

## AGENDA – June 12, 2007

The Middle Republican NRD Board of Directors will hold their regular meeting at the American legion Building in Curtis, Nebraska on June 12, 2007 at 7:30 P.M.

### Regular Meeting:

1. Meeting called to order.
  - a. Verify quorum
  - b. Excused absences
2. Circulate agenda and roster
  - a. Items added since mailing
3. OFFICIAL NOTICE OF THIS MEETING WAS PUBLISHED IN THE NORTH PLATTE TELEGRAPH AND THE MCCOOK DAILY GAZETTE AND WAS POSTED IN THE NRD OFFICE AND ON THE DISTRICT WEBSITE AT WWW.MRNRD.ORG. AS A COURTESY IT WAS ALSO PROVIDED TO LOCAL RADIO STATIONS.
4. Approve minutes for the May regular board meeting.
5. Open Hearing for Variance Request – NONE
6. Close Hearing
7. Consider Variance Requests
8. Legal Matters
  - a. Case status - Schroeder
9. Financial Actions
  - a. Approve Financial Report for May 2007
10. Open Forum – The public may comment on agenda items or items not listed on the agenda. For concerns expressed that are not relative to an item on the agenda, you are informed that no action can be taken on your comments. Guests should also note the location of a current copy of the statutes dealing with public meetings.
11. Reports – Agencies, Associations, Others
  - a. NRCS – 1) Dist. Cons. Report 2) McCook Tech. agreement 3) Report on Flooding
  - b. NARD – 1) Report-Anderjaska 2) Action on Insurance Risk Pool Agreements 3) Appoint Ins. Pool representative and alternate
  - c. NACD – Newsletters

- d. NNRC –
  - e. Information & Education – Lawson
    - 1) Environmental \$ - AGs office 2) Camp scholarship 3) Educator scholarship 4) Envirothon Team request
  - f. NE Republican River Management Districts Association
    - 1) Next meeting August 20
  - g. Other Agencies or Associations
    - 1) RC&D - Roger Stockton 2) Economic Study - Final
    - 3) Extended agreement with Phil Young 4) Bureau of Rec Lower Republican study 5) Southwest Weed Management Area Support
  - h. Legislation – session adjourned 1) Interim studies
12. Ground Water Management
- a. Ground Water Management Area
    - 1) Well permits (2) Surface water reports (3) Meter program (4) Incentive Programs (5) Transfer requests – (6) Action on Resolution and Interlocal Agreement 7) Action on Frenchman Valley, Riverside and Frenchman Cambridge Agreement with RRB Coalition 8) Taxable acres and CREP acres progress 9) Republican River coordinator
    - 9) GW comm. report
  - b. Ground Water Quality Management Area
  - c. Other Ground Water Activity
13. Programs
- a. WILD
  - b. Buffer Strips
  - c. Livestock Waste Control Applications
  - d. Conservation Management Funds- LCP/NSWCP
    - Approve Applications
  - e. Watersheds
  - f. Complaints
  - g. Chemigation
  - h. Tree Planting
14. General Operations
- a. Personnel - 1) Consider Salary recommendations 2) End of probation for Lawson and Burke
  - b. Sales and Rental Equipment
  - c. Office remodeling quote
  - d. Depot siding quote

Adjourn

Next regular meeting date – July 10, 2007 at 7:30 P. M., McCook, Nebraska.

IMPORTANT DATES:

June 18-19	NARD Basin Tour
July 4	Office Closed
July 10	Board Meeting
August 14	Board Meeting
August 15 & 16	RR Compact Meeting – Topeka KS
August 20	NeRRMDA
Sept. 3	Office Closed
Sept. 11	Board Meeting & Budget Hearings

**MIDDLE REPUBLICAN NRD**

**ATTENDANCE ROSTER**

June 20 07

NAME	ADDRESS	DESIRE TO SPEAK	AGENDA ITEM NUMBER
Stan Moore ✓	Bartley		
Josh Friesen ✓	Wallace		
Kevin Fornoff ✓	HC		
<del>Bill Nelson ✓</del>	Moorefield		
Brad Randle ✓	Indiana		
Dayle Haag ✓	Bartley		
Jerry Maston	Culbertson		
Rick Spencer ✓	Culbertson		
Brad Johnson	GRAFT		
Dale Wolf	Cambridge		
Rick McCosville	Indiana Ia	yes	
Steve Whipple	Cambridge		
Raymond Turner	Bartley		
Quinton Huxell	Culbertson		
Tom Symone	McCook		
My Spive	McCook		
Claude Coffel	McCook	yes	
Steve Fries	Culbertson		
Walter Dyer (NRCS)	Maywood		
Carl D. Johnson	Curtis		
Bennie Longmire	Maywood		
Marty Skum			

Dan Smith - Maywood  
 Mary Sedgeman - Maywood

**MINUTES**  
**Middle Republican Natural Resources District**  
**Board of Directors Meeting**  
**May 8, 2007**  
**McCook, Nebraska**

**Board Members Present:** Joe Anderjaska, Kevin Fornoff, Josh Friesen, Gayle Haag, Benjie Loomis, Stan Moore, Jerry Mustion, Dan Nelsen, Brad Randel, Marty Schurr, Rick Spencer

**Board Members Absent:** None

**NRD Staff:** Dan Smith, Bob Merrigan, Mary Tidyman, Roger Lawson

**NRCS Staff:** Ben Hardin

**Others:** Dean Edson, Al Eveland, Brad Edgerton, Ralph Scott, Ron Friehe, Larry Durner, William M Barger, Raymond Durner, Connie Jo Discoe, Kurt Fritsch, Steve Whipple, Dennis Berry, Don Felker, Kirche Martin, Robert Martin, Dennis Egle, Scott McDonald, Lee Carter

**Information Mailed to Directors:**

Agenda	April Minutes
April Public Hearing Minutes	Budget Comparison
March Financial Report	E-notes May 1, 2007
I & E Report	Camp Scholarship Application
Spring Well Reports	Draft Economic Impact Report
Proposed Salary Changes	Southwest Coalition on Water
RRBC Interlocal Agreement	Water Package Q & A
April 13 NARD Update	April 19 NARD Update
April 26 NARD Update	Public Relations Proposal

**Information Distributed at Meeting:**

Cost Share Summary	Tree Cost Share
Transfer Requests	Permits to Construct
Reservoir Level Report	Envirothon News Release
LB 701 Article	May 4 NARD Update
Transfer Requests	FVID Memorandum of Agreement
Riverside Memorandum of Agreement	

**REGULAR MEETING**

The regular monthly board meeting was called to order by Chairman Friesen at 7:03 PM. The agenda and roster were circulated to those present.

Notice of the regular monthly meeting was published in the **North Platte Telegraph** and the **McCook Daily Gazette** and was posted at the **MRNRD Office** and on the **District Website** at [www.mrnrd.org](http://www.mrnrd.org). As a courtesy it was also provided to local radio stations.

The minutes for the regular board meeting and public hearing on April 10, 2007 were mailed to Directors.

- ◆ A motion was made by Anderjaska and second by Moore to approve the minutes as presented.  
Ayes- 10                      Nays-0                      Motion Carried

**LEGAL MATTERS –**

Smith reported that the final decision from the district court in the McDermott case has not been received.

**FINANCIAL ACTIONS**

The financial report for April was presented. The County Treasurer’s Balance was \$14,105.27. The monthly budget comparison was presented and reviewed.

- ◆ A motion was made by Anderjaska and second by Spencer to approve the April financial report as presented.

Ayes-10                      Nays-0                      Motion carried  
A copy of this report is on file with the minutes.

**OPEN FORUM**

Kurt Fritsch from City of McCook, Steve Whipple of Cambridge, William Barger of Culbertson spoke on LB701 and other groundwater management issues.

**NRCS REPORT**

Hardin presented the NRCS report. Hardin reported that they are writing EQIP contracts. There should be funding for all priority EQIP applications. Funding is still short for irrigation. Technicians have been checking erosion sites from the rain. They checked the Blackwood watershed dams. There was a couple of big CRP plantings that were washed out. They are being replanted.

Fornoff arrived at 7:33 p.m.

**NARD**

Dean Edson handed out summary report on LB701.

Al Eveland discussed the process for repaying bonds using comparisons of per acre fee and property tax. Health insurance was tabled to next month.

**NACD**

E-notes were mailed to the Directors.

**NNRC – None**

**INFORMATION AND EDUCATION**

Smith provided a summary of I & E activities for April.

