

# THE 2009 MRNRD ANNUAL REPORT

Middle Republican

Natural Resources District

## Projects Planned to Improve Surface Flows

In 2008-09, more than 22% of the district's \$3,933,400 budget was allocated to Groundwater Management.

The focus for 2008-2009 continued to be legislation, implementation of the Integrated Management Plan, seek funding for augmentation programs and retiring certified acres through a new District Acres Retirement Program.



### REPUBLICAN RIVER RIPARIAN PROJECT

Funded by the Interrelated Water Management Plan Program the Republican River NRDs joined the University of Nebraska-Lincoln, Southwest Nebraska RC & D and Southwest Weed Management as partners in a project to physically remove excessive native and invasive plant species from a study/demonstration area and evaluate the cost and effectiveness of secondary management to ensure establishment of desired riparian function and habitat diversity.

Study sites near Bartley and Benkelman were cleared of specified trees, and monitoring equipment was installed. These sites focus on forest areas and grassland, respectively. One year of data has now been collected; observations in the forest areas concluded that the removal of invasive species increased the frequency of warm season grasses and invasive forbs, and that species diversity was dramatically increased when invasive tree species were removed. It was also noted that habitat is most effectively changed when Eastern red cedar was removed from the area. Data collection will continue for at least two more years on both sites.



### REPUBLICAN RIVER AUGMENTATION APPRAISAL PHASE II

The Republican River Augmentation Appraisal has been an ongoing project for the three Republican NRDs, funded in part by the Interrelated Water Management Plan Program. The ultimate goal of this two-phase study was to identify potential augmentation water supplies for the Republican River, and implement a streamflow augmentation program to supplement water supplies during dry years. Augmentation, in conjunction with other ongoing conservation activities in the basin, would be utilized to maintain compliance with the Republican River Compact Settlement.

Phase 1 of the study selected groundwater supplies utilizing outside source data such as NRD's local knowledge and the NDNR registered well data. A technical appraisal of hydrologic properties was conducted to quantify stream flow augmentation potential for each supply source, and cost estimates for each potential augmentation project were based on hydrologic properties and infrastructure needs. The long and short-term impact of each augmentation project upon Nebraska's compact allocation and consumptive use was quantified.

The Phase Two study has further refined stream flow depletion impacts each potential site would create, and begins the process of finding potential offsets as well as drafting plans for augmentation structures. Progress on Phase Two will continue in 2010.



### REPUBLICAN BASIN FORECAST METHODOLOGY FOR 2009

The Nebraska Dept. of Natural

Resources (NDNR), by state statute, is required to provide an annual short-term and long-term forecast of depletions to stream flow that will ensure compliance with the interstate Republican River compacts.

The estimated forecast is provided assuming dry conditions, which we have defined as precipitation at the 35th percentile. Based on current reservoir contents and projected inflows for 2009, the likelihood of Reclamation projecting a Water-Short Year is remote at best. It is highly unlikely that Water-Short Year Administration will be in effect in 2009.

The NDNR has estimated long-term allowable depletions (for the year 2019) by projecting the 35th percentile stream flow at Hardy (and the Courtland Canal). Allowable stream depletions in the year 2019 were estimated to be 203,225 acre-feet.



### COMPACT COMPLIANCE

Kansas, Nebraska and Colorado entered into Arbitration on October 20th, 2008 as part of the settlement process outlined in the May 19, 2003 Settlement Decree. Since then, the arbitrator received and reviewed briefs from Nebraska and Kansas during what is referred to as a Discovery Period.

On December 19th, the arbitrator, Mr. Karl J. Dreher, issued his preliminary decisions on seven questions. Dreher decided in favor of or partly in favor of Nebraska for six of the seven questions.

Next, each party may submit expert reports and exhibits in response to the questions defined in the Dec 19th arbitration.

The arbitration trial will be held sometime between March 9 and the 20th. A decision will be issued by June 17th. By July 17th, states may give notice whether they will accept the decision or pursue resolution with the U.S. Supreme Court.

The entire document of the arbitrator's preliminary decisions is available on our website, [www.mrnrd.org](http://www.mrnrd.org).



