final ELM report is expected in March, 2014.



***Wellhead Protection***

Protecting public drinking water supplies is the driving force behind NRD Wellhead Protection Programs in the Loup River Basin. Since about 85% of Nebraskans receive their drinking water from groundwater, preventing contamination is essential.

In developing Wellhead Protection Plans, a detailed inventory of potential groundwater contaminants is prepared for each community. The plans also include a report on the condition of the community's drinking water supply, a review of local ordinances that impact water quality, and a study of security needs. The reports also include an assessment of future well sites and a review of emergency procedures and contingencies.

When completed, a final Wellhead Protection Plan provides a results-oriented roadmap for identifying and implementing specific, customized management strategies for groundwater quality protection.

***Groundwater Monitoring***

Both the Upper Loup and Lower Loup NRDs monitor groundwater levels on an annual basis. Technicians measure wells across the Loup Basin in both spring and fall. Data is then compiled to give a snapshot of groundwater levels.

Due to the increasing demand for irrigation water, it is important that long-term water usage is managed in a sustainable and equitable way. Soil moisture sensors, which monitor soil moisture in the root zone, can help irrigators conserve water through irrigation water management, optimized crop production, and reduced environmental impacts. Both NRDs in the Loup River Basin offer assistance to landowners.

The Upper Loup NRD lends sensors to irrigators for temporary use and the Lower Loup NRD can provide economical pricing for landowners wishing to purchase sensors. Both Districts offer assistance in setting up and utilizing the sensors.

### Water Quality

Nitrates are the primary contaminant of groundwater in the Loup River Basin. Over 1,310 wells are monitored across both Districts each year for nitrate levels. Nitrate levels average 2 parts per million or less according to data compiled by the Upper and Lower Loup NRDs. The Environmental Protection Agency has listed a safe level to be in the range of 0-10 ppm. The Lower Loup NRD has commissioned a study of groundwater nitrates in a water quality area in Platte and Nance Counties.



### Tree Planting

The NRDs in the Loup Basin offer conservation trees to landowners in each District to fulfill a variety of needs. Trees are one of Nebraska's most important natural resources. They help reduce erosion, protect livestock and farmsteads, and provide protection and homes for wildlife. To encourage tree planting, the Upper and Lower Loup NRDs offer tree and shrub seedlings at a reduced cost. Trees can be hand-planted by the landowner or machine-planted by NRD technicians. Other services that may be offered include weed spraying, fabric mulch installation, and drip irrigation installation.



### Grasslands

Range land makes up over half the land in the Loup River Basin as well as the state of Nebraska. The benefits of good range management and its positive impact on natural resources in the basin are ongoing priorities. Through the Nebraska Soil and Water Conservation Program (NSWCP), a number of practices that benefit range land are available to landowners. These practices vary from pasture planting and range seeding to critical area planting to planned grazing systems.



### Natural Resources Education

The Upper Loup and Lower Loup NRDs believe that education is key to protecting the future of natural resources and strive to provide the latest information to both adults and youth.

The Upper Loup and Lower Loup NRDs partner with other districts to hold the Adventure Camp about the Environment (ACE Camp). ACE Camp provides middle school students a fun environment to learn more about our soils, water, forestry, wildlife & range.



The Districts provide scholarships, hold land and range judging contests for high school students, and provide natural resources activities for students of all ages.

## Loup River NRDs

- Protect all natural resources
- Protect groundwater quantity and quality for future generations
- Use taxpayer dollars effectively
- Protect the lives and property of district residents

Natural Resources Districts were created by the Legislature in 1972. Unique to Nebraska, NRDs were developed along watershed boundaries instead of political boundaries. This allows for more efficient management of natural resources, eliminating overlapping jurisdictions and funding issues.

Each NRD is governed by a locally elected Board of Directors, allowing for the development of local solutions to address local issues.

Find out more about Nebraska's NRDs at [www.nrdnet.org](http://www.nrdnet.org) or at the Loup River Basin NRD web sites:

**Lower Loup**

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

**Upper Loup**

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