One camp scholarship application was received.

A letter was received from Wauneta-Palisade requesting funding for entry fee for State Envirothon.

- ◆ A motion was made by Anderjaska and second by Fornoff to approve Range Camp Scholarship for Laura Barger.  
Ayes-11                      Nays-0                      Motion carried

- ◆ A motion was made by Loomis second by Moore to pay for the entry fee for Wauneta-Palisade Envirothon paying what the Upper Republican does not cover with a maximum of \$100.00.

Ayes-11                      Nays-0                      Motion Carried

- ◆ A motion was made by Schurr and second by Loomis to table the proposal for NRD Education Funds.

Ayes-11                      Nays-0                      Motion Carried

Lawson arrived at 8:26 p.m.

#### **NRRMDA**

The Association meeting was held on April 20.

✓ Smith went the over report. Ground Water Committee will meet June 5<sup>th</sup> time to be set later.

#### **RC&D**

None

#### **RON FRIEHE**

Friehe handed out a letter and addressed his concerns. Friehe gave a general background of his farming operation.

#### **AMERITIS**

Phil Young agreement was reviewed.

- ◆ A motion was made by Fornoff and second by Anderjaska to approve the Public Relations Proposal up to \$3,000.00.

Ayes-9                      Nays-2                      Motion Carried

Water Resources Advisory Panel

Discussion was held on Water Resource Advisory Panel.

#### **LEGISLATION**

NARD legislative updates were mailed to directors.

#### **GROUND WATER MANAGEMENT AREA**

Permit to construct report was handed out to Directors. Monthly Reservoir reports have not been received. Smith went over graph in hand out.

#### **METER REPORT**

A current usage report was circulated.

#### **INCENTIVE PROGRAMS**

No action required.

#### **TRANSFER REQUEST**

Merrigan reviewed the transfer requests. Copies of the requests were circulated.

- ◆ A motion was made by Schurr and second by Anderjaska to approve water transfer T-8 from Olson Livestock & Seed Inc to Frank Stehno.

Ayes-11                      Nays-0                      Motion carried

- ◆ A motion was made by Fornoff and second by Schurr to to approve water transfer T-10 from Douglas Smith to Bryan & Ami Hauxwell.

- ◆ Ayes-11                      Nays-0                      Motion carried  
A motion was made by Anderjaska and second by Fornoff to approve water transfer T-11 from Ada Remington to Don Olson.

- ◆ Ayes-11                      Nays-0                      Motion carried  
A motion was made by Fornoff and second by Schurr to to approve water transfer T-12 from Don D Olson to Don J Olson.

- ◆ Ayes-11                      Nays-0                      Motion carried  
A motion was made by Schurr and second by Nelsen to approve water transfer T-13 from Loren Larington to Randel Family Trust.

- ◆ Ayes-10                      Nays-0                      Abstain Randel                      Motion carried  
A motion was made by Fornoff and second by Loomis to approve water transfer T-14 Mike & Peggy Messersmith to Bruce Kramer.

Ayes-11                      Nays-0                      Motion carried

**ECONOMIC STUDY PROPOSAL –**

Discussion was held on draft of Economic Study. Minor changes have been recommended in charts.

**BASIN FUNDING –**

The board discussed the percentage of depletions of 44% Upper, 30% Middle and 26% Lower and whether these percentages should be used for the bond and future projects.

**SURFACE WATER BUYOUTS –**

Buyouts for Frenchman Valley are \$80 per acre ft and Riverside \$63.00 per acre ft. Discussion was held on buyouts and Interlocal Cooperation Agreement. Board wants a minimum of 2 people on board.

- ◆ A motion was made by Loomis and second by Schurr to approve interlocal agreement for administration of the bond with 2 voting members and 1 alternate.

Ayes-10                      Nays-1                      Motion Carried

**BOND PROCESS –**

- ◆ A motion was made by Loomis and second by Fornoff to move ahead with the 1 year bond.

Ayes-9                      Nays-2                      Motion carried

- ◆ A Motion was made by Moore and second by Nelsen to move ahead with bonding to pay for Frenchman Valley and Riverside.

Ayes-11                      Nays-0                      Motion carried

**ALLOCATION**

Possible allocations were discussed. No action taken.



**SPRING WELL MEASUREMENTS**

Spring well measurements are done. Reviewed charts in packet.

**GROUND WATER QUALITY MANAGEMENT AREA – None**

**OTHER GROUND WATER ACTIVITY-**

Have draft of contract with DEQ to sample surface water. Reimbursement to NRD will be approximately \$5000.00.

**WILD –**

None

**BUFFERSTRIPS –**

None

**LIVESTOCK WASTE CONTROL –**

Application for Oppliger and Southwest feeder were reviewed.

- ◆ A motion was made by Fornoff and second by Schurr to accept livestock waste control applications from Oppliger Feeders LLC and Southwest Feeders.

Ayes-11

Nays-0

Motion carried

**SOIL AND WATER CONSERVATION MANAGEMENT FUNDS**

Smith reviewed the cost-share summary report.

- ◆ A motion was made by Fornoff and second by Loomis to accept the report and approve applications as presented.

Ayes – 11

Nays – 0

Motion carried

**WATERSHEDS –** Hardin covered in his report.

**COMPLAINTS –** None

**CHEMIGATION –** Letters are being sent on permit not yet renewed. Deadline is June 1<sup>st</sup>.

**TREE PLANTING –** Tree planting is completed and contractor is laying weed barrier.

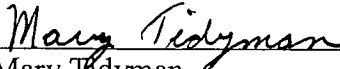
**SALARY RECOMMENDATIONS**

Shurr handed out a draft of possible salary changes. Discussion was held on the salary changes it was decided to table until next month.

**SALES AND RENTAL EQUIPMENT –** None

The meeting was adjourned at 11:30 PM

The next meeting will be Tuesday, June 12, 2007 in Curtis, Nebraska starting at 7:30 PM.

  
\_\_\_\_\_  
Mary Tidyman

Recorder



A Bureau of Business Research Report  
From the University of Nebraska—Lincoln

---

## Final Report

# The Economic Impact of Reduced Irrigation in the Republican River Basin

Prepared for the Lower, Middle, and Upper Republican  
and Tri-Basin Natural Resource Districts

Prepared by  
Dr. Eric Thompson

June 11, 2007  
Bureau of Business Research  
Department of Economics  
College of Business Administration  
University of Nebraska—Lincoln  
Dr. Eric Thompson, Director

---

UNIVERSITY OF  
**Nebraska**  
Lincoln

## Executive Summary

The State of Nebraska is considering regulations to limit the consumptive use of irrigation water in the Republican River Basin. These regulations are under consideration because the state previously had been ruled to be in violation of its agreements under the Republican River Compact. The state is under court order to develop a plan to limit water use. Such regulations naturally could impact the economy of the Republican River Basin.

Given this background, four Nebraska Natural Resource Districts contacted the UNL Bureau of Business Research (BBR) in the winter of 2007 to conduct an analysis of how such regulations would impact local economies in the Republican River Basin. This report summarizes the BBR economic impact estimates under a particular regulatory and price scenario. Our regulatory scenario was a 15% reduction in the average allocation in upland acres, and a 40% reduction in quick response acres in the Upper Republican, the Middle Republican, and the Lower Republican Natural Resource Districts. Our price assumptions were based on current prices and forecasts from the University of Missouri and Iowa State University.

Our economic impact estimate is that such a regulatory scenario would lead to an \$81 million annual loss in business sales in the Republican River Basin. An economic impact of this magnitude also would have a labor market impact. The labor market impact would be an annual loss of \$46 million in worker earnings and proprietor income.<sup>1</sup> There would be a decline of 500 jobs.

The economic impact would be split fairly evenly among the 3 Natural Resource Districts in the Republican River Basin. The annual loss of business sales would be \$29 million in the Upper and Middle Republican Natural Resource Districts, and \$23 million in the Lower Republican Natural Resource District. An economic impact of this magnitude would have a significant impact on the local economies of the Republican River Basin, particularly the Upper Republican Natural Resource District.

---

<sup>1</sup> The impact on business sales is the total impact. The labor market impact is simply a portion of the business sales impact. The labor market impact should not be added to the business sales impact.

