# Lower Republican

### Natural Resources District

A Commitment to Preserving Groundwater



The Lower Republican Natural Resources District is committed to the preservation of our most precious natural resource, groundwater. We are proud of the strides we have made and commend our patrons for the bold sacrifices they have undertaken.

The Lower Republican put a moratorium on new well drilling on December 9<sup>th</sup>, 2002. We implemented a stay on the development of new irrigated acres effective December 31<sup>st</sup>, 2004. In cooperation with the Department of Natural Resources we approved an Integrated Management Plan with an effective date of June 24<sup>th</sup>, 2005. The strict rules and regulations that apply to the plan limit groundwater allocations east of Highway 183 to 33 inches for three years and west of Highway 183 to 36 inches for three years. Our allocations are the lowest in the state:

To further conserve, we do not allow water to be transferred. In addition we have provisions that limit the amount of carry over or banked water into a new allocation period. Over \$680,000 in our 2006 budget will go towards groundwater management related activities:

The average water use District-wide for 2003 was 13.03 inches, 11.24 inches in 2004 and 7.74 inches in 2005. In 2005 producers pumped 33% below allocation.

In addition to groundwater quantity the District is actively involved in a number of groundwater quality issues. We established the Superior Hardy Special Protection Area; which was the first of its kind in the state. In October of 2005 we began delivering water on our new Rural Water Project. The project provides safe potable water for domestic and livestock use to 137 users and the Village of Guide Rock.

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COUNTY West to East	VOLUME (Acre-feet)	ACRES	AVERAGE (Acre-Inch)	PIVOT.	GATED PIPE
FURNAS	31,552	44,352	8.85	8.90	8.92
HARLAN	41,793	64,137	8.00	8:01	8.04
FRANKLIN	39,172	64,953	7.54	7.59	7.42
WEBSTER	22;022, ,	39,573	7.33	7.09	8.42
NUCKOLLS	4,422	8,214	6.99	6.36	8.39

**TOTAL LAND AREA:** 2,484 sq. miles or 1,589,760 acres

ELEVATION: 1,574 to 2,060 feet above sea level

PRECIPITATION: Average annual precipitation ranges from about 22 inches in the west to 26 inches in the east. Approximately 75% of the precipitation is received from April to September. Drought conditions are not uncommon.

CLIMATE: The climate is one of limited precipitation, fluctuating precipitation and

humidity, frequent wind shifts and frequent sharp changes in temperatures.

**SOIL TYPES:** The soils of the LRNRD vary from sand to silt to clay

LAND USE: Land use ranges from ranching to farming and are very nearly equally divided in the number of acres used for each. Les than 2% of the District is in urban areas, trees, water, roads, and farmsteads. Just over 20% of the District is irrigated.

**CROPS:** Corn, wheat, soybeans, alfalfa, and sorghum are the major crops grown under dry land and irrigated conditions. Corn is the primary crop.

LIVESTOCK: Beef cattle are the most common livestock with commercial hog production next.

POPULATION: The 2000 census reported 17,639 people. Population figures have seen major declines in the past 50 years. The average age of residents exceeds the national average. Population distribution is 36% in the rural area and 64% in urban communities.

### CONTACT INFORMATION

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#### Main Office

Manager-Mike Clemenis
Asst. Manager-Bryan Lubeck
Adm: Asst. -Shirlee Poyser
Water Resource Adm: -Kristi Coe
I/E-Coordinator-Jo Siel
Water Resource Sec-Marcy Johnson
Water Tech-Gale Dorn
Water Tech-John Bush
Rural Water Super-Ganold Ohmstede

### Field Office Staff-NRCS

Franklin Co., Ruth Nielsen Furnas Co., Joan Perkins Harlan Co., Melissa Schlüniz Nuckolls Co., Marian Recce Webster Co., Eynetta Snelling

### Board of Directors.

Sub-district 1-Grace Faw
Sub-district 1-Brian Holtze,
Sub-district 2-Jack Frear
Sub-district 2-Toby tenBensel
Sub-district 3-James Moore
Sub-district 3-David Walton,
Sub-district 4-Nelson Frambly-Chair-Sub-district 4-Jay Ziegler, Treasuren,
Sub-district 5-Terry Hoit,
Sub-district 5-Terry Hoit,
Sub-district 5-Roger Nelson-Secretary
At-Large-Brad Wulf, Vice Chair