### AWEP

The Agricultural Water Enhancement Program is a voluntary conservation program to provide financial and technical assistance to owners and operators to install and maintain conservation practices to address priority natural resources concerns. The AWEP program for the MRNRD is one of five that were approved for the state of Nebraska. Our priority concerns are the permanent and temporary retirement of irrigated acres along with irrigation efficiency practices. In 2009, 62 applications were received and 32 contracts were approved for \$1,121,084.00. Three of these contracts provided for the permanent retirement of 330.5 acres of irrigated lands using \$245,231 in NRCS funds and \$40,651.50 in NRD funds. The majority of the remaining contracts were for a four year temporary retirement of nearly 2000 irrigated acres. Continuing funding is projected for 2010 through 2013.



# Conservation Practices

Funding continued to be available during the fiscal year 2007-08 for cost-share assistance from the Nebraska Natural Resources Commission. The Middle Republican Natural Resources District locally administers the Nebraska Soil and Water Conservation Fund. Normally the program pays 50% of the total cost to install soil and water conservation practices while the landowner pays the remaining 50%. In addition, the district provides Local Conservation Funds to supplement the NSWCF. Practice requirements and standards are similar between the two programs, including the decommissioning of abandoned wells, water meter installations, terraces, diversions, grass seeding, reuse pits, planned grazing systems, and improved irrigation systems.

Practice	Local		State	
	# Apps	Cost Share	# Apps	Cost Share
Irrigation Water Management	3	\$9868.06	7	\$14,284.12
Terraces	2	\$4267.91	8	\$24,166.50
Trees	24	\$33,462.07	0	0
Decommission Wells	22	\$4847.52	0	0
Grass Seeding	1	\$793.89	0	0
Planned Grazing Systems	0	0	24	\$62,125.04
<b>Total</b>	<b>52</b>	<b>\$53,239.45</b>	<b>39</b>	<b>\$100,575.66</b>

# TREE PROGRAM

In 2009 the Middle Republican NRD sold 37,405 trees (61% more than the previous year!), with the district tree planting crew planting 26157 and landowners hand planting 11,248 trees. Along with the trees, the MRNRD sold 19.14 miles of conservation mulch (that's 101,213 feet) to help conserve moisture and protect the new seedlings.

The district tree planting crew works

from April to May getting the tree seedlings ready and planted.

About 500 tree seedlings were also given to district grade school students by the District to celebrate Arbor Day. The NRD began this educational program 17 years ago.

Since 1972 Middle Republican NRD has sold over 1.6 million trees.

## THE 2009 MRNRD ANNUAL REPORT

The Annual Report is distributed once a year district-wide and inserted in the Winter Sprinkles and Splashes newsletter.

**Board of Directors:** Joseph Anderjaska, Hayes Center; Kevin Fornoff, Hayes Center; Josh Friesen, Wallace; Buck Haag, Bartley; Ben Loomis, Maywood; Rick McConville, Indianola; Dan Nelsen, Moorefield; Brad Randel, Indianola; Marty Schurr, Maywood; and Rick Spencer, Culbertson; James Uerling,, Indianola

\*\*All directors are elected on an at-large basis.

# 2009 NRCS ACCOMPLISHMENTS

The Middle Republican Natural Resources District cooperates with the USDA Natural Resources Conservation Service (NRCS) and contributes to their programs by providing field office secretarial assistance, and an irrigation water management specialist.

In 2009, the district continued an agreement entered into with the Nebraska Association of Resources Districts (NARD), which allows the district to continue to hire personnel to support Farm Bill activities at NRCS offices in the district. Using a match of our existing services the

district was able to receive federal funds to provide this support. Five part time employees worked with NRCS employees to assist with planning and layout of conservation practices.

The NRD depends on each of the NRCS county offices to help us carry out and implement our conservation programs. The table below shows progress reporting items for 2008 from federal programs. The NRCS notes that over \$900 thousand in EQIP funds were obligated during the year within the MRNRD .

Practice	Totals
General Customers Assisted	1,735
Acres impacted	9,893
EQIP/SWCA Applications Received	161
EQIP/SWCA Contracts written	32
EQIP Funds Obligated	\$460,121
AWEP Application Dollars	\$1,605,955
AWEP Application Acres	3,546
AWEP Contracts Awarded	32
Conservation Practices Applied in FY 2009	
Brush Management	1,828 acres
EQIP Livestock Pipelines (Feet)	160,161
Improved Irrigation Efficiency (Acre-feet)	3,100
EQIP Terraces (Linear Feet)	797,433
Conservation Plans written	49,330 acres
EQIP Fencing (Linear Feet)	51,925

*Submitted by Doug Whisenbunt, District Conservationist*

## MIDDLE REPUBLICAN NATURAL RESOURCES DISTRICT

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# 2009 GROUNDWATER USAGE

2009 Certified Acres .18% less from 2008

As of January 1, 2010, there are currently 3,273 regulated wells in the district which water a total of 310,166.64 certified acres. The Average water use for irrigation district-wide was 8.23 acre inches in 2007. In 2008, producers self-regulated again at 30% from the 1998-2002 pumping levels, with an average of 8.90 acre inches. Numbers for 2009 show an average that is still well below regulations at 8.14 acre inches.