## Table of Contents

I. Introduction .....	1
II. Economic Impact .....	3
A. Forward Linkages .....	7
B. Lost Property Value .....	8
III. Summary and Discussion .....	11
References .....	16

## List of Tables and Figures

### Tables

1A.	Annual Loss in Crop Sales and the Resulting Economic Impact with 15% /40% Regulation of Irrigation .....	6
1B.	Labor Market Impacts from Reduced Crop Sales with 15%/40% Regulation of Irrigation .....	7
2A.	Annual Economic Impact from Lost Property Tax Revenue and Forward Linkages with 15%/40% Regulation of Irrigation .....	10
2B.	Annual Labor Market Impact from Lost Property Tax Revenue and Forward Linkages with 15%/40% Regulation of Irrigation .....	10
3A.	Overall Annual Economic Impact with 15%/40% Regulation of Irrigation .....	12
3B.	Overall labor Market Impact with 15%/40% Regulation of Irrigation .....	12
4.	Percentage Loss in the Upper Republican NRD Economy with 15%/40% Regulation and a Hypothetical Example from the Omaha Economy .....	14
A.1.	Percent Loss in NRD Economies with a 15%/40% Regulation.....	17

### Figures

1.	Backward and Forward Linked Industries for Corn Production.....	8
----	---	---

## **I. Introduction**

The State of Nebraska is considering regulations to limit the consumptive use of irrigation water in the Republican River Basin. These regulations are under consideration because the state previously had been ruled to be in violation of its agreements under the Republican River Compact. The state is under court order to develop a plan to limit water use. Such regulations naturally could impact the economy of the Republican River Basin.

Given this background, four Nebraska Natural Resource Districts contacted the UNL Bureau of Business Research in the winter of 2007 to conduct an economic analysis of regulations on the local economies of the Republican River Basin. These were the Upper Republican, Middle Republican, Lower Republican, and Tri-Basin Natural Resource Districts. The following report summarizes the Bureau's findings.

The report focuses on the economic impact of a regulation scenario to reduce the consumptive use of irrigation water by 15% in upland acres and 40% in quick response acres in the Republican River Basin. The economic impact estimate reflects the change in economic activity anticipated in the Lower, Middle, and Upper Republican Natural Resource Districts under this scenario. However, given the time frame available to conduct the study, the report does not provide a full benefit cost analysis of regulation. Such an analysis would consider the relative costs of alternative plans to meet the state's obligations including lost income, recreation opportunities, or inconvenience costs for all participants. A benefit cost analysis would also consider the costs from a statewide perspective, and any local benefits from improved stream flow. However, it is likely that many of these benefits would accrue to individuals and businesses outside of the Republican River Basin, and outside the State of Nebraska.

Our focus on economic impact is consistent with many of the recent studies on irrigation in Nebraska including past efforts to assess the economic impact of reduced consumptive use of irrigation water in the Republican River Basin (Supalla and Nedved, 2004; or Supalla, Buell, and McMullen, 2006). In addition, Lamphear (2006) estimated the impact of irrigated agriculture on the overall state economy, though that report was a general consideration of irrigated agriculture statewide.

Several years have passed since these earlier reports, however, and there is a need to consider the local economic impact estimates based on current conditions. In

particular, current commodity prices are at a high level, and there is also more recent information available about the potential need for a reduction in consumptive use.

This study provides a current economic impact estimate. The study also examines several impacts that were not emphasized in the previous studies. First, we estimate the magnitude of economic impacts due to forward linkages in economy. These are estimates of the losses in selected business that handle grain. There will be less local production of grain so there may be less need for these processing services. Second, we estimate the economic impact from lost tax revenue for local government due to declines in agricultural property value.

Finally, for at least two reasons, the local economic impact estimates produced in this report should provide valuable information to citizens, businesses, and policy-makers considering proposed regulation of irrigation in the Republican River Basin. First, even if some action is required due to the Republican River Compact and the subsequent court order, an understanding of local economic impacts may influence how the state of Nebraska chooses to pursue regulation of consumptive water use. Second, information about local economic impacts may be critical in making decisions about mitigating the impacts of regulation. Mitigation at the state or federal level can reduce the local economic impacts and also allow the costs of the regulation to be shared more evenly among regions of the state or nation, rather than concentrated in particular local and county economies.

The latter point is important when understanding the influence of regulation on local economies. Regulation of a key local industry can have sustained, long-term effects on local economies and communities. While there is always “churning” in a market economy – where jobs and income lost in one set of businesses and industries are replaced by growth in other businesses and industries – this is not an appropriate way to view the impact of government regulation on the economy. Government regulatory action introduced into a local economic system, unless it generates substantial local economic benefits as well as costs, will lead to a long-term loss in local economic activity. There will be a smaller economy than would have existed without the regulation, with less employment and population. To be sure, the economy may eventually recover from any economic dislocation that occurs as the key industry reacts to regulation, such as an

initial spike in unemployment. And, there is reason to be optimistic about the potential for private sector job growth in non-metropolitan Nebraska (Thompson et. al., 2007). But, the economy will be smaller than it would have been over the long-run with fewer people and less employment. This could be a source for concern in a growing area, since there are many advantages to having a larger economy and population (Thompson, 2005). But, the concern might be greater in an area, such as the Republican River Basin, which is losing population. Contraction of a key local industry would likely lead to further population loss.

While the economic impact from reducing consumptive water use is long-term in nature, it is also true that there may be a long-term trade-off between current and future consumptive use of water. In particular, if current irrigation is reducing the store of ground water in an unsustainable way, current consumptive use may come in part at the expense of future use. For this reason, annual economic impacts in the long-run from a plan to begin reducing consumptive use now may be smaller than the current economic impacts. There is obviously substantial uncertainty, however, about the magnitude of such a trade-off, and how many years would pass before it occurred.

In the next section of the report, we estimate the reduction in farm yields, sales, and income from the proposed regulation, and estimate the overall economic impact in the Upper, Middle, and Lower Republican Natural Resource Districts. In the third section, we discuss the implications of our findings for economic development in the region.

## **II. Economic Impact**

Previous studies such as Supolla and Nedved (2004) utilized a profit-maximizing model to examine the relationship between limits on consumptive use of irrigation water and agricultural production in the Republican River Basin. Their model was used to predict how producers would react to lower allocations either through reduced irrigation of existing crops, a change in the mix of crops grown, or a switch to dry-land agriculture. The authors' also developed specific information about which wells in each area of the Republican River Basin would be effected by lower allocations, and which wells were already pumping less groundwater than would be allowed under the irrigation limits.



We utilize the estimates of Supalla and Nedved (2004) on the number of certified irrigated acres and the average allocation in the Upper, Middle, and Lower Republican Natural Resource districts.<sup>2</sup> The Supalla and Nedved study also provides a good summary of the potential uncertainties regarding estimates of the number of irrigated acres and of historic data regarding pumping of water for irrigation. Either source of uncertainty could affect economic impact estimates. Finally, following their study, we focus on five crops: corn, wheat, soybeans, grain sorghum, and alfalfa.

Given the timeframe for the current study, we did not conduct a complete analysis of profit-maximizing response to limits on irrigation in the Republican River Basin. Our baseline estimate assumed reduced irrigation of existing crops (based on 2006 production data from the National Agricultural Statistical Service) rather than crop switching or a switch to dry-land production. We did utilize the Water Optimizer software developed by faculty in the UNL Department of Agricultural Economics (Martin, Supalla, and Nedved, 2005) to estimate how much production would fall in response to reduced irrigation. This also was our source for data on the costs of irrigation, and the additional costs associated with handling each additional bushel of yield.

Our regulatory scenario was a 15% reduction in the average allocation in upland acres, and a 40% reduction in quick response acres in each of the three natural resource districts. Our price assumptions were based on current prices and forecasts for the next few years from the University of Missouri and Iowa State University.<sup>3</sup> Estimates of lost farm sales, and economic impact would fall, by about 20%-25%, if prices do not remain at current (and forecast) levels, and fall back to prices that prevailed throughout most of 2005 and 2006.

Lost production and sales of corn and other crops are what drive the estimate of lost local economic activity as a result of the proposed (further) limits on irrigation. The impact of lost sales is manifest in two ways. First, reduced irrigation and lost production are accompanied by lower irrigation costs, less use of nitrogen, and lower costs for

---

<sup>2</sup> The Upper Republican NRD is comprised of Chase, Dundy, and Perkins County. The Middle Republican NRD is comprised of Hayes, Hitchcock, Red Willow, most of Frontier, and portion of Lincoln County. The Lower Republican NRD is comprised of Furnas, Harlan, Franklin, and portions of Nuckolls and Webster Counties.