## LRNRD FACTS FY2006 Budget - \$2,235,728

Valuations - \$1,370,339,387

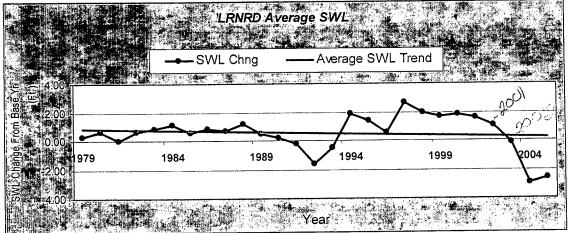
Property Tax Needed - \$690,100

Levy - 0.050360 per \$100

COUNTY (W to E)	CERTIFIED ACRES	NUMBER OF WELLS
FURNAS	61,898.90	872
HARLAN	100,4411.34	1091
FRANKLIN AND THE	107,792.17	1077
WEBSTER	45,440.00	495

	2005 CREP C	CONTRACTS (A	PPROVED)	
NRD	#CONTRACTS	TOTAL ACRES	GROUNDWATER ACRES	SURFACE WATER ACRES
UPPER REPUBLICAN		5 10 939 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	TUT10:939:3\there's	The second of th
MÎDDLE REPUBLICAN	° 140	15,435.3	.12,748.6	-2,686.7
LOWER REPUBLICAN	893	13-17-17-13 13-18-18-18-18-18-18-18-18-18-18-18-18-18-	6,137/6* 137/6*	1,033.7
TRI-BASIN	in in	1,395.2	1,395.2	
TOTAL	311	34,941.1	31,220.7	3,720:4

	2005 EQIP CONTRACTS (APPROVED)
NRD	#CONTRACTS TOTAL ACRES GROUNDWATER SURFACE WATER ACRES
UPPER REPUBLICAN	50.65 respective to 17 Posture Care and 1507 on other constitutions
MIDDLE REPUBLICAN	738 55 257:100 25 2524:022 257:100 357:100 357:100 357:100 357:100 357:100 357:100 357:100 357:100 357:100 357
LOWER REPUBLICAN	900 than the US.87054 i vizvou 23.25787 (21.12572:67.13) 1974
TRI-BASIN TOTAL	136 1 109 72 109 72 109 72 12829 772 1 128



ECONOMY: Agriculture is the main occupation found in the District. The valuation of agricultureal lands makes up almost 90% of the valuation total.

SURFACE WATER: The main stream flowing through the District is the Republican River. Other important tributaries include the Sappa, Beaver, Prairie Dog, Crooked, Center, Willow, Lost, Turkey, Thompson, Muddy, and Elm creeks. Harlan County Reservoir was completed in 1952 as a flood

control and irrigation water supply project. It is located in the southeast portion of Harlan County. The project supplies water to Bostwick Irrigation District, which it delivers to 22,935 acres in the Lower Republican NRD. The Frenchman-Cambridge Irrigation District supplies surface water to approximately 22,085 acres in Furnas and Harlan Counties from releases of flood control and irrigation supply dams upstream of the Furnas/Red Willow County line.

GROUNDWATER: Generally groundwater exists in most areas of the District except south of the Republican River. The base of the underlying sand and gravel layers which contain water bearing material rest on impervious layers of Pierre Shale, the Niobrara and Wellington Formations, and the Chase Group. As of January 2006, 3714 wells have been registered.

CONTACT INFORMATION 30 North John Street P.O. Box 618 Alma, NE 68920-0618 Phone: (308) 928-2182 Toll Free: (800) 353-1297 + - Fax: (308) 928-2317 Email: lrnrd@lrnrd.org ... Website: \*www.lrnrd.org CONTRACTOR OF THE PARTY OF THE era Medicaleta Main Office : P\*

Manager-Mike Clements Asst Manager-Bryan Lubeck Adm Asst -Shirlee Poyser Mater Resource Adm -Kristi Coe I/E (Coordinator-Jo/Siel Water Resource Sec-Marcy Johnson Water Tech-Gale Dorn Water Tech-John Bush Rural Water Super - Garold Ohmstede

Field Office Staff-NRCS Franklin Co: Ruth Nielsen

Furnas, Co. Joan Perkins | | | Harlan(Co. Melissa Schlunt Nuckolls Co. Marian Reece Webster Co

