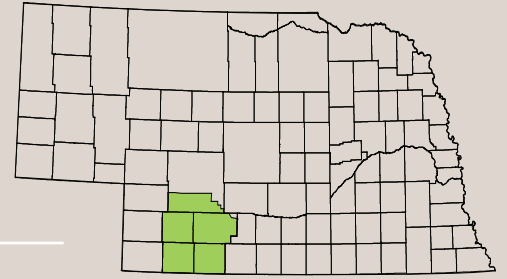


# MIDDLE REPUBLICAN NATURAL RESOURCES DISTRICT



## TOTAL LAND AREA

3,805 square miles or 2,449,380 acres

## ELEVATION

2,500 to 3,100 ft. above sea level

## PRECIPITATION

Average annual precipitation ranges from 19 inches in the west to 22 inches in the east. Nearly three fourths of the precipitation falls from April to September with frequent variations between seasons. Drought conditions are not uncommon. Southwest Nebraska has been in a severe drought for the past eight years with a reprieve during the Spring of 2007.

## CLIMATE

The climate is one of limited precipitation, low humidity, frequent wind shifts, and frequent sharp temperature changes. The Rocky Mountains to the west have a major effect on the district's climate.

## SURFACE WATER

Major rivers are the Republican and the Frenchman. Other tributaries are Medicine, Blackwood, Red Willow, Stinking Water, Muddy, Driftwood, and Beaver Creeks. Flood control and irrigation supply dams are located at Swanson Reservoir west of Trenton on the Republican River, Red Willow Lake north of McCook on the Red Willow Creek, and Harry Strunk Lake north of Cambridge on the Medicine Creek. Another dam is at Enders Lake on the Frenchman River west of the district boundary. These dams supply surface water for irrigation to 44,287 acres of crops located in the Middle Republican NRD.

## GROUND WATER

Adequate supplies of ground water exist in most areas except south of the Republican River. The base of the underlying sand and gravel layers that contain the water bearing material rest on impervious layers of Niobrara Chalk, Pierre Shale or formations from the White River Group. As of October 2007, 3,051 irrigation wells were registered.

Located in southwestern Nebraska, the Middle Republican Natural Resources District consists of all of Hayes, Hitchcock, and Red Willow Counties, most of Frontier County, and the southern one-fourth of Lincoln County. The district is bounded by the Kansas state line on the south and is 72 miles wide (from east to west) and 63 miles long (from north to south). The city of McCook is the largest municipality.

Current certified irrigated acres are 310,994.57 with only one acre in eight being irrigated. The 2007 valuation of the district is \$1,648,065,698 meaning 1 cent of property tax generates about \$164,800. General fund budget for 2007-08 is \$4,832,820. General fund property tax is \$1,012,393 with an additional \$778,831 in property tax for repayment of the river flow enhancement bond. An additional \$2,152,860 for bond payment is being generated using the occupation tax. In 2007-08, more than 75% of the district's budget was allocated to Groundwater Management.

While water quality and quantity issues remain important, the current focus is on Integrated Management. In most respects, Integrated Management will address our quantity issues. The Board of Directors has adopted revisions to our Ground Water Management Area Rules and Regulations and jointly approved the Integrated Management Plan with the Dept. of natural Resources, effective for the 2008 crop year. This process initially began in July of 1996 after the passage of LB 108, legislation that first recognized the relationship between ground water and surface water in Nebraska statutes. With the settlement of the lawsuit in December of 2002 and the final determination made by the Department in June of 2003, the Department and the NRD began actively pursuing management concepts that would ensure compliance with the compact settlement without jeopardizing the economic viability, social and environmental health, safety, and welfare of the Republican River Basin. Our first IMP became effective in January of 2005.