<sup>3</sup> The model utilized a corn price of \$3.17 a bushel, a wheat price of \$4.28 a bushel, a grain sorghum price of \$3.09, soybeans of \$6.10 a bushel, and alfalfa at \$66 a ton.

handling and transporting crops. Lower spending on irrigation, transportation, and nitrogen imply not only lost activity on the farm but also less activity at local businesses or individuals that provide these products and services. Second, lost sales imply lower farm proprietor income. Less proprietor income also implies less spending in the community.

As described above, lost farm production leads to less farm income, and also to less demand for the services of local businesses. This relationship between lower crop yields and less employment, income, and output (business receipts) throughout the community is captured through “economic multipliers.” The IMPLAN software developed by the Minnesota Implan Group, Inc. was used to estimate relevant economic multipliers for corn, wheat, grain sorghum, soybeans, and alfalfa in the Upper, Middle, and Lower Republican Natural Resource Districts. This was possible because the IMPLAN model can be used to examine the economic impact of lost activity in over 500 industry sectors in every county, or combination of counties, in the United States. Economic multipliers from IMPLAN are applied to estimates of lost crop sales due to the irrigation restrictions to estimate the total loss in economic activity.

The expected loss in crop sales from the 15%/40% scenario is presented in Table 1A, along with the resulting economic impact. Results are presented for each of the three natural resource districts, and in total. The economic impact reflects the loss in business receipts in the economy, whether lost crop production and sales or lost sales in businesses throughout the community, due to the multiplier effect. The first column of Table 1A shows our estimate of lost crop sales from farms in each of the three districts. Over \$57 million in crop sales are expected to be lost per year, with the largest loss in the Upper Republican NRD.

The second column of the table shows the economic impact as measured by lost output (business receipts). The annual economic impact is a loss of \$72.9 million in output (business receipts) in the 3 natural resource districts. Lost output is again greatest in the Upper Republican NRD but is nearly as large in the Middle Republican. This is because the larger, more diversified economy in the Middle Republican NRD has higher economic multipliers. The economic impact in the Lower Republican NRD is also substantial, 75% as large as in the other districts.

**Table 1A**  
**Annual Loss in Crop Sales and the Resulting Economic Impact**  
**with 15%/40% Regulation of Irrigation**

<u>Natural Resource Districts</u>	<u>Annual Loss in Crop Sales</u>	<u>Annual Economic Impact Output (Business Receipts)</u>
Lower Republican	-\$15.6M	-\$19.9M
Middle Republican	-\$18.6M	-\$26.1M
Upper Republican	-\$23.4M	-\$26.9M
<u>Total</u>	<u>-\$57.6M</u>	<u>-\$72.9M</u>

Source: BBR calculations

The annual economic impact is a loss of \$72.9 million in output (business receipts). This loss in business receipts implies that business will be hiring fewer workers and paying fewer wages as result. Economic multipliers also capture these impacts on the labor market. Table 1B shows these labor market impacts. The first column of results shows lost labor income. Income is expected to decline by \$40.9 million per year in the three districts. This reflects both a loss in the income of farm operators, and the loss in employment and labor income at businesses throughout the community due to the multiplier effect. As with the overall economic impact, the labor market impact is somewhat larger in the Upper and Middle Republican districts than in the Lower Republican NRD. The lost labor income is approximately \$15 million in the two districts compared to \$11 million in the Lower Republican. Note that this lost income is a component of lost output (i.e., lost business receipts means less employment and worker income). It would not be appropriate to add lost annual labor income to lost output.

The second column of results in Table 1B shows lost employment. We assume that there is no loss in jobs among agricultural producers (just a reduction in hours worked), so these job loss figures reflect losses in the community due to the (negative) multiplier effect. There would be a loss of approximately 340 jobs.

**Table 1B**  
**Labor Market Impacts from Reduced Crop Sales**  
**with 15%/40% Regulation of Irrigation**

<u>Natural Resource Districts</u>	<u>Annual Labor Market Impact</u>	
	<u>Labor Income</u>	<u>Employment</u>
Lower Republican	-\$11.0M	-97
Middle Republican	-\$14.9M	-135
Upper Republican	-\$15.0M	-104
<u>Total</u>	<u>-\$40.9M</u>	<u>-336</u>

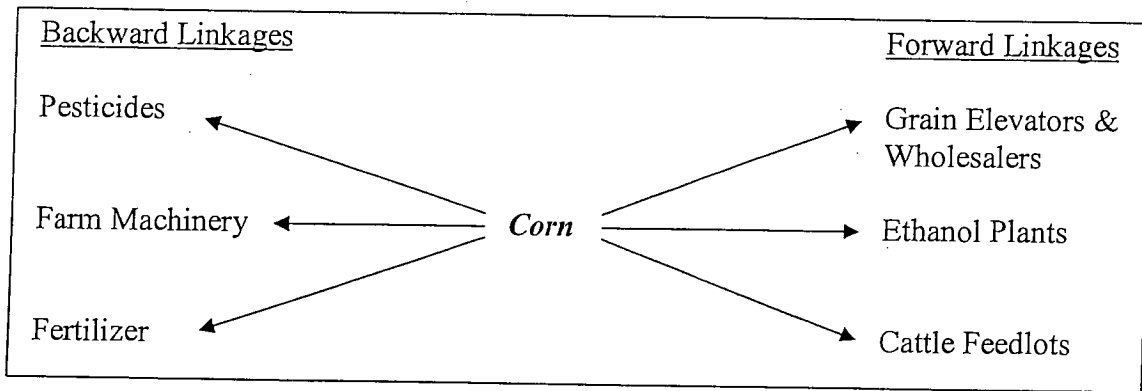
Source: BBR calculations

*A. Forward Linkages*

Economic impact analysis of the kind reported in Table 1A reflects lost economic activity in the directly affected industry (agriculture, in this case), and in supplier industries, due to the multiplier effect. Business receipts decline in supplier industries due to fewer purchases of supplies by agricultural producers. These purchases of supplies reflect “backward” linkages in the economy. Backward linked industries are the suppliers. As seen in the example in Figure 1, some of the backward linked industries for corn production would be pesticides, fertilizer, and farm machinery. The multiplier effect in an economic impact analysis captures how these backward linked industries decline in response to a decline in the directly effected industry.

There are, however, also “forward” linkages in the economy. “Forward” linked industries are the customers of the directly affected industry (agriculture, in this case). Figure 1 shows some forward linked industries for the example of corn production. These industries also may suffer locally if corn production declines. In particular, the large supply of grain produced each year by agricultural producers is the basis of a number of grain processing businesses in the Republican River Valley. Grain elevators and wholesalers are key examples of such “forward” linked industries. Cattle feed lots and ethanol plants are other potential examples of forward linked businesses.

**Figure 1**  
**Backward and Forward Linked Industries for Corn Production**



Businesses in these forward linked industries may decline in the Republican River Basin if corn production declines significantly. Unfortunately, the economic losses from such forward linked industries are not captured by standard economic multiplier models, such as the IMPLAN model used in this report. As a consequence, the potential economic impact from reduced agricultural production due to forward linkages is not reflected in the estimates in Table 1A. Yet, these types of economic impacts also should be considered.

It is more difficult to develop an estimate of the magnitude of any job losses in such forward linked industries. For illustration, we do estimate the potential lost employment among grain elevators and wholesalers due to a reduced local supply of grain. Reductions in irrigation under our 40%/15% scenario would lead to a 10% decline in grain production in the Republican River Basin. We assume a proportional decline in employment in the grain wholesaling and elevator business. This would mean a decline of 8 to 16 jobs in each of the 3 natural resource districts in this forward linked industry. These grain industry impacts are included in the impact estimates in Tables 2A and 2B.