Board of Directors

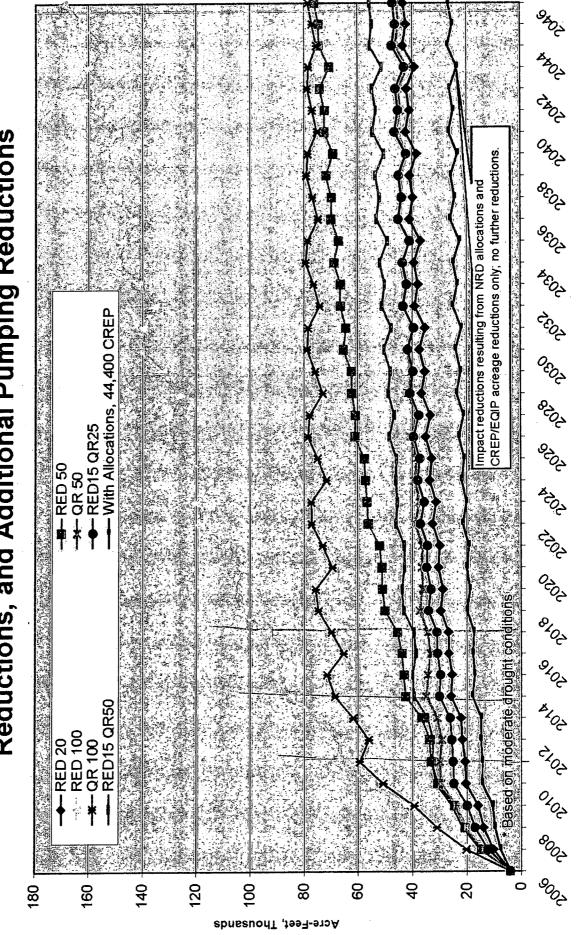
Sub-district II - Grace Faw Sub-district II - Brian Holize Sub-district 2 - Jack Frear Sub-district 2 - Toby tenBense II - Sub-district 2 Sub-district 3. James Moore; Sub-district 3-David Walton Sub-district 4-Nelson Trambly-Chair Sub-district 4-Jay Ziegler-Treasurer" Sub-district 5-*Terry Hou* Sub-district 5-*Roger Nelson-*Secretary At-Large-Brad Wulf-Vice Chair

> LRNRD FACTS FY2006 Budget \$2,235,728

> Valuations - \$1,370,339,387 valuations -- \$1,370,339

Property Tax Needed - \$690,100 Levy: 0:050360 per \$100

Total Baseflow Impact Reductions Due to Combined Effects of NRD Allocations, 44,400 Acres CREP/EQIP Program Reductions, and Additional Pumping Reductions



### Privileged and Confidential Attorney Client Communication And Attorney Work Product

### Potential Agenda for RRNRD Meeting

### January 25, 2007 8:00 A.M. DNR Office, Lincoln

- 1. Required IMP goals include Compact Compliance, what objectives are we trying to achieve?
- 2. What tools can we use?
  - a. Near-term
    - i. 2007
    - ii. 2008-2010
  - b. Long-term
- 3. How do we distribute the allocated supply
  - a. Among NRDs?
  - b. Between surface water and ground water users
- 4. Status of current studies to develop better methods for Compact compliance
- 5. Review available data and determine additional data needs
- 6. Develop decision making process for developing new components of the plan
- 7. Develop Schodule and task assignments

### **Points to Consider**

- 1. Controls proposed for adoption in IMP shall, when considered together with any applicable incentive programs
  - a. Sustain a balance between supply and use
  - b. Remain in compliance with Republican River Compact
  - c. Protect ground water users and surface water appropriators whose water wells and appropriations are dependent on the river from stream flow depletions from uses begun after the date the river basin was designated as fully appropriated (Neb.Rev. Stat. 46-715).
- 2. Potential Objectives
  - a. Maximize economic and environmental beneficial consumptive use of Nebraska's Compact allocation
  - b. Minimize nonbeneficial consumptive use of water
  - c. Minimize the adverse economic and social impacts on the basin that will result from the necessary reductions in water use
  - d. Distribute allocation fairly among users

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- e. Promote long-term stability
- 3. Tools to achieve objectives
  - a. Reduce pumping allocations and the number of certified aces in the next IMP cycle to meet Compact requirements
    - i. Regulatory controls
      - 1. Allocations
      - 2. Reductions in irrigated acres
    - ii. Incentive plans CREP, EQIP
    - iii. Other?
  - b. Methods to allow flexibility to make maximum use of water given the wide fluctuations in water supply
  - i. Use of Quick Response Area wells and surface water supplies to achieve timely response to river
    - 1. Dry-year leasing
    - ii. Other augmentation plans
    - iii. Other?
    - c. Methods to optimize the use of surface water infrastructure to conjunctively manage available water supplies
    - d. Methods to increase productivity per acre-foot of water consumed
    - e. Methods to decrease nonbeneficial consumptive use of water (removal of water consuming invasive species and vegetation in the river channel)
    - f. Other?