Total Certified Acres		
County	Certified Acres	Number of Wells
Frontier	72,009.50	646
Hayes	67,855.30	519
Hitchcock	38,079.60	564
Lincoln	76,851.76	540
Red Willow	55,370.48	1004
<b>TOTAL ACRES</b>	<b>310,166.64</b>	<b>3,273</b>
Quick Response Acres		
Frontier	23,531.00	259
Hayes	15,540.50	173
Hitchcock	23,718.60	409
Lincoln	7,667.10	59
Red Willow	35,582.10	673
<b>TOTAL QR ACRES</b>	<b>106,039.34</b>	<b>1,573</b>
Platte Area Acres		
Frontier	838.20	4
Lincoln	2,516.50	14
<b>TOTAL PA ACRES</b>	<b>3,354.70</b>	<b>18</b>

## 2009 Groundwater Use by County\*

County	Water Usage 2009	Irrigated Acres	Number of Meters	Average Use by Year		
				2009	2008	2007
Frontier	425676.35	65855.4	596	6.46	7.11	6.83
Hayes	525926.96	65665.2	476	8.01	8.92	8.19
Hitchcock	220258.65	32740.2	512	6.73	8.75	8.37
Lincoln	805548.18	72567.0	508	11.01	10.46	9.49
Red Willow	369001.84	51541.4	821	7.16	8.59	9.04
Average Use District Wide				8.14 Acre Inches		

*\*All 2009 data are preliminary*

## HAPPENINGS IN BRIEF

- THE 23RD ANNUAL SOUTHWEST NEBRASKA WATER CONFERENCE WAS HELD IN MARCH. MORE THAN 75 FOLKS ATTENDED THE CONFERENCE CO-SPONSORED BY THE MRNRD, THE MCCOOK NRCS FIELD OFFICE AND UNL EXTENSION.
- THE DISTRICT RETIRED 635.8 CERTIFIED IRRIGATED ACRES THROUGH ITS NEW ACRES RETIREMENT PROGRAM. SEVEN CONTRACTS WERE WRITTEN WORTH \$424,848.00.
- In 2009, 1033 chemigation systems were certified, an increase from 1008 systems in 2008. Of these, 127 new permits were granted and 34 permits were cancelled. 308 systems were spot-checked or inspected by MRNRD technicians.
- The District Observation wells continue to show improvements over the last few years. In 2004, levels began to level off dramatically. In the Spring of 2009, levels rose .37 feet from the Spring of 2008. The new average annual decline is -0.1266 feet.
- Maintenance work was conducted on two flood control structures. Technicians removed debris from structure 51-A in Hayes Co. and reseeded. They also felled and removed trees from structure 1-A in Frontier County, about 8 miles south of Stockville.
- The District provided a \$3000 Community grant to assist the Norris Institute of McCook to develop a Prairie Arboretum/learning center and a Rural Electrification Administration museum. on 12 acres of land.
- 1800 SHRUBS ON 91 ACRES were planted on two properties by the District as part of the Corners for Wildlife program.



Keep up to date with District Happenings...

Check us out on the web! There's more there  
than first meets the eye:

[HTTP://WWW.MRNRD.ORG](http://www.mrnrd.org)

# Natural Resources Education

THE MIDDLE REPUBLICAN NATURAL RESOURCES DISTRICT has a wealth of resources available to district educators and community groups. Our lending library includes books, activity guides, CD's, videos, games, a ground water flow model, Enviroscape and other materials that provide informative and factual information to compliment natural resource studies. Topics range from wildlife to water. These curriculum activities involve students in fun, hands-on activities designed to increase their knowledge of their natural environment.

The District sponsored or participated in the following educational programs in 2009:

## NATURAL RESOURCES EDUCATION

The MRNRD continues to support and sponsor outdoor education programs that are hosted by other NRDs such as the Children's Groundwater Festival, and the SCORE Science Camp in Imperial.