*B. Lost Property Value*

When regulation causes a long-term reduction in farm incomes this loss is eventually manifest as a reduction (relative to an unregulated scenario) in property values. This long-run impact on property values is estimated based on annual losses in farm income. Lost farm proprietor income, assuming it is not compensated by reduced

hours worked by farm proprietors, should ultimately lead to reduced cash rents for farmland. To estimate lost property value, 90% of lost farm income was multiplied by the 2006 ratio of land values to cash rents in Southwest Nebraska. Table 2 reports estimates of lost agricultural property value using this approach. There is \$82.1 million less in property value in the Lower Republican Natural Resource District, \$93.1 million less in the Middle Republican District, and \$102.3M in the Upper Republican.<sup>4</sup>

This relative loss in agricultural property values has important implications for local economies. One implication is lost tax revenue for local governments and school districts. This lost revenue is not available for funding government jobs and government services. Losses in government employment and activity results<sup>5</sup>, and there is also a multiplier effect from the lost local government activity.<sup>6</sup> The IMPLAN model, despite all of its advantages, does not directly estimate tax revenue impacts. As a result, losses due to reduced property values were not represented in Table 1A, and must be estimated separately.<sup>7</sup> In Table 2A below we estimate the economic impact of lost property values in each of the natural resource districts. For simplicity, we focus on county property taxes and school district taxes, and ignore the impact of other types of taxes. Note that the impact figures in Table 2A also reflect the lost employment for grain wholesalers due to forward linkages. The annual economic impact is a loss of \$8.6 million in business receipts. This loss is larger in the Lower and Middle Republican Natural Resource Districts than in the Upper Republican. The reason again is that there is a larger multiplier effect in these larger, more diversified economies. There is also a substantial labor market impact associated with this economic impact. Table 2B lists the labor market impact in terms of labor income and jobs. The total loss in labor income due to lower property values (and local tax revenue) and forward linkages is \$5.0 million annually. This loss in income occurs at nearly 170 jobs.

---

<sup>4</sup> Proprietor income and property values estimates are heavily influenced by crop prices. The estimates in Table 2 would fall by 40% to 45%, depending on the district, if prices fail to remain at current levels and fall to average 2005 and 2006 prices.

<sup>5</sup> If it is assumed that tax rates would be higher to compensate for lost property value, then this also would cause a negative economic impact due to lower after-tax incomes.

<sup>6</sup> To see this, note that agricultural property values are based on income earned from exporting agricultural products around the nation and the world. The ultimate source for government employment supported by agricultural property is from outside of the local region.

<sup>7</sup> This was confirmed in an email with IMPLAN staff.

**Table 2A**  
**Annual Economic Impact from Lost Property Tax Revenue and Forward Linkages**  
**with 15%/40% Regulation of Irrigation**

<u>Natural Resource Districts</u>	Lost Property Value	Annual <sup>1</sup> Loss of Tax Revenue	Annual Economic Impact Output (Business Receipts)
Lower Republican	-\$82.1M	-\$1.1M	-\$2.9M
Middle Republican	-\$93.1M	-\$1.2M	-\$3.2M
Upper Republican	-\$102.3M	-\$1.3M	-\$2.5M
<u>Total</u>	<u>-\$277.5M</u>	<u>-\$3.6M</u>	<u>-\$8.6M</u>

Source: BBR calculations

<sup>1</sup> Lost tax revenue based on county and school district taxes only.

**Table 2B**  
**Annual Labor Market Impact from Lost Property Tax Revenue and Forward**  
**Linkages with 15%/40% Regulation of Irrigation**

<u>Natural Resource Districts</u>	Annual Labor Market Impact	
	Labor Income	Employment
Lower Republican	-\$1.6M	-57
Middle Republican	-\$1.8M	-53
Upper Republican	-\$1.6M	-57
<u>Total</u>	<u>-\$5.0M</u>	<u>-167</u>

Source: BBR calculations

### III. Summary and Discussion

The overall economic impact is the sum of the two economic impact estimates in Tables 1A and 2A. These overall impacts are summarized in Table 3A below for each of the effected natural resource districts. The total annual economic impact (output) is \$29.4 million in the Upper Republican Natural Resource District, \$29.3 million in the Middle Republican Natural Resource District, and \$22.9 million in the Lower Republican natural resource district. The overall impact across all 3 districts in the Republican Basin is \$81.6 million. The overall economic impact is approximately equal in the Upper Republican and the Middle Republican Natural Resource Districts. The impact in the Lower Republican Natural Resource District is about 75% to 80% as large as in the other two.

Table 3B shows the overall labor market impact. The overall labor market impact is \$45.8 million in labor income (proprietor and worker) and 503 full or part-time jobs. Note that the employment impact reflects employment losses throughout the community. We assumed that there would be no change in agricultural jobs, though there could be a reduction in the number of hours worked.

These impact estimates in Tables 3A and 3B represent long-run annual impacts that would be sustained over time as consumptive use of irrigation water is reduced. However, it is important to note that there is a potential trade-off between current use of groundwater irrigation and future use. If current patterns of groundwater consumption are unsustainable, then current consumptive use may come in part at the expense of future use. For this reason, annual economic impacts in the long-run from a plan to begin reducing consumptive use now may be smaller than the current economic impacts. There is obviously substantial uncertainty, however, about the magnitude of this trade-off, and how much time would pass before it might occur.

These impact estimates in Tables 3A and 3B are interesting by themselves, but it is always helpful to consider impacts in the context of the overall economy. What share of the local economy would be lost if the regulation is implemented? What would be the implication for other factors, such as demographic change?



**Table 3A****Overall Annual Economic Impact with 15%/40% Regulation of Irrigation**

<u>Natural Resource Districts</u>	<u>Overall Annual Economic Impact Output (Business Receipts)</u>
Lower Republican	-\$22.9M
Middle Republican	-\$29.3M
Upper Republican	-\$29.4M
<u>Overall Total</u>	<u>-\$81.6M</u>

Source: BBR calculations

**Table 3B****Overall Labor Market Impact with 15%/40% Regulation of Irrigation**

<u>Natural Resource Districts</u>	<u>Overall Annual Labor Market Impact</u>	
	<u>Labor Income</u>	<u>Employment</u>
Lower Republican	-\$12.6M	-154
Middle Republican	-\$16.6M	-188
Upper Republican	-\$16.6M	-161
<u>Overall Total</u>	<u>-\$45.8M</u>	<u>-503</u>

Source: BBR calculations

The natural approach to answer these questions is to look at the impacts in Tables 3A and 3B relative to the overall economy of a district to examine what share of employment, output, and income is lost due to the proposed limits on irrigation. Results for the Upper Republic Natural Resource District provide the starkest example, and are presented in Table 4. Figures for all 3 natural resource districts are reported in Appendix

Table A.1.<sup>8</sup> In the Upper Republican Natural Resource District, the expected economic losses would account for 3.5% of 2004 regional output (business sales), and 7.5% of income.<sup>9</sup> There would be a 2.5% loss in employment. There is a smaller percentage loss in employment since our estimates assume there is a reduction in the number of hours worked by farm proprietors and their employees rather than a reduction in the number of jobs in response to limits on irrigation. There is a larger percentage for labor income since much of the loss in crop sales is reflected in lower farm income. Only a modest portion is reflected in lost farm expenditure. The only costs that fall with reduced irrigation are irrigation costs and costs related to yield such as nitrogen use and costs for transporting the harvested crop.

There also is a demographic component associated with these income losses. Research by Bartik (1991) in the context of manufacturing employment, shows that when new factories enter a community, approximately 80% of new jobs in the community are filled by new residents and only the remaining 20% are filled by existing residents as they enter the labor force, or by formerly unemployed workers. This is a different context than we are considering in current study but if the same principal applies, there would be a significant population loss in response to the limits on irrigation, roughly of the same magnitude as the job loss. And, as is typically the case, losses would likely be concentrated among younger workers.

For further context we present an analogous set of the results in Table 4 for a scenario involving the insurance carrier industry in Omaha. The insurance carrier industry is an important part of both the Lincoln and Omaha economies. Insurance carriers, like agricultural producers, primarily generate products (services in the case of insurance carriers) for export around the nation or world. Therefore, the example of the insurance carrier industry presents an urban analogy to the impacts on the farm sector which have been the subject of this report.

---

<sup>8</sup> In the Middle Republican Natural Resource District, the expected economic losses would account for 0.9% of district output, 1.6% of labor income, and 0.6% of employment. In the Lower Republican Natural Resource District, the expected economic losses would account for 2.1% of district output, 4.4% of labor income, and 1.4% of employment.

<sup>9</sup> 2004 is the most current year that output figures are available from IMPLAN.

**Table 4**  
**Percentage Loss in the Upper Republican NRD Economy with 15%/40% Regulation**  
**and a Hypothetical Example from the Omaha Economy**

<u>Economic Measure</u>	<u>Percent Loss in Upper Republican Economy with 15%/40% Regulation</u>	<u>Percent Loss in Douglas County Economy 50% Loss in Insurance Carriers</u>
Output	3.5%	5.5%
Labor Income	7.4%	4.6%
<u>Employment</u>	<u>2.5%</u>	<u>4.3%</u>

Source: BBR Calculations

We develop a scenario where a change in state regulation of the insurance carrier industry has a negative impact on industry activity in the Omaha area. The eventual loss is 50% of activity among insurance carriers. Table 4 shows this loss relative to the Douglas County economy using our 3 economic measures. The percentage loss is higher or lower in some cases but on average is roughly the same percentage loss as was estimated for the Upper Republican Natural Resource District.