These rules, which will help Nebraska maintain compliance with the Republican River Compact Settlement, limit pumping to a total of 60 inches over a five-year period beginning in 2008. They continue the stay on new wells and new development of

## 2005 - 2007 Groundwater Use by County

County	Water Use 2007	Irrigated Acres	Average use		
			2007*	2006	2005
Frontier	414389.65	67833.3	6.11	9.31	7.92
Hayes	524811.93	65405.0	8.02	10.61	8.71
Hitchcock	270850.28	33260.7	8.14	9.65	7.89
Lincoln	704234.05	74958.1	9.40	11.53	9.40
Red Willow	421438.06	51361.5	8.21	9.94	9.76
<b>Average Water Use District-wide</b>			7.98	10.20	8.78

*\*All data are provisional and subject to revision.*

#### SOIL TYPES

Soils range from sandy in the north and west to silt in the south and east.

#### LAND USE

Land use ranges from ranching in the north and west to farming in the south and east. Nearly 52% of the land consists of grazed pasture and rangeland, while 46% is considered cropland. The remaining 2% are in urban areas, trees, water, roads and farmsteads. 1 acre in 8 is irrigated.

#### CROPS

The major crops are corn, wheat, sorghum, and soybeans, all grown under dryland and irrigated conditions. Corn is the primary crop. Grain and forage are grown as live-stock feed.

#### LIVESTOCK

Beef cattle are the most common livestock with some dairy cattle and hog production.

#### POPULATION

The 2000 census reported 19,302 people. There are no major changes anticipated in population in the near future. Population numbers have seen major declines in the district in the previous 50 years. The average age of residents exceeds the national average.

#### ECONOMY

Most occupations are related to or are dependant on agriculture. There is some light industrial development in and around McCook. Hitchcock and Red Willow Counties are state leaders in crude oil production. One ethanol plant is in production, with others proposed.

#### EQIP Acres

In 2006 1126.5 acres were permanently retired from irrigation through a special initiative.

irrigated acres. The Department of Natural Resources and the Middle Republican NRD will continue to work toward developing and funding water conservation and incentive programs, such as CREP and EQIP, to achieve some of the needed reductions. The river flow enhancement bonding authority of LB 701 last year will give us the tool necessary to respond to future drought situations. Additional revisions, based on annual review of Compact compliance and the forecast by DNR, will be considered in the future. These rules keep the Middle Republican very near a sustainable level of use in average weather conditions.

The Rules and Regulations for the Ground Water Management Area will continue the management actions of the NRD first started with metering of wells in 1998 and certification of acres in 2003. The Integrated Management Plan was the first such plan approved in Nebraska.

As of January 1, 2005, all wells that pump more than 50 gallons per minute were required to be metered. There are currently 3051 regulated wells in the district watering a total of 311,046 certified acres. The Average water use for the first three year allocation for irrigation district-wide was 8.94 inches per acre. This is well below the average allocation of 13 inches. Over this three year period, producers self-regulated pumping an average of 30% below the district allocation.

### 2007 Certified Acres

County	Total Certified Acres	Number of Wells	Quick Response Area Acres	Quick Response Area Wells	Platte Area Acres	Platte Area Wells
Frontier	73,233.17	619	24,347.20	245	838.2	4
Hayes	67,977.30	482	15,992.40	149	0	0
Hitchcock	38,342.55	533	23,823.90	383	0	0
Lincoln	76,513.90	525	7,667.10	57	2,516.50	14
Red Willow	54,927.65	892	35,474.30	601	0	0
<b>TOTAL</b>	<b>310,994.12</b>	<b>3,051</b>	<b>107,305.25</b>	<b>1,435</b>	<b>33,354.70</b>	<b>18</b>

### 2007 CREP Approved Acres\*

Resource Districts	# of App's	Ground water only	SW Only Acres	Comm. Acres	Total Irr. Acres	Non Irr. Acres	Total Acres
Upper Rep	81	11,681.40	0	71.4	11752.8	612.9	12365.7
Middle Rep	165	10,792.63	3535.68	2867.96	17,196.27	553.02	17749.29
Lower Rep	102	5669.80	1114	807.8	7591.6	301.9	7893.5
Tri-Basin**	16	1560.40	0	0	1560.40	38.9	1599.30
<b>TOTAL</b>	<b>364</b>	<b>29,704.23</b>	<b>4649.63</b>	<b>3747.16</b>	<b>31,268.63</b>	<b>1506.72</b>	<b>39607.79</b>

\*as of October 5, 2007

\*\*Republican River Basin Portion Only

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