## ARBOR DAY

Over 500 students received Pine or Spruce trees as part of the district's Seedlings to School program, and six schools received in class programs in celebration of Arbor Day.

## STEWARDSHIP WEEK

Also around Arbor Day, schools received conservation curriculum materials developed by the National Association of Conservation Districts in honor of Soil and Water Stewardship Week. These materials consist of posters, classroom calendars, student activity booklets and bookmarks. The theme for this past year was "Dig it! The Secrets of Soil."

Stewardship week is also celebrated with a Poster Contest. Three schools and 12 students participated this past year and we sent Tyler Esslinger's Poster (below) to the state contest.



## SCHOLARSHIPS

The MRNRD annually awards three types of scholarships: the college scholarship; summer camp scholarship; and the educator scholarship.

Dillon Mortensen of Curtis and Lindsay Ridlen of Palisade each received the \$400 college scholarship. Dillon and Lindsay both graduated in Spring of 2009. Dillon is attending Eastern Wyoming University with a major in Wildlife Management. He is the son of Allan and Kim Mortenson.

Ridlen is attending the University of Nebraska in Kearney with a major in zoology. She is the daughter of Steve and Alicia Ridlen.

One Summer Camp and no educator Scholarship applications were received by the MRNRD in 2009. We sent one camper, Calen Weidner of Culbertson, to the Nebraska Range Youth Camp in Halsey.

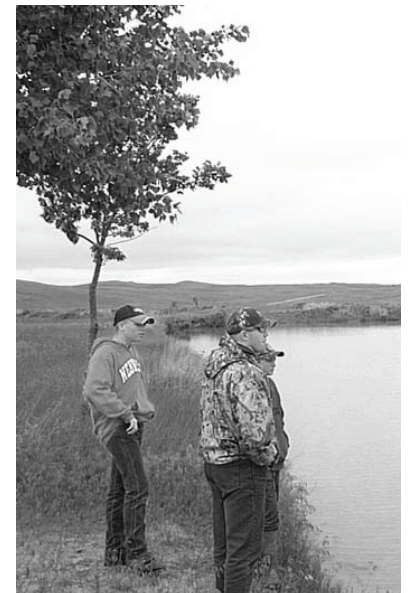
## NEBRASKA ENVIROTHON

In 2009, the Middle Republican NRD sponsored the Mid Plains Regional Envirothon Contest at the NCTA campus and provided technical assistance for the Nebraska Envirothon in May at the Ponca State Park near Ponca, NE.

Ten teams from seven schools participated in the Mid Plains Regional Envirothon. Southwest High School team took first place and went on to compete at the Nebraska Envirothon.



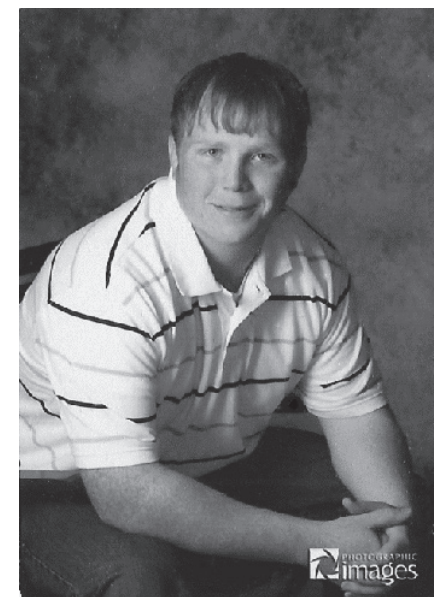
**CALEN WEIDNER WAS THE 2009 RECIPIENT OF THE DISTRICT SUMMER CAMP SCHOLARSHIP. HE ATTENDED THE YOUTH RANGE CAMP LAST JUNE.**



**PARTICIPANTS OF THE 2009 YOUTH RANGE CAMP VISIT A NEARBY RANCH IN THE SANDHILLS AND REFLECT ON RANGE MANAGEMENT ISSUES.**



**LINDSAY RIDLEN OF PALISADE RECEIVED A DISTRICT COLLEGE SCHOLARSHIP FOR THE 2009-2010 SCHOOL YEAR. SHE IS ATTENDING THE UNIVERSITY OF NEBRASKA IN KEARNEY.**



**DILLON MORTENSON OF CURTIS RECEIVED A COLLEGE SCHOLARSHIP FOR THE 2009-2010 SCHOOL YEAR. HE IS ATTENDING EASTERN WYOMING UNIVERSITY.**