There is another point worth making about this analogy. It has been pointed out in this study that it may be possible for the Upper Republican Natural Resource District, and the other resource districts, to absorb the blow to their economy from the proposed limits on irrigation. The economies and the population of the districts will be smaller due to the regulation than each would have been without it, but the innovative and hardworking residents of Southwest Nebraska would likely find a way to bounce back, so that aggregate economic measures of economic well-being such as per capita income and unemployment recover. However, a major new regulation on a region's key industry is costly because transitions are difficult and there are many advantages to having a larger economy, particularly in areas that have been losing population. One would have to wonder how residents and business leaders of Douglas County would react to a hypothetical regulation on the insurance carrier industry like we have simulated in Table 4.

Finally the impact estimates in Tables 1 through 4 do not consider efforts to compensate agricultural producers for their lost income. Assuming that funds for compensation come from outside of the region, compensation of producers would mitigate some of the economic losses discussed in this report. In particular, annual compensation payments would work to support property values which would mitigate the impacts from lost government revenue included in Tables 2A and 2B, as well as mitigate some of the impacts of reduced crop production in Tables 1A and 1B. Results in Table 1, however, reflect more than just the impact from a decline in farm proprietor income. They also represent the reduction in operating costs that occur as farm operators reduce irrigation and have smaller yields. Compensation funded from external sources are a way to mitigate negative local economics impacts. However, some negative economic impacts would remain.

The surest way to reduce the local economic impact, if this is a priority, is to implement fewer limits on irrigation in the Republican River Basin. In particular, it would be critical to ensure that the proposed limits on irrigation are the minimum that are required to help Nebraska meet its obligations with neighboring states. It is beyond the scope of this report, however, to evaluate what level of reduced consumptive use would meet this requirement.

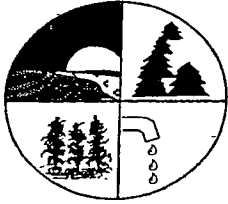
## References

- Bartik, Timothy J. *Who Benefits From State and Local Economic Development Policies?* Kalamazoo, MI: W. E. Upjohn Institute for Employment Research, 1991.
- Martin, Derrel, Raymond Supalla, and Scott Nedved, 2005. *Water Optimizer: Decision Support Tool for Deficit Irrigation*. Department of Agricultural Economics, University of Nebraska-Lincoln.
- Supalla, Raymond and Scott Nedved, 2004. *Potential Economic Impacts from Groundwater Regulation in the Republican Valley*. Department of Agricultural Economics, University of Nebraska-Lincoln
- Supalla, Raymond, Tom Buell, and Brian McMullen, 2006. *Economic and State Budget Cost of Educing the Consumptive Use of Irrigation Water in the Platte and Republican Basins*. Department of Agricultural Economics, University of Nebraska-Lincoln.
- Thompson, Eric C., 2005. *The Impact of Growth on Quality of Life and Fiscal Conditions in Lincoln, Nebraska*. Bureau of Business Research, Univeristy of Nebraska-Lincoln (May).
- Thompson, Eric, Ernie Goss, Chris Decker, Cheryl Burkhart-Kriesel, Bruce Johnson, Mariana Saenz, Ben Schmitz, Julian Neira, and Pavel Jeutang, 2007. *Pillars of Growth in the Non-Metropolitan Nebraska Economy*. University of Nebraska Rural Initiative.

**Table A.1**  
**Percentage Loss in NRD Economies with 15%/40% Regulation**

<u>Economic Measure</u>	<u>Upper Republic</u>	<u>Middle Republican</u>	<u>Lower Republican</u>
Output	3.5%	0.9%	2.1%
Labor Income	7.4%	1.6%	4.4%
Employment	2.5%	0.6%	1.4%

Source: BBR Calculations



## Cost-Share Summary

June 12, 2007

### NSWCP FY-2005-06

Funds Remaining \$674.15 carried forward  
 Open Applications 0 for \$0.00

### NSWCP FY-2006-07

CO District	% of Apps	Funds Available	Funds Used	Funds Remaining	Percent Used
NC19	10%	0	\$0.00	\$0.00	#DIV/0!
Frontier	25%	12	\$24,328.18	\$31,413.21	129.12%
Hayes	19%	7	\$18,489.42	\$15,761.15	85.24%
Hitchcock	19%	10	\$18,489.42	\$21,012.88	113.65%
Lincoln	18%	5	\$17,516.29	\$9,826.93	56.10%
Red Willow	19%	7	\$18,489.42	\$18,784.48	101.60%
Funds Available		\$97,312.73	Completed	22 for	\$49,115.85
Funds Obligated		\$96,798.65	Open	19 for	\$47,682.80
Funds Remaining		\$514.08	Cancelled	2	

### Local Conservation Program

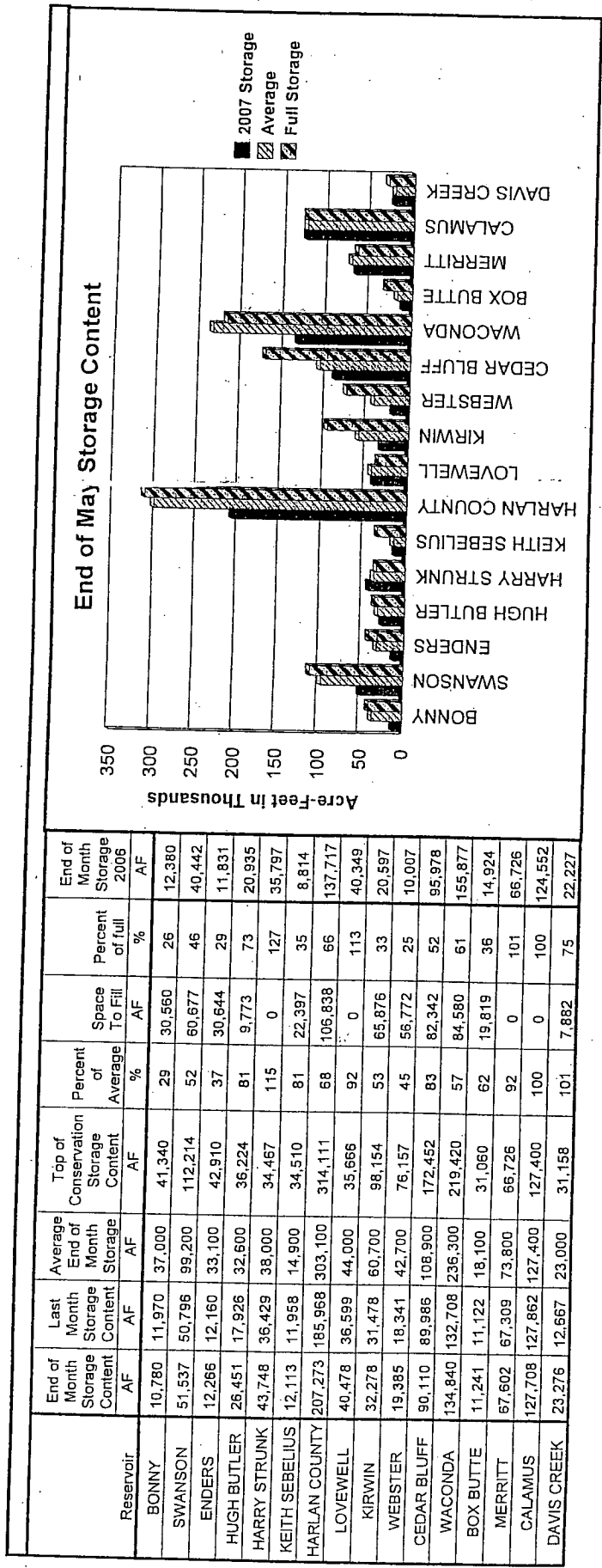
	%	# of Apps	Available	Used	Remaining	Used
Frontier	20%	2	\$21,600.00	\$9,864.18	\$11,735.82	45.67%
Hayes	20%	5	\$21,600.00	\$4,380.65	\$17,219.35	20.28%
Hitchcock	20%	6	\$21,600.00	\$13,813.26	\$7,786.74	63.95%
Lincoln	20%	4	\$21,600.00	\$876.60	\$20,723.40	4.06%
Red Willow	20%	5	\$21,600.00	\$8,856.74	\$12,743.26	41.00%
Funds Available			\$108,000.00	Completed	19 for	\$36,298.43
Funds Obligated			\$37,791.43	Open	3 for	\$1,493.00
Funds Remaining			\$70,208.57	Cancelled	5	

#### # of Apps

Carryover	0	\$0.00
Trees	25	\$28,167.95
Well Sealing	16	\$4,017.98

### New Applications

Name	County	Practice	Costshare	Program LCP	NSWCP
Frontier Final	FR	Trees	\$9,671.78	YES	0
Hayes Final	HA	Trees	\$3,346.87	YES	0
Hitchcock Final	HI	Trees	\$8,429.57	YES	0
Lincoln Final	LI	Trees	\$0.00	YES	0
Red Willow Final	RW	Trees	\$6,011.24	YES	0
0		0	\$0.00	0	0
0		0	\$0.00	0	0





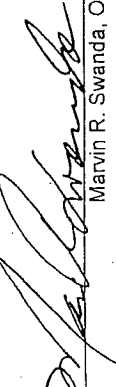
NEBRASKA-KANSAS AREA OFFICE - MONTHLY RESERVOIR REPORT

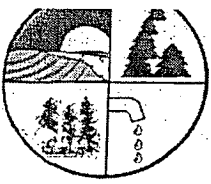
OPERATIONS DATA AT THE END OF MAY 2007

Reservoir	Current Reservoir Conditions				Top of Dead Pool		Top of Inactive		Top of Conservation		Top of Flood Pool	
	Elevation	Total Storage	Active Storage	Area (acres)	Elevation	Capacity (AF)	Elevation	Capacity (AF)	Elevation	Capacity (AF)	Elevation	Capacity (AF)
BONNY	3651.58	10,780	8,646	972	3635.5	1,418	3638.0	2,134	3672.0	41,340	3710.0	170,160
SWANSON	2737.02	51,537	39,107	3229	2710.0	2,118	2720.0	12,430	2752.0	112,214	2773.0	246,291
ENDERS	3087.19	12,266	3,318	784	3080.0	7,516	3082.4	8,948	3112.3	42,910	3127.0	72,958
HUGH BUTLER	2575.27	26,451	17,530	1364	2552.0	5,185	2558.0	8,921	2581.8	36,224	2604.9	85,070
HARRY STRUNK	2370.62	43,748	35,851	2187	2335.0	3,408	2343.0	7,897	2366.1	34,647	2386.2	87,361
KEITH SEBELIUS	2290.43	12,113	8,120	1173	2275.0	1,636	2280.4	3,993	2304.3	34,510	2331.4	133,740
HARLAN COUNTY	1936.83	207,273	89,174	10647	1885.0	0	1927.0	118,099	1945.73	314,111	1973.5	814,111
LOVEWELL	1584.11	40,478	28,834	3216	1562.07	1,674	1571.7	11,644	1582.6	35,666	1595.3	86,131
KIRWIN	1711.92	32,278	23,763	2528	1693.0	4,969	1697.0	8,515	1729.25	98,154	1757.3	313,290
WEBSTER	1871.26	19,385	15,154	1731	1855.5	1,256	1860.0	4,231	1892.45	76,157	1923.7	259,510
CEDAR BLUFF	2129.13	90,110	61,536	4147	2090.0	4,402	2107.8	28,574	2144.0	172,452	2166.0	364,342
WACONDA	1447.61	134,840	108,603	8568	1407.8	248	1428.0	26,237	1455.6	219,420	1488.3	942,408
BOX BUTTE	3991.08	11,241	7,997	912	3969.0	640	3979.0	3,244	4007.0	31,060	No Flood Pool	No Flood Pool
MERRITT	2946.30	67,602	62,940	2933	2875.0	774	2896.0	4,662	2946.0	66,726	No Flood Pool	No Flood Pool
CALAMUS	2244.06	127,708	103,062	5131	2185.0	817	2213.3	24,646	2244.0	127,400	No Flood Pool	No Flood Pool
DAVIS CREEK	2088.42	23,276	23,104	943	1998.5	76	2003.0	172	2076.0	31,158	No Flood Pool	No Flood Pool

Computed Inflow for May 2007

Reservoir	Computed Inflow (AF)	Avg. Daily Inflow (cfs)	Computed Outflow (AF)	Avg. Daily Outflow (cfs)	Total Evap (AF)	Change (AF)	Precipitation at NKAO Dams for May 2007					
							Total (in)	Normal	Percent Normal	Total Year	Normal Year	Percent Normal
BONNY	626	10	1,254	20	562	(1,190)	1.96	3.04	64	4.99	6.29	79
SWANSON	2,275	37	62	1	1472	741	2.18	3.19	68	9.32	7.03	133
ENDERS	588	10	185	3	297	106	3.62	2.97	122	9.00	6.80	132
HUGH BUTLER	9,359	152	246	4	588	8,525	2.27	2.80	81	10.06	6.57	153
HARRY STRUNK	11,522	187	3,243	53	960	7,319	3.05	3.22	95	12.19	7.11	171
KEITH SEBELIUS	791	13	65	1	571	155	3.97	4.10	97	9.79	8.87	110
HARLAN COUNTY	24,476	398	0	0	3,171	21,305	5.29	3.69	143	13.67	7.88	173
LOVEWELL	6,857	112	1,836	30	1,142	3,879	5.61	3.91	143	10.76	9.50	113
KIRWIN	1,930	31	0	0	1,130	800	2.85	3.95	72	8.88	8.82	101
WEBSTER	1,851	30	0	0	807	1,044	3.04	3.77	81	10.30	8.52	121
CEDAR BLUFF	1,877	31	0	0	1,753	124	3.43	3.06	112	10.91	7.23	151
WACONDA	6,634	108	667	11	3,835	2,132	4.56	3.63	126	10.73	8.96	120
BOX BUTTE	515	8	53	1	343	119	1.38	3.01	46	4.35	6.09	71
MERRITT	15,211	247	13,488	219	1,430	293	6.81	3.29	207	13.20	7.32	180
CALAMUS	27,582	449	25,819	420	1,917	(154)	7.10	3.80	187	18.28	8.83	207
DAVIS CREEK	14,275	232	3,370	55	296	10,609	8.30	3.37	246	18.02	8.25	218

Submitted by:  Date: 5/2/07  
 Marvin R. Swanda, Office Manager



220 Center Ave.  
 PO Box 81  
 Curtis, NE 69025

Phone: 800-873-5613  
 Fax: 308-367-4285  
 Email: cpeterson@mrrnd.org

**Middle Republican Natural Resources District**

12-Jun-07

**Total Certified Acres**

County	CertifiedAcres	No of Wells
Frontier	74125.80	618
Hayes	68046.80	482
Hitchcock	38699.75	533
Lincoln	76431.90	524
Red Willow	55298.60	892

**Quick Response Acres**

County	Certified Acres	No. of Wells
Frontier	24474.5	244
Hayes	16056.8	149
Hitchcock	23928.7	383
Lincoln	7667.1	57
Red Willow	35804.3	601
<b>Total Acres</b>	<b>107931.40</b>	<b>Total Wells 1434</b>

Total Acres 312602.85      Total Wells 3049

**Platte Area Acres**

County	Certified Acres	No. of Wells
Frontier	838.2	4
Lincoln	2549.5	14
<b>Total</b>	<b>3387.70</b>	<b>Total Wells: 18</b>

**Usage by County**

CountyID	UseID	Water Usage	IrrigatedAcres	# of Meters	Average Use:
Frontier	Irrigation	561686.36	71811.1	599	7.82
Hayes	Irrigation	582775.55	67161.2	478	8.68
Hitchcock	Irrigation	283141.20	37426.8	519	7.57
Lincoln	Irrigation	708502.07	76099.3	516	9.31
Red Willow	Irrigation	496454.70	55066.2	866	9.02

AverageUse: 10.61

This will be my final report for 2006. There is one meter we have not been able to get to in Frontier County.

The change in average use over the last two months is due to adjustments made for acres in EQIP. The total usage has not changed just the number of acres the water was used on changed.

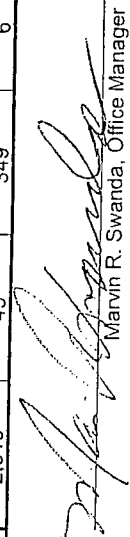
NEBRASKA-KANSAS AREA OFFICE - MONTHLY RESERVOIR REPORT

OPERATIONS DATA AT THE END OF APRIL 2007

Reservoir	Current Reservoir Conditions				Top of Dead Pool		Top of Inactive		Top of Conservation		Top of Flood Pool	
	Elevation	Total Storage	Active Storage	Area (acres)	Elevation	Capacity (AF)	Elevation	Capacity (AF)	Elevation	Capacity (AF)	Elevation	Capacity (AF)
BONNY	3652.77	11,970	9,836	1036	3635.5	1,418	3638.0	2,134	3672.0	41,340	3710.0	170,160
SWANSON	2736.79	50,796	38,366	3207	2710.0	2,118	2720.0	12,430	2752.0	112,214	2773.0	246,291
ENDERS	3087.05	12,160	3,212	753	3080.0	7,516	3082.4	8,948	3112.3	42,910	3127.0	72,958
HUGH BUTLER	2568.20	17,926	9,005	1063	2552.0	5,185	2558.0	8,921	2581.8	36,224	2604.9	85,070
HARRY STRUNK	2367.05	36,429	28,532	1913	2335.0	3,408	2343.0	7,897	2366.1	34,647	2386.2	87,361
KEITH SEBELIUS	2290.29	11,958	7,965	1163	2275.0	1,636	2280.4	3,993	2304.3	34,510	2331.4	133,740
HARLAN COUNTY	1934.77	185,968	67,869	10021	1885.0	0	1927.0	118,099	1945.73	314,111	1973.5	814,111
LOVEWELL	1582.91	36,599	24,955	3035	1562.07	1,674	1571.7	11,644	1582.6	35,666	1595.3	86,131
KIRWIN	1711.60	31,478	22,963	2471	1693.0	4,969	1697.0	8,515	1729.25	98,154	1757.3	313,290
WEBSTER	1870.65	18,341	14,110	1691	1855.5	1,256	1860.0	4,231	1892.45	76,157	1923.7	259,510
CEDAR BLUFF	2129.10	89,986	61,412	4143	2090.0	4,402	2107.8	28,574	2144.0	172,452	2166.0	364,342
WACONDA	1447.36	132,708	106,471	8483	1407.8	248	1428.0	26,237	1455.6	219,420	1488.3	942,408
BOX BUTTE	3990.95	11,122	7,878	907	3969.0	640	3979.0	3,244	4007.0	31,060	No Flood Pool	No Flood Pool
MERRITT	2946.20	67,309	62,647	2925	2875.0	774	2896.0	4,662	2946.0	66,726	No Flood Pool	No Flood Pool
CALAMUS	2244.09	127,862	103,216	5136	2185.0	817	2213.3	24,646	2244.0	127,400	No Flood Pool	No Flood Pool
DAVIS CREEK	2054.62	12,667	12,495	609	1998.5	76	2003.0	172	2076.0	31,158	No Flood Pool	No Flood Pool

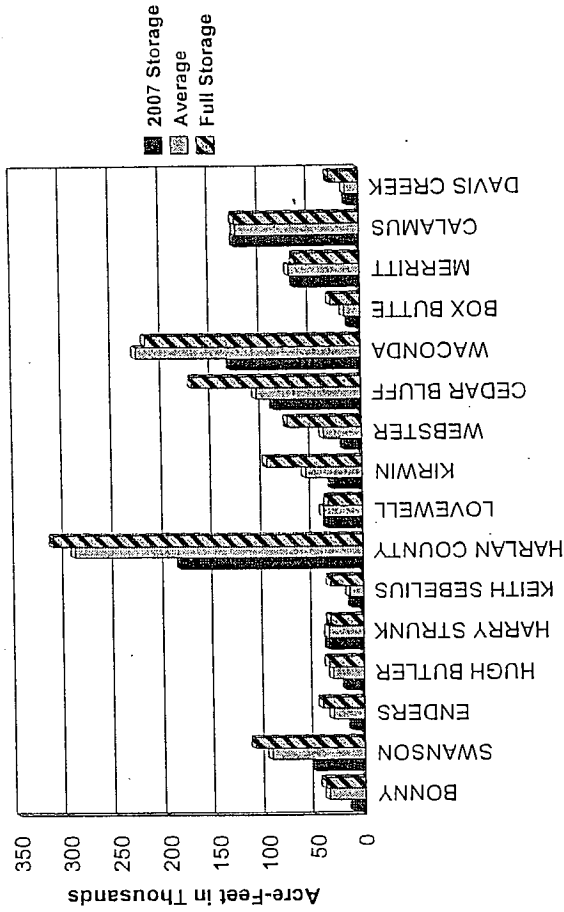
Computed Inflow for April 2007

Reservoir	Computed Inflow (AF)	Avg. Daily Inflow (cfs)	Computed Outflow (AF)	Avg. Daily Outflow (cfs)	Total Evap (AF)	Change (AF)	Precipitation at NKAO Dams for April 2007					
							Total (in)	Normal	Percent Normal	Total Year	Normal Year	Percent Normal
BONNY	1,176	20	357	6	339	480	1.91	1.53	125	3.03	3.25	93
SWANSON	6,563	110	60	1	767	5736	4.93	1.75	282	7.14	3.84	186
ENDERS	603	10	179	3	184	240	3.61	1.83	197	5.38	3.83	140
HUGH BUTLER	1,973	33	238	4	256	1479	5.67	1.86	305	7.79	3.77	207
HARRY STRUNK	5,483	92	2,394	40	452	2637	6.61	1.82	363	9.14	3.89	235
KEITH SEBELIUS	884	15	50	1	403	431	3.17	2.42	131	5.82	4.77	122
HARLAN COUNTY	30,803	518	0	0	2,390	28413	2.78	1.95	143	8.38	4.19	200
LOVEWELL	4,623	78	12	0	766	3845	1.57	2.39	66	5.15	5.59	92
KIRWIN	2,657	45	0	0	621	2036	1.55	2.03	76	6.03	4.87	124
WEBSTER	3,118	52	0	0	388	2730	1.83	2.00	92	7.26	4.75	153
CEDAR BLUFF	2,015	34	0	0	1,025	990	2.64	1.83	144	7.48	4.17	179
WACONDA	4,990	84	650	11	2,399	1941	2.16	2.29	94	6.17	5.33	116
BOX BUTTE	1,438	24	49	1	278	1111	1.57	1.68	93	2.97	3.08	45
MERRITT	26,703	449	20,853	350	728	5122	3.38	2.29	148	6.39	4.03	75
CALAMUS	27,550	463	21,626	363	1,205	4719	6.31	2.48	254	11.18	5.03	97
DAVIS CREEK	2,919	49	349	6	199	2371	4.78	2.75	174	9.72	4.88	101

Submitted by:   
 Marvin R. Swanda, Office Manager

Date: 5/2/07

End of April Storage Content



Reservoir	End of Month Storage Content		Last Month Storage Content		Average End of Month Storage		Top of Conservation Storage Content		Percent of Average		Space To Fill		Percent of Full		End of Month Storage 2006	
	AF	AF	AF	AF	AF	AF	AF	AF	%	%	AF	AF	%	%	AF	AF
BONNY	11,970	11,490	37,200	41,340	32	29,370	29	12,740								
SWANSON	50,796	45,060	95,500	112,214	53	61,418	45	41,151								
ENDERS	12,160	11,920	32,300	42,910	38	30,750	28	11,988								
HUGH BUTLER	17,926	16,447	32,000	36,224	56	18,298	49	21,298								
HARRY STRUNK	36,429	33,792	36,500	34,467	100	0	106	34,975								
KEITH SEBELIUS	11,958	11,527	14,400	34,510	83	22,552	35	8,944								
HARLAN COUNTY	185,968	157,555	291,500	314,111	64	128,143	59	138,379								
LOVEWELL	36,599	32,754	40,300	35,666	91	0	103	38,573								
KIRWIN	31,478	29,442	57,900	98,154	54	66,676	32	20,369								
WEBSTER	18,341	15,611	39,600	76,157	46	57,816	24	9,993								
CEDAR BLUFF	89,986	88,996	107,100	172,452	84	82,466	52	97,787								
WACONDA	132,708	130,767	228,700	219,420	58	86,712	60	158,418								
BOX BUTTE	11,122	10,011	17,100	31,060	65	19,938	36	14,683								
MERRITT	67,309	62,187	72,800	66,726	92	0	101	65,857								
CALAMUS	127,862	123,143	126,200	127,400	101	0	100	127,759								
DAVIS CREEK	12,667	10,296	14,400	31,158	88	18,491	41	